



www.phoronix-test-suite.com

ubuntu1804-ryzen5-8gb

AMD Ryzen 5 2400G testing with a ASRock B450M-HDV R4.0 (P3.70 BIOS) and AMD Radeon Vega / Mobile 2GB on Ubuntu 18.04 via the Phoronix Test Suite.

Test Systems:

Mem CPU Compress Encoding Favorites

Processor: AMD Ryzen 5 2400G @ 3.60GHz (4 Cores / 8 Threads), Motherboard: ASRock B450M-HDV R4.0 (P3.70 BIOS), Chipset: AMD Device 15d0, Memory: 14GB, Disk: 1000GB Western Digital WD1005FBYZ-0 + 256GB ASMT1153e + 1000GB Western Digital WD10EZEX-08W, Graphics: AMD Radeon Vega / Mobile 2GB (1250/1500MHz), Audio: AMD Device 15de, Monitor: PHL 328E1, Network: 3 x Realtek RTL8111/8168/8411

OS: Ubuntu 18.04, Kernel: 5.3.0-46-generic (x86_64), Desktop: Xfce 4.12, Display Server: X Server 1.20.5, Display Driver: amdgpu 19.0.1, OpenGL: 4.5 Mesa 19.2.8 (LLVM 9.0.0), Compiler: GCC 7.5.0, File-System: ext4, Screen Resolution: 3840x2160

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes

```
--enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand - CPU Microcode: 0x8101016
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and
seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retrpoline IBPB: conditional STIBP:
disabled RSB filling + tsx_async_abort: Not affected
```

Multicore

Multicore1

Multicore2

Multicore No NASM

Multicore No NPB

Processor: AMD Ryzen 5 2400G @ 3.60GHz (4 Cores / 8 Threads), Motherboard: ASRock B450M-HDV R4.0 (P3.70 BIOS), Chipset: AMD Device 15d0, Memory: 14GB, Disk: 256GB ASMT1153e + 1000GB Western Digital WD1005FBYZ-0 + 1000GB Western Digital WD10EZEX-08W, Graphics: AMD Radeon Vega / Mobile 2GB (1250/1500MHz), Audio: AMD Device 15de, Monitor: PHL 328E1, Network: 3 x Realtek RTL8111/8168/8411

OS: Ubuntu 18.04, Kernel: 5.3.0-46-generic (x86_64), Desktop: Xfce 4.12, Display Server: X Server 1.20.5, Display Driver: amdgpu 19.0.1, OpenGL: 4.5 Mesa 19.2.8 (LLVM 9.0.0), Compiler: GCC 7.5.0, File-System: ext4, Screen Resolution: 3840x2160

```
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale-gnu --enable-default-pie
--enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes
--enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand - CPU Microcode: 0x8101016
```

Java Notes: OpenJDK Runtime Environment (build 1.8.0_242-8u242-b08-0ubuntu3-18.04-b08)

Python Notes: Python 2.7.17 + Python 3.6.9

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

	Mem	CPU	Multicore	Multicore1	Multicore2	Multicore No	Multicore No
	Compress					NASM	NPB
	Enconding						
	Favorites						

RAMspeed SMP - Add - 27108

Integer (MB/s)

Standard Deviation 0.3%

RAMspeed SMP - Copy - 23537

Integer (MB/s)

Standard Deviation 0.7%

RAMspeed SMP - Scale - 17658

Integer (MB/s)

Standard Deviation 2.4%

RAMspeed SMP - Triad - 22024**Integer (MB/s)**

Standard Deviation 1%

RAMspeed SMP - Average - 22450**Integer (MB/s)**

Standard Deviation 0.9%

RAMspeed SMP - Add - 28154**Floating Point (MB/s)**

Standard Deviation 0.1%

RAMspeed SMP - Copy - 23642**Floating Point (MB/s)**

Standard Deviation 0.4%

RAMspeed SMP - Scale - 21386**Floating Point (MB/s)**

Standard Deviation 0.8%

RAMspeed SMP - Triad - 26598**Floating Point (MB/s)**

Standard Deviation 0.7%

RAMspeed SMP - Average - 24755**Floating Point (MB/s)**

Standard Deviation 0.2%

Stream - Copy (MB/s) 33269

Standard Deviation 1.1%

Stream - Scale (MB/s) 21185

Standard Deviation 0.2%

Stream - Triad (MB/s) 23730

Standard Deviation 0.2%

Stream - Add (MB/s) 23436

Standard Deviation 0.1%

Tinymembench - Standard 13862**Memcpy (MB/s)**

Standard Deviation 0.4%

Tinymembench - Standard 11577**Memset (MB/s)**

Standard Deviation 1.5%

MBW - Memory Copy - 1024 13435**MiB (MiB/s)**

Standard Deviation 0%

MBW - M.C.F.B.S - 1024 MiB 7950**(MiB/s)**

Standard Deviation 1.5%

t-test1 - 1 (sec) 29.126

Standard Deviation 0.7%

t-test1 - 2 (sec) 8.342

Standard Deviation 0.4%

NAMD - ATPase Simulation - 4.89857**327,506 Atoms (days/ns)**

Standard Deviation 0.1%

Izbench - XZ 0 - 33**Compression (MB/s)**

Izbench - XZ 0 - 104

Decompression (MB/s)

Standard Deviation 1%
 Izbench - Zstd 1 - 481

Compression (MB/s)

Izbench - Zstd 1 - 1306

Decompression (MB/s)

Standard Deviation 0.3%
 Izbench - Zstd 8 - 72

Compression (MB/s)

Izbench - Zstd 8 - 1450

Decompression (MB/s)

Standard Deviation 1%
 Izbench - Crush 0 - 76

Compression (MB/s)

Izbench - Crush 0 - 395

Decompression (MB/s)

Izbench - Brotli 0 - 469

Compression (MB/s)

Izbench - Brotli 0 - 540

Decompression (MB/s)

Standard Deviation 0.7%
 Izbench - Brotli 2 - 181

Compression (MB/s)

Standard Deviation 0.3%
 Izbench - Brotli 2 - 629

Decompression (MB/s)

Standard Deviation 0.2%
 Izbench - Libdeflate 1 - 205

Compression (MB/s)

Standard Deviation 3.3%
 Izbench - Libdeflate 1 - 1123

Decompression (MB/s)

Standard Deviation 0.1%

libgav1 - Chimera 1080p 30.48

Normalized 100%

Standard Deviation 0.1%

libgav1 - Summer Nature 4K 12.27

(FPS)

Normalized 99.92%

Standard Deviation 0.3%

libgav1 - S.N.1 (FPS) 47.98

Normalized 99.15%

Standard Deviation 0.6%

libgav1 - C.1.1.b (FPS) 13.01

Normalized 99.16%

Standard Deviation 1.8%

CacheBench - Read Cache 2700

(MB/s)

Standard Deviation 0%

30.35

99.57%

0.1%

12.28

100%

0.1%

48.39

100%

0.1%

13.12

100%

2%

CacheBench - Write Cache	26613	(MB/s)	
Standard Deviation	0.1%		
AOM AV1 - Speed 0	0.12		0.12
Two-Pass (FPS)			
Standard Deviation	0%		0%
AOM AV1 - Speed 2	0.28		0.28
Two-Pass (FPS)			
Standard Deviation	0%		0%
AOM AV1 - Speed 4 Realtime	0.46	(FPS)	0.46
Standard Deviation	0%		0%
AOM AV1 - Speed 5	0.82		0.83
Two-Pass (FPS)			
Normalized	98.8%		100%
Standard Deviation	0%		0.7%
AOM AV1 - Speed 6 Realtime	11.00	(FPS)	11.04
Normalized	99.64%		100%
Standard Deviation	0.7%		0.1%
AOM AV1 - Speed 8 Realtime	34.60	(FPS)	34.86
Normalized	99.25%		100%
Standard Deviation	0.4%		1.2%
SVT-AV1 - Enc Mode 0 -	0.07		0.070
1080p (FPS)			
Standard Deviation	0%		0.8%
SVT-AV1 - Enc Mode 4 -	1.302		1.301
1080p (FPS)			
Normalized	100%		99.92%
Standard Deviation	0.1%		0.3%
SVT-AV1 - Enc Mode 8 -	10.021		9.959
1080p (FPS)			
Normalized	100%		99.38%
Standard Deviation	0.1%		0.3%
SVT-HEVC - 1.8.b.Y.T.H.V.E	18.78	(FPS)	18.83
Normalized	99.73%		100%
Standard Deviation	0.5%		0.4%
SVT-VP9 - VMAF Optimized -	63.39		63.68
Bosphorus 1080p (FPS)			
Normalized	99.54%		100%
Standard Deviation	3.3%		3.5%
SVT-VP9 - P.S.O -	66.08		66.57
Bosphorus 1080p (FPS)			
Normalized	99.26%		100%
Standard Deviation	0.3%		0.2%
SVT-VP9 - V.Q.O -	51.73		51.83
Bosphorus 1080p (FPS)			
Normalized	99.81%		100%
Standard Deviation	0.4%		0.3%

VP9 libvpx Encoding - Speed 0 (FPS)	4.42	4.39
Normalized	100%	99.32%
Standard Deviation	0.5%	0.1%
VP9 libvpx Encoding - Speed 5 (FPS)	14.48	14.52
Normalized	99.72%	100%
Standard Deviation	0.4%	0.8%
x264 - H.2.V.E (FPS)	34.63	
Standard Deviation	2.7%	
x265 - H.2.1.V.E (FPS)	4.42	
Standard Deviation	0.3%	
x265 - H.2.1.V.E (FPS)	7.05	7.07
Normalized	99.72%	100%
Standard Deviation	0.4%	0.9%
7-Zip Compression - C.S.T (MIPS)	18619	18266
Normalized	100%	98.1%
Standard Deviation	0.5%	0.4%
Stockfish - Total Time (Nodes/s)	11203725	11209683
Normalized	99.95%	100%
Standard Deviation	0.4%	1.8%
asmFish - 1.H.M.2.D	11444452	11289539
Normalized	100%	98.65%
Standard Deviation	1.5%	0.8%
Timed GCC Compilation - Time To Compile (sec)	1716	
Timed Linux Kernel - Time To Compile - Time To Compile (sec)	154.770	
Standard Deviation	1.1%	
Parallel BZIP2 Compression - 2.F.C (sec)	9.801	9.675
Normalized	98.71%	100%
Standard Deviation	3.2%	3.2%
POV-Ray - Trace Time (sec)	110.180	111.000
Normalized	100%	99.26%
Standard Deviation	0.1%	0.3%
Gzip Compression - L.S.T.A.T.t.g (sec)	38.647	
Standard Deviation	0.5%	
XZ Compression - XZ Compression -	68.160	
C.u.1.0.3.s.i.i.C.L.9 (sec)		
Standard Deviation	1.4%	
Zstd Compression -	47.862	47.630
Normalized	99.52%	100%
Standard Deviation	0.2%	0.3%
FLAC Audio Encoding - WAV To FLAC (sec)	10.675	
Standard Deviation	1%	

LAME MP3 Encoding - WAV	9.170		
To MP3 (sec)			
Standard Deviation	0.7%		
FFmpeg - H.2.H.T.N.D (sec)	6.362	6.408	
Normalized	100%	99.28%	
Standard Deviation	1.8%	2.3%	
Radiance Benchmark - Serial (sec)	846.232	851.108	
Normalized	100%	99.43%	
Radiance Benchmark - SMP Parallel (sec)	284.313	277.481	
Normalized	97.6%	100%	
System XZ Decompression	4.277		
(sec)			
Standard Deviation	2.4%		
OpenSSL - R.4.b.P	811.7		
Standard Deviation	0.4%		
ctx_clock - C.S.T (Clocks)	180		
Sysbench - CPU	8009	8008	
Normalized	100%	99.99%	
Standard Deviation	0.1%	0.1%	
High Performance Conjugate Gradient (GFLOP/s)	4.33206	4.38210	
Normalized	98.51%	99.64%	
Standard Deviation	2%	0.7%	
NAS Parallel Benchmarks - BT.C (Mop/s)	15318		
Standard Deviation	0.2%		
NAS Parallel Benchmarks - CG.C (Mop/s)	4533		
Standard Deviation	1.3%		
NAS Parallel Benchmarks - EP.C (Mop/s)	152.81		
Standard Deviation	2%		
NAS Parallel Benchmarks - EP.D (Mop/s)	151.26		
Standard Deviation	0.2%		
NAS Parallel Benchmarks - FT.C (Mop/s)	9295		
Standard Deviation	0.3%		
Parboil - OpenMP LBM (sec)		135.746974	
Standard Deviation		0%	
Parboil - OpenMP CUTCP (sec)		6.857886	
Standard Deviation			
Parboil - OpenMP Stencil		0.6%	
Standard Deviation		19.954067	
Parboil - O.M.G (sec)		1%	
Standard Deviation		34.576515	
Rodinia - OpenMP LavaMD (sec)		0.4%	
Standard Deviation		175.391	
		0.4%	

Rodinia - OpenMP CFD		45.334
Solver (sec)		
Standard Deviation	0.3%	
Rodinia - O.S (sec)	26.896	
Standard Deviation	1.2%	
NAMD - ATPase Simulation -	4.87134	
327,506 Atoms (days/ns)		
Standard Deviation	0.3%	
Pennant - sedovbig (Hydro	225.5221	
Cycle Time - sec)		
Standard Deviation	0.1%	
Pennant - leblancbig (Hydro	191.4721	
Cycle Time - sec)		
Standard Deviation	0.1%	
LAMMPS Molecular	2.870	
Dynamics Simulator -		
Rhodopsin Protein (ns/day)		
Standard Deviation	0.7%	
John The Ripper - Blowfish	7780	
(Real C/S)		
Standard Deviation	5.8%	
John The Ripper - MD5 (Real	246671	
C/S)		
Standard Deviation	1.2%	
Open FMM Nero2D - Total	99.766	
Time (sec)		
Standard Deviation	0.3%	
GraphicsMagick - Swirl	178	
Iterations/min)		
Standard Deviation	1.5%	
GraphicsMagick - Rotate	639	
Iterations/min)		
Standard Deviation	0.2%	
GraphicsMagick - Sharpen	55	
Iterations/min)		
Standard Deviation	0.2%	
GraphicsMagick - Enhanced	78	
Iterations/min)		
GraphicsMagick - Resizing	360	
Iterations/min)		
Standard Deviation	0.8%	
GraphicsMagick -	97	
Noise-Gaussian		
Iterations/min)		
Standard Deviation	0.2%	
GraphicsMagick - HWB	597	
Color Space (Iterations/min)		
Standard Deviation	0.2%	
oneDNN MKL-DNN - IP Batch	16.1519	
1D - f32 (ms)		
Standard Deviation	2.2%	

oneDNN MKL-DNN - IP Batch		249.540
All - f32 (ms)		
Standard Deviation	0.2%	
oneDNN MKL-DNN - IP Batch		11.9712
1D - u8s8f32 (ms)		
Standard Deviation	1.8%	
oneDNN MKL-DNN - IP Batch		172.498
All - u8s8f32 (ms)		
Standard Deviation	0.3%	
oneDNN MKL-DNN - D.B.d -		18.9319
f32 (ms)		
Standard Deviation	2.8%	
oneDNN MKL-DNN - D.B.d -		34.5287
f32 (ms)		
Standard Deviation	0.8%	
oneDNN MKL-DNN - D.B.d -		327.939
u8s8f32 (ms)		
Standard Deviation	0.2%	
oneDNN MKL-DNN - D.B.d -		28.5876
u8s8f32 (ms)		
Standard Deviation	0.2%	
oneDNN MKL-DNN - R.N.N.T		1124
- f32 (ms)		
Standard Deviation	0.7%	
oneDNN MKL-DNN - R.N.N.I -		193.031
f32 (ms)		
Standard Deviation	0.3%	
OSPray - San Miguel - SciVis		4.50
(FPS)		
Standard Deviation	1.1%	
OSPray - XFrog Forest -		0.78
SciVis (FPS)		
Standard Deviation	0.2%	
OSPray - San Miguel - Path		0.37
Tracer (FPS)		
Standard Deviation	0.1%	
OSPray - NASA Streamlines		5.76
- SciVis (FPS)		
Standard Deviation	0.3%	
OSPray - XFrog Forest - Path		0.42
Tracer (FPS)		
Standard Deviation	0.1%	
OSPray - M.R - SciVis (FPS)		3.37
Standard Deviation	0.2%	
OSPray - NASA Streamlines		1.13
- Path Tracer (FPS)		
Standard Deviation	0.2%	
OSPray - M.R - Path Tracer		50
(FPS)		

TTSIOD 3D Renderer - P.R.W.S.S.M (FPS)		236.143
Standard Deviation	0.6%	
ACES DGEMM - S.F.P.R (GFLOP/s)	0.619890	
Standard Deviation	0.3%	
Intel Open Image Denoise - Memorial (Images / Sec)	1.66	
Standard Deviation	0.2%	
OpenVKL - vklBenchmark (Items / Sec)	40.06	
Standard Deviation	1.7%	
OpenVKL - vklBenchmarkVdbVolume (Items / Sec)	6173946	
Standard Deviation	0.4%	
OpenVKL - vklBenchmarkStructuredVolume (Items / Sec)	21729780	
Standard Deviation	2.2%	
OpenVKL - vklBenchmarkUnstructuredVolume (Items / Sec)	1226839	
Standard Deviation	0.1%	
Coremark - CoreMark Size	156691	
666 - I.P.S (Iterations/Sec)		
Standard Deviation	0.5%	
LuxCoreRender - DLSC (M samples/sec)	0.75	
Standard Deviation	1.2%	
LuxCoreRender - R.C.a.P (M samples/sec)	0.80	
Standard Deviation	0.7%	
Swet - Average (Operations/sec)	669074856	
Standard Deviation	1.3%	
ebizzy (Records/s)	73213	
Standard Deviation	1%	
Timed FFmpeg Compilation - Time To Compile (sec)	107.643	
Standard Deviation	0.9%	
Timed GCC Compilation - Time To Compile (sec)	1985	
Standard Deviation	0.2%	
Timed GDB GNU Debugger Compilation - Time To Compile (sec)	170.398	
Standard Deviation	0.1%	

Timed ImageMagick	69.291
Compilation - Time To Compile (sec)	
Standard Deviation	0.3%
Timed Linux Kernel	174.746
Compilation - Time To Compile (sec)	
Standard Deviation	1.2%
Timed LLVM Compilation - Time To Compile (sec)	1646
Standard Deviation	0.1%
Timed MPlayer Compilation - Time To Compile (sec)	87.290
Standard Deviation	0.1%
Timed PHP Compilation - Time To Compile (sec)	103.731
Standard Deviation	0.4%
Build2 - Time To Compile	281.326
Standard Deviation	3.5%
C-Ray - Total Time - 4.1.R.P.P (sec)	173.083
Standard Deviation	0.1%
Primesieve - 1.P.N.G (sec)	51.407
Standard Deviation	0%
Rust Mandelbrot - T.T.C.S.P.M (sec)	64.760
Standard Deviation	0.8%
Rust Prime Benchmark - P.N.T.T.2.0.0 (sec)	87.611
Standard Deviation	0.5%
Smallpt - G.I.R.1.S (sec)	26.134
Standard Deviation	0.5%
Tungsten Renderer - Hair	61.5527
Standard Deviation	0.2%
Tungsten Renderer - Water Caustic (sec)	49.2535
Standard Deviation	0.1%
Tungsten Renderer - Non-Exponential (sec)	15.9521
Standard Deviation	0.2%
Tungsten Renderer - Volumetric Caustic (sec)	21.8143
Standard Deviation	0.3%
rays1bench - Large Scene (mrays/s)	17.83
Standard Deviation	0.4%
AOBench - 2048 x 2048 - Total Time (sec)	43.999
Standard Deviation	3.2%

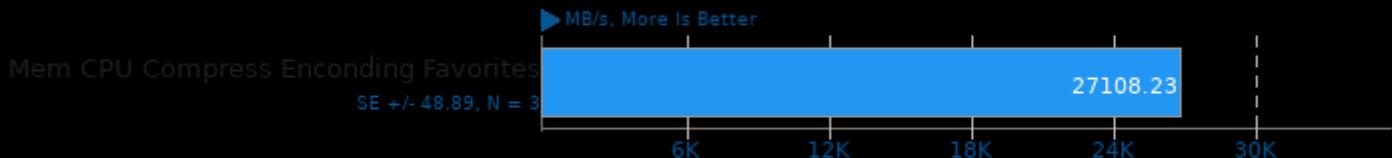
m-queens - Time To Solve (sec)	151.587
Standard Deviation	0.3%
N-Queens - Elapsed Time (sec)	30.527
Standard Deviation	0.1%
Tachyon - Total Time (sec)	225.1829
Standard Deviation	0.4%
Aircrack-ng (k/s)	6738
Standard Deviation	0.2%
ASKAP - tConvolve MT - Gridding (Million Grid Points/sec)	1032
Standard Deviation	0.2%
ASKAP - tConvolve MT - Degridding (Million Grid Points/sec)	1259
Standard Deviation	0.4%
ASKAP - tConvolve MPI - Gridding (Million Grid Points/sec)	1002
Standard Deviation	0.2%
ASKAP - tConvolve MPI - Degridding (Million Grid Points/sec)	1244
Standard Deviation	0.1%
ASKAP - tConvolve OpenMP - Gridding (Million Grid Points/sec)	877.910
Standard Deviation	1.6%
ASKAP - tConvolve OpenMP - Degridding (Million Grid Points/sec)	1262
Standard Deviation	2.2%
GROMACS - Water Benchmark (Ns/Day)	0.352
Standard Deviation	2.2%
MariaDB - 1 (Queries/sec)	169
Standard Deviation	0.6%
MariaDB - 4 (Queries/sec)	84
Standard Deviation	0.4%
MariaDB - 8 (Queries/sec)	79
Standard Deviation	0.8%
MariaDB - 16 (Queries/sec)	75
Standard Deviation	0.4%
MariaDB - 32 (Queries/sec)	68
Standard Deviation	0.6%
MariaDB - 64 (Queries/sec)	57
Standard Deviation	1.1%

PostgreSQL pgbench -		93092
Buffer Test - Normal Load -		
Read Only (TPS)		
Standard Deviation	0.5%	
Sysbench - Memory		11798621
(Events/sec)		
Standard Deviation	0.2%	
IndigoBench - Bedroom (M samples/s)		0.572
Standard Deviation	0.3%	
IndigoBench - Supercar (M samples/s)		1.197
Standard Deviation	0.3%	
Apache Cassandra - Reads (Op/s)		17809
Standard Deviation	7.1%	
Apache Cassandra - Writes (Op/s)		22197
Standard Deviation	0.9%	
Blender - BMW27 - OpenCL (sec)		509.05
Standard Deviation	0.4%	
Blender - BMW27 - CPU-Only (sec)		419.70
Standard Deviation	0.2%	
Blender - Classroom - OpenCL (sec)		1130
Standard Deviation	0.8%	
Blender - Fishy Cat - OpenCL (sec)		1182
Standard Deviation	0.2%	
Blender - Barbershop - OpenCL (sec)		1771
Standard Deviation	0.2%	
Blender - Classroom - CPU-Only (sec)		1103
Standard Deviation	0.4%	
Blender - Fishy Cat - CPU-Only (sec)		646.29
Standard Deviation	0.1%	
Blender - Barbershop - CPU-Only (sec)		1701
Standard Deviation	0.1%	
Blender - Pabellon		2414
Barcelona - OpenCL (sec)		
Standard Deviation	0.4%	
Blender - Pabellon		1594
Barcelona - CPU-Only (sec)		
Standard Deviation	0.4%	
Xsbench (Lookups/s)		1508546
Standard Deviation	0.2%	

Appleseed - Emily (sec)	901.651444
Appleseed - Disney Material (sec)	512.136786
Appleseed - Material Tester (sec)	465.891256

RAMspeed SMP 3.5.0

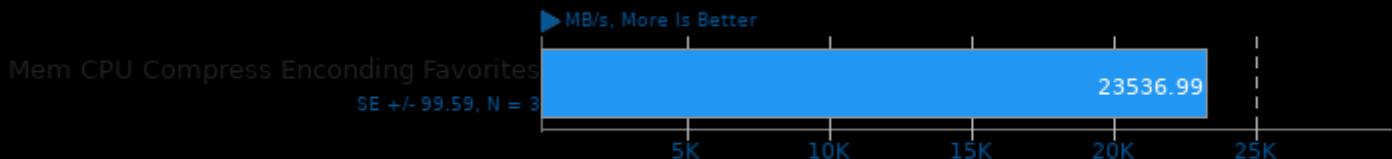
Type: Add - Benchmark: Integer



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

RAMspeed SMP 3.5.0

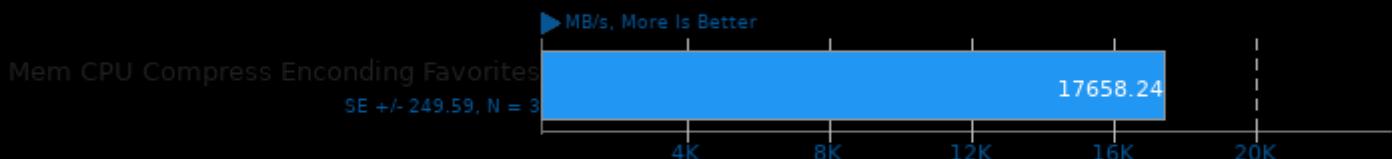
Type: Copy - Benchmark: Integer



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

RAMspeed SMP 3.5.0

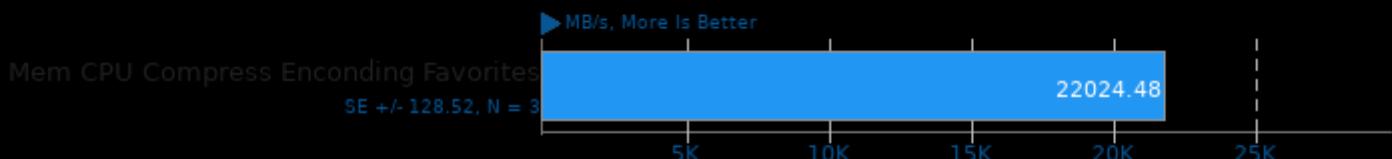
Type: Scale - Benchmark: Integer



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

RAMspeed SMP 3.5.0

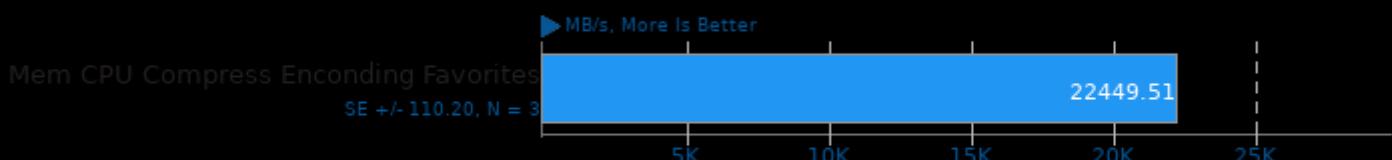
Type: Triad - Benchmark: Integer



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

RAMspeed SMP 3.5.0

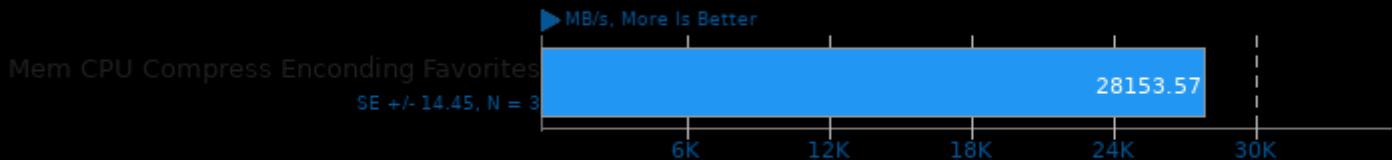
Type: Average - Benchmark: Integer



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

RAMspeed SMP 3.5.0

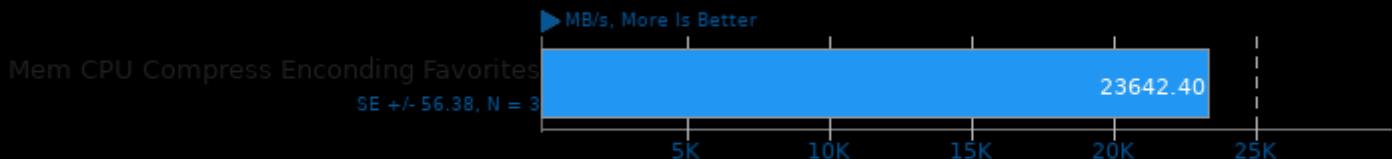
Type: Add - Benchmark: Floating Point



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

RAMspeed SMP 3.5.0

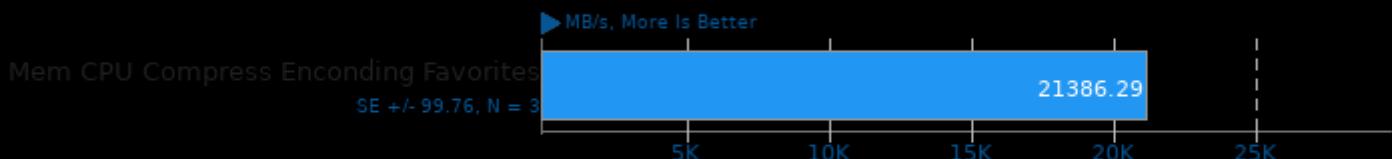
Type: Copy - Benchmark: Floating Point



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

RAMspeed SMP 3.5.0

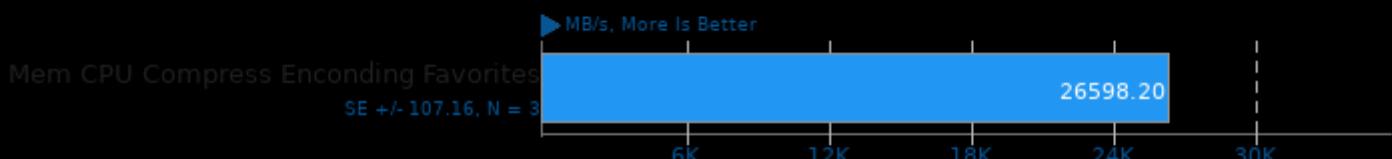
Type: Scale - Benchmark: Floating Point



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

RAMspeed SMP 3.5.0

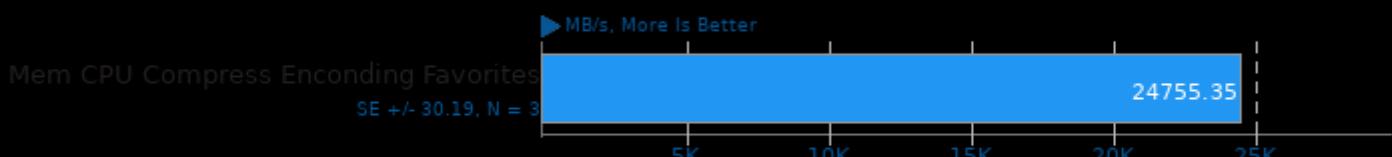
Type: Triad - Benchmark: Floating Point



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

RAMspeed SMP 3.5.0

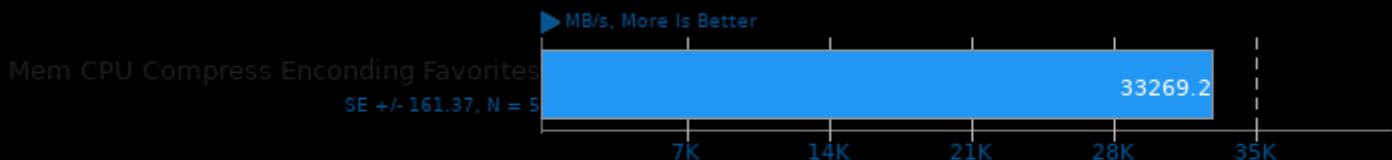
Type: Average - Benchmark: Floating Point



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

Stream 2013-01-17

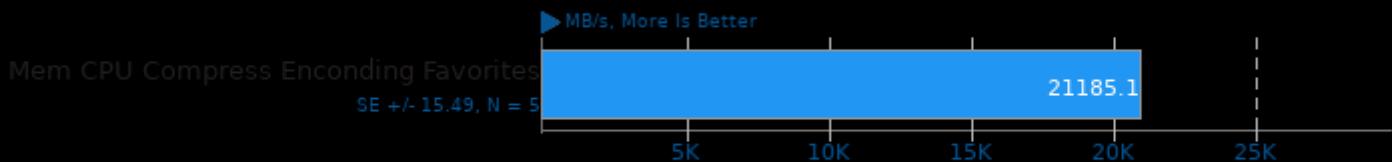
Type: Copy



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

Stream 2013-01-17

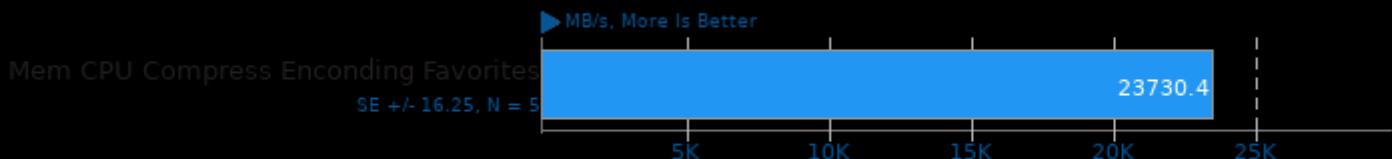
Type: Scale



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

Stream 2013-01-17

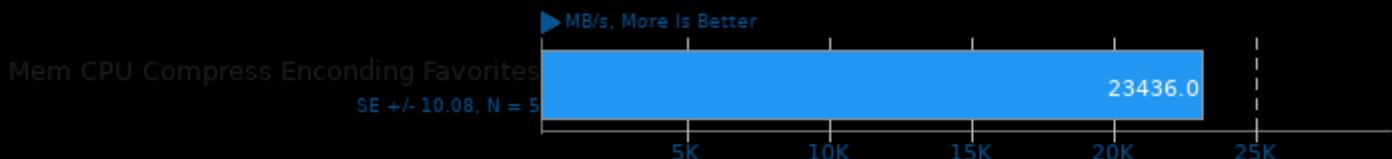
Type: Triad



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

Stream 2013-01-17

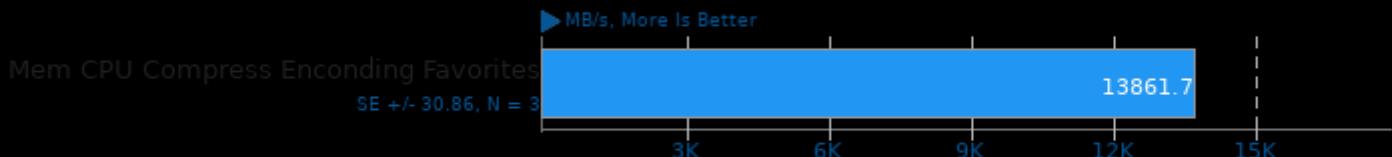
Type: Add



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

Tinymembench 2018-05-28

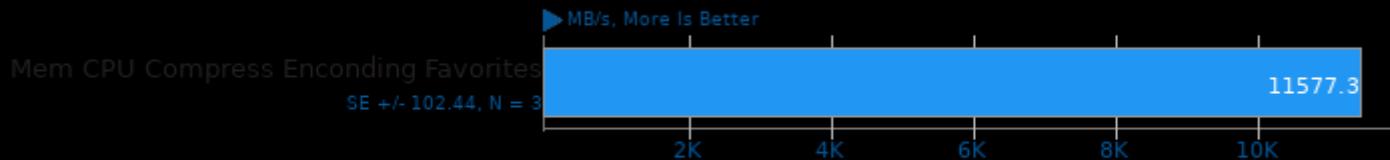
Standard Memcpy



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

Tinymembench 2018-05-28

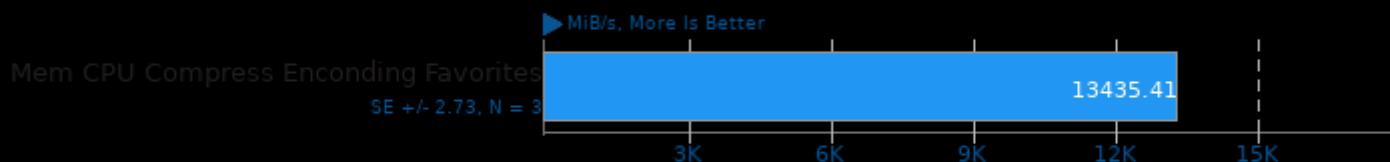
Standard Memset



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

MBW 2018-09-08

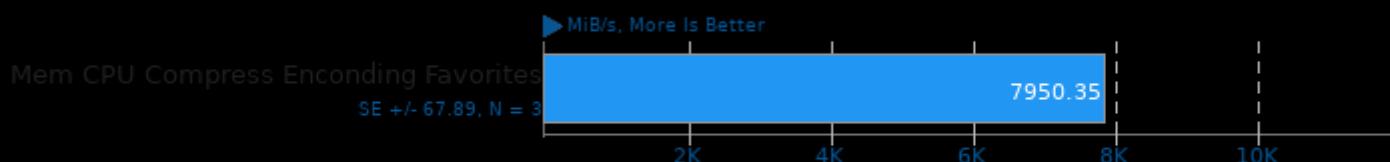
Test: Memory Copy - Array Size: 1024 MiB



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

MBW 2018-09-08

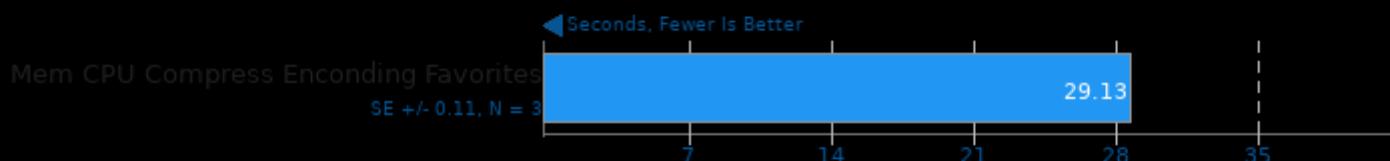
Test: Memory Copy, Fixed Block Size - Array Size: 1024 MiB



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

t-test1 2017-01-13

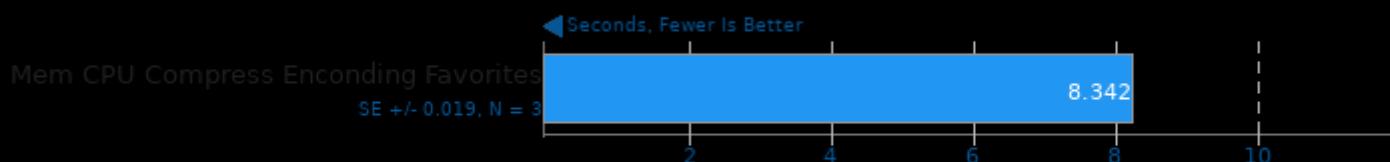
Threads: 1



1. (CC) gcc options: -pthread

t-test1 2017-01-13

Threads: 2



1. (CC) gcc options: -pthread

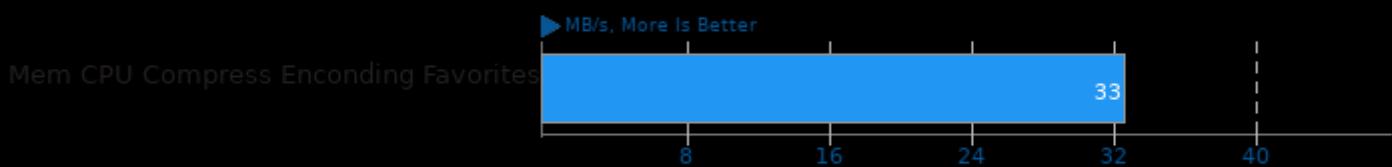
NAMD 2.13b1

ATPase Simulation - 327,506 Atoms



Izbench 1.8

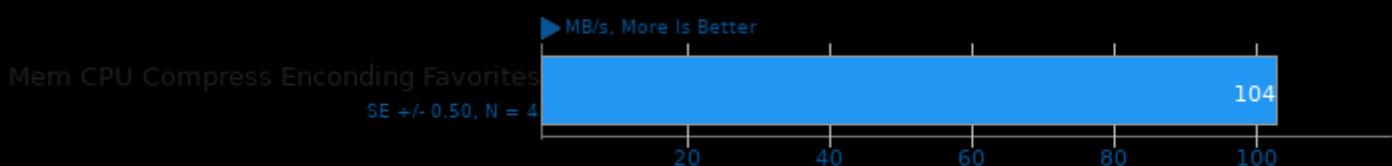
Test: XZ 0 - Process: Compression



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

Izbench 1.8

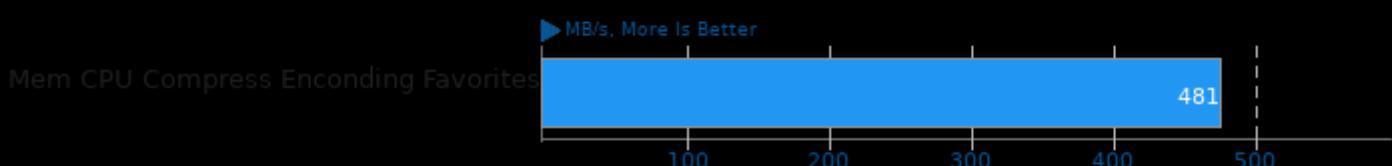
Test: XZ 0 - Process: Decompression



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

Izbench 1.8

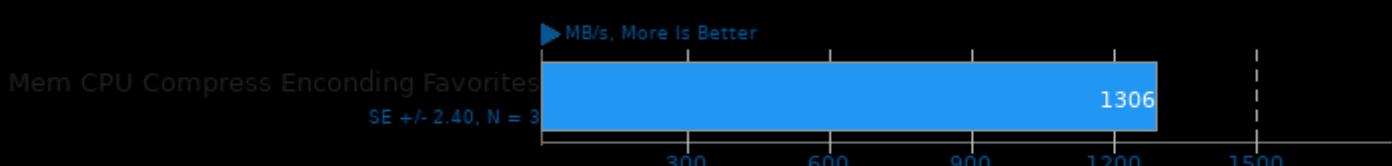
Test: Zstd 1 - Process: Compression



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

Izbench 1.8

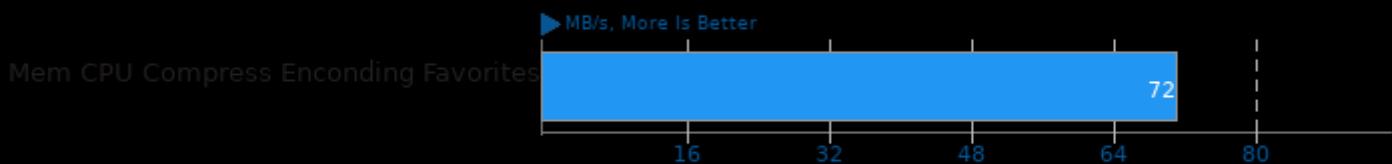
Test: Zstd 1 - Process: Decompression



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

Izbench 1.8

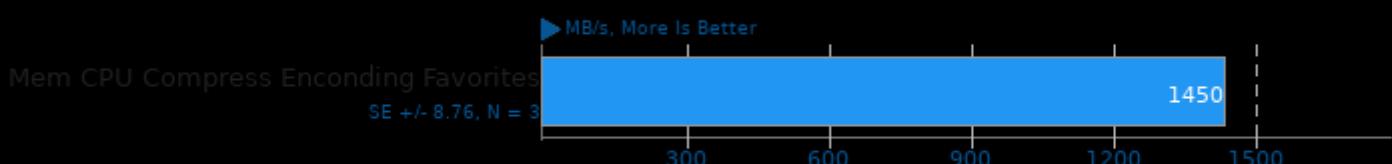
Test: Zstd 8 - Process: Compression



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

Izbench 1.8

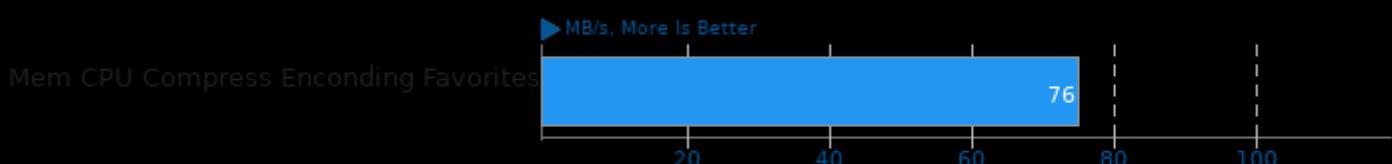
Test: Zstd 8 - Process: Decompression



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

Izbench 1.8

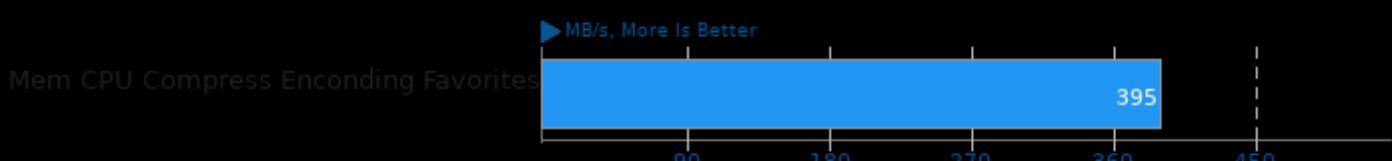
Test: Crush 0 - Process: Compression



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

Izbench 1.8

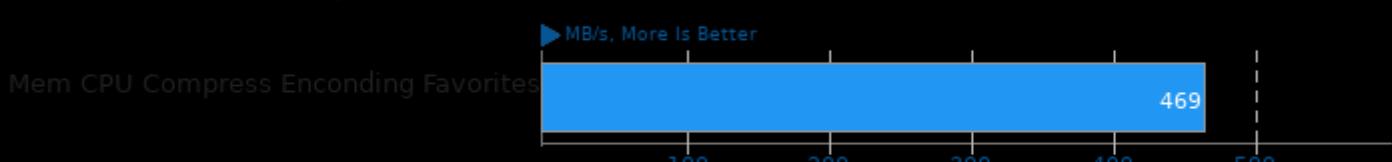
Test: Crush 0 - Process: Decompression



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

Izbench 1.8

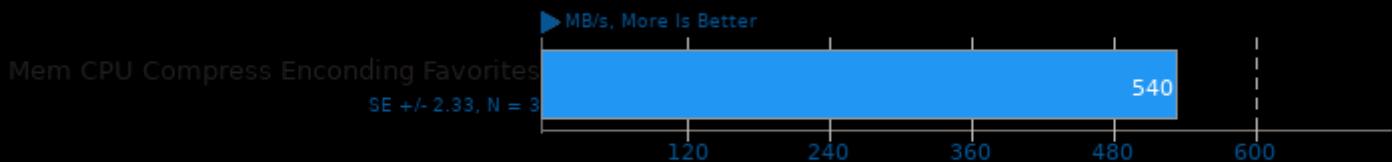
Test: Brotli 0 - Process: Compression



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

Izbench 1.8

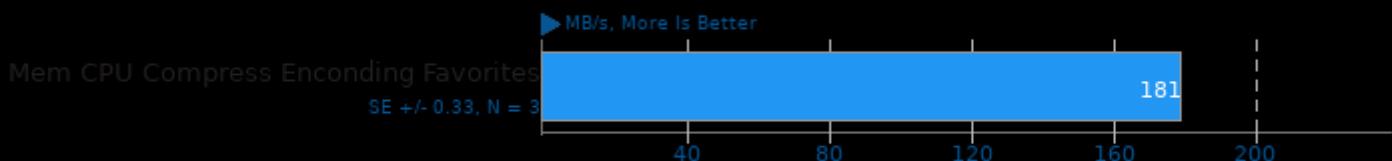
Test: Brotli 0 - Process: Decompression



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

Izbench 1.8

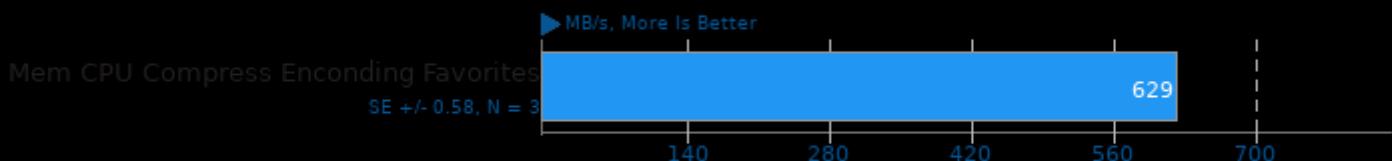
Test: Brotli 2 - Process: Compression



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

Izbench 1.8

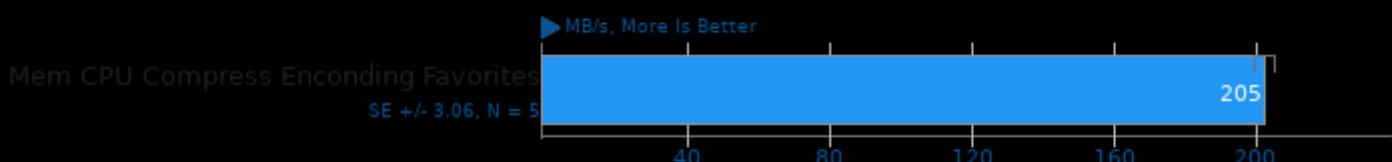
Test: Brotli 2 - Process: Decompression



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

Izbench 1.8

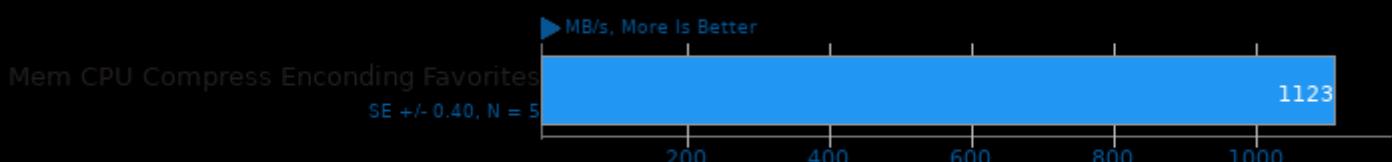
Test: Libdeflate 1 - Process: Compression



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

Izbench 1.8

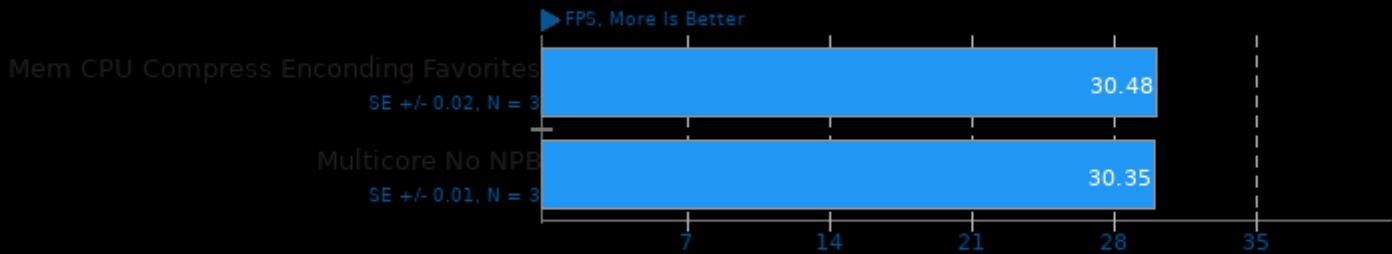
Test: Libdeflate 1 - Process: Decompression



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

libgav1 2019-10-05

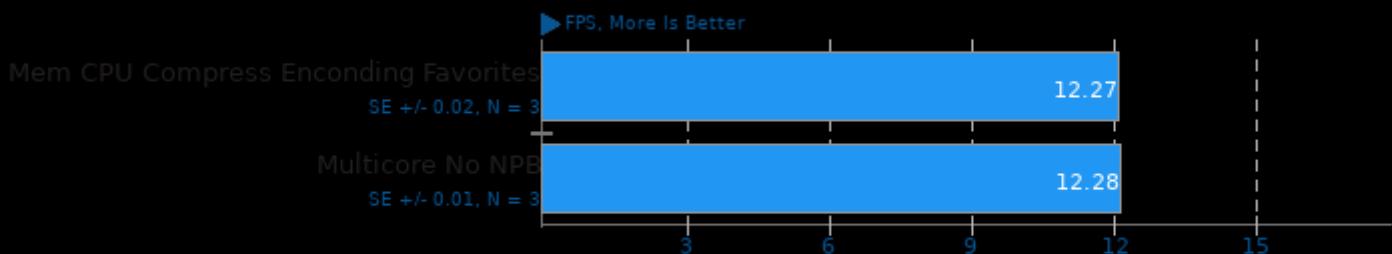
Video Input: Chimera 1080p



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

libgav1 2019-10-05

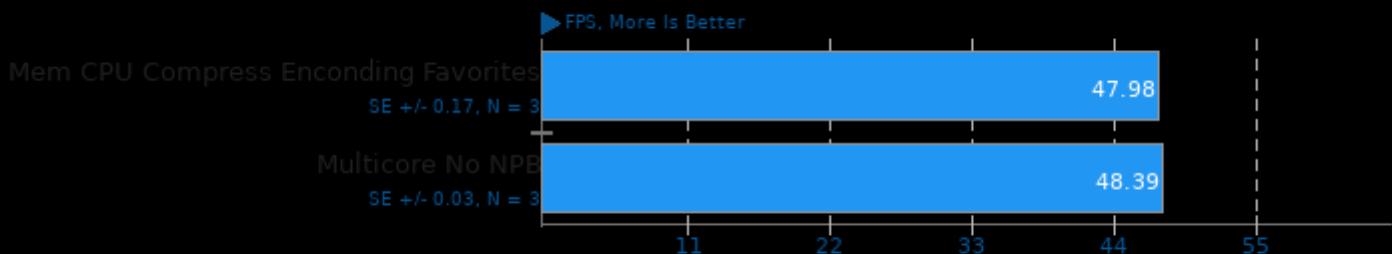
Video Input: Summer Nature 4K



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

libgav1 2019-10-05

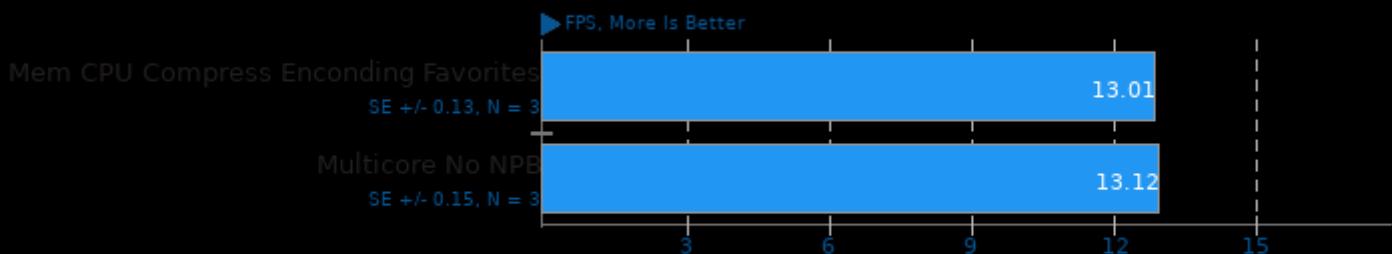
Video Input: Summer Nature 1080p



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

libgav1 2019-10-05

Video Input: Chimera 1080p 10-bit



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

CacheBench

Read Cache



1. (CC) gcc options: -fintc

CacheBench

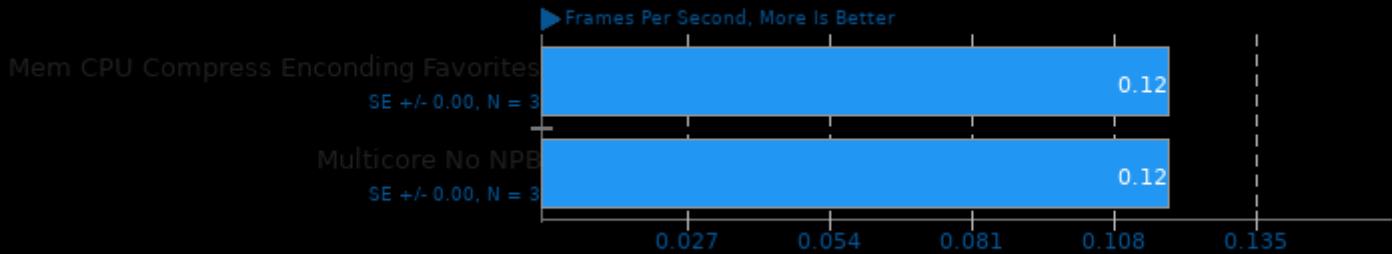
Write Cache



1. (CC) gcc options: -fintc

AOM AV1 2020-01-10

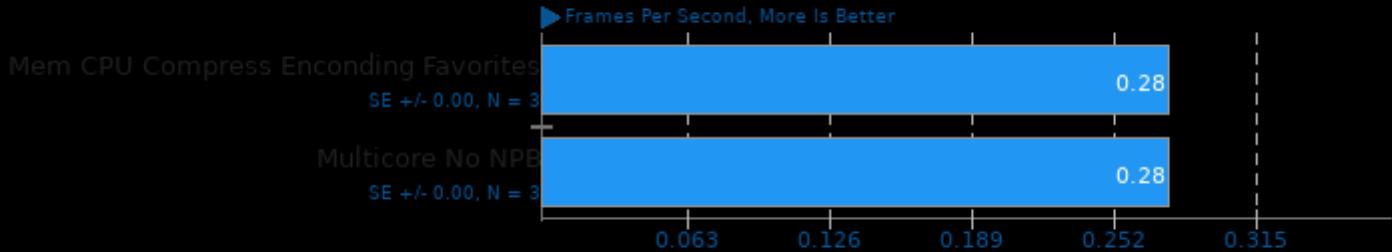
Encoder Mode: Speed 0 Two-Pass



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

AOM AV1 2020-01-10

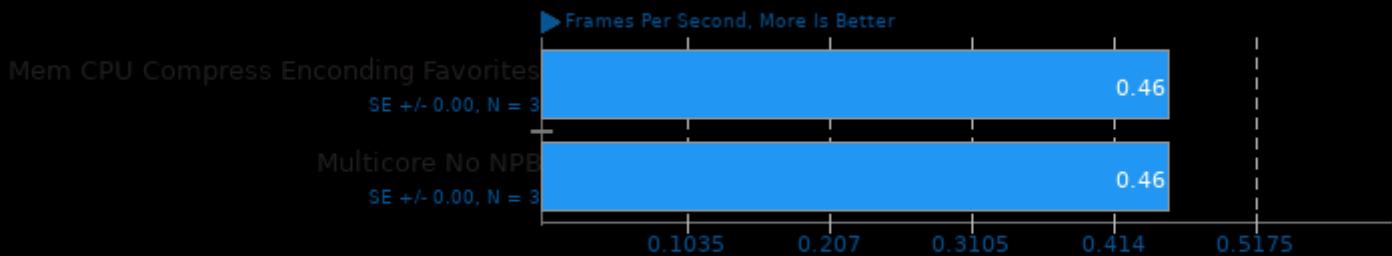
Encoder Mode: Speed 2 Two-Pass



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

AOM AV1 2020-01-10

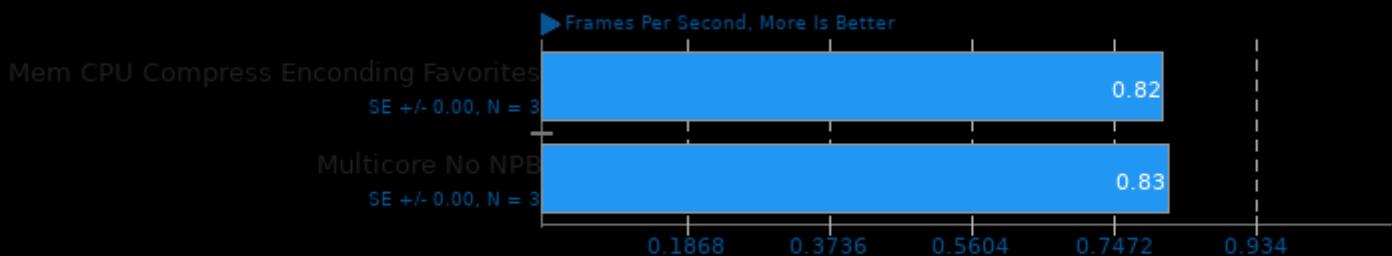
Encoder Mode: Speed 4 Realtime



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

AOM AV1 2020-01-10

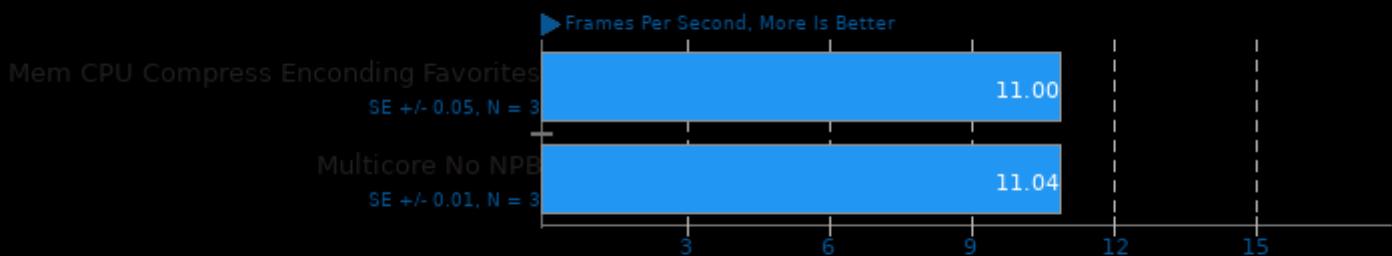
Encoder Mode: Speed 5 Two-Pass



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

AOM AV1 2020-01-10

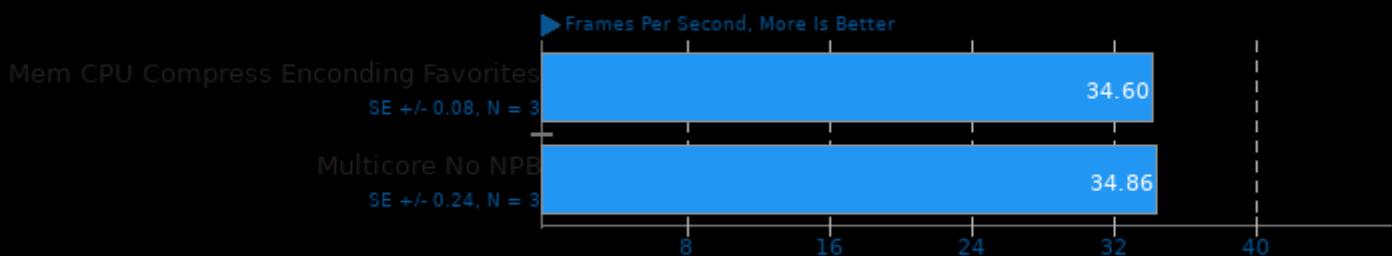
Encoder Mode: Speed 6 Realtime



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

AOM AV1 2020-01-10

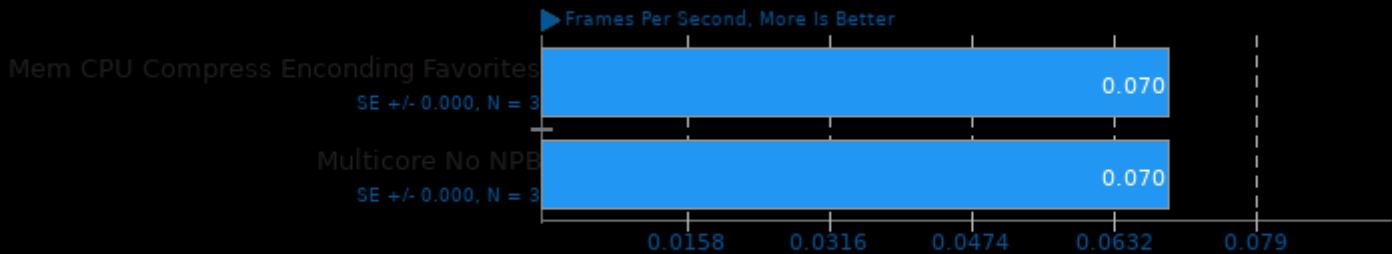
Encoder Mode: Speed 8 Realtime



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

SVT-AV1 0.8

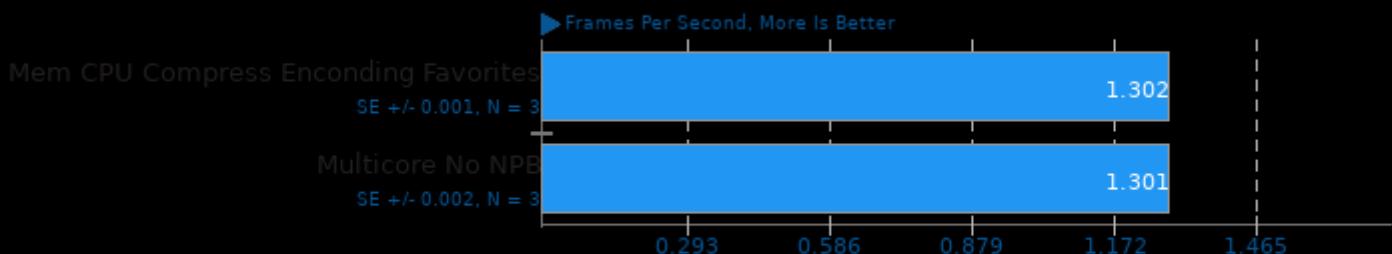
Encoder Mode: Enc Mode 0 - Input: 1080p



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

SVT-AV1 0.8

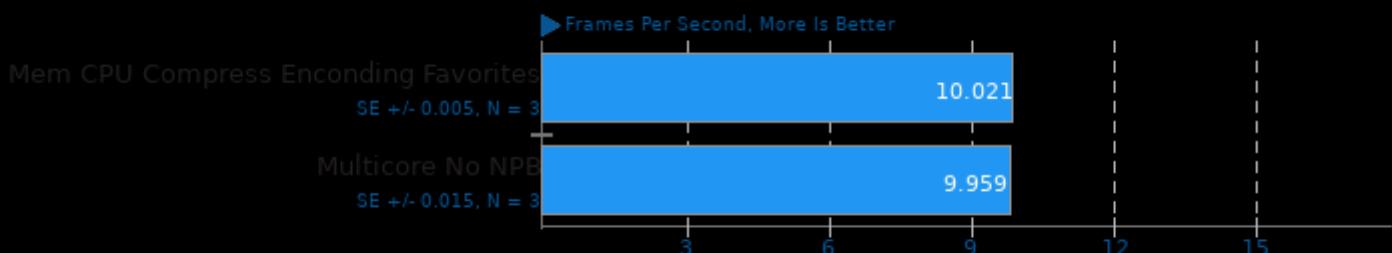
Encoder Mode: Enc Mode 4 - Input: 1080p



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

SVT-AV1 0.8

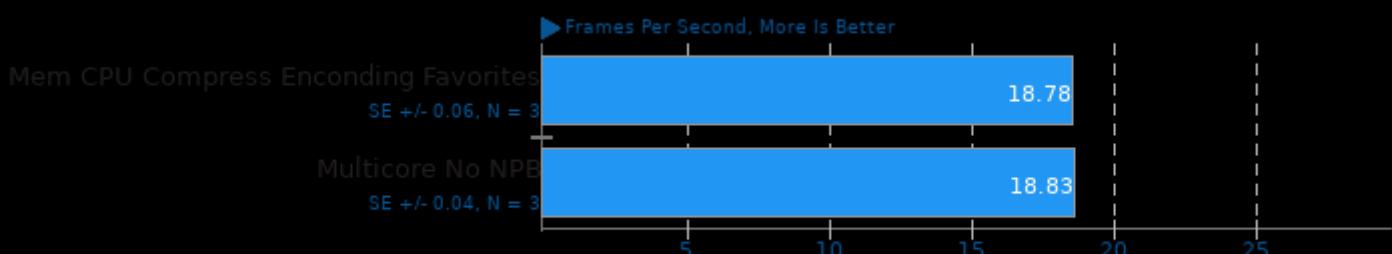
Encoder Mode: Enc Mode 8 - Input: 1080p



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

SVT-HEVC 1.4.1

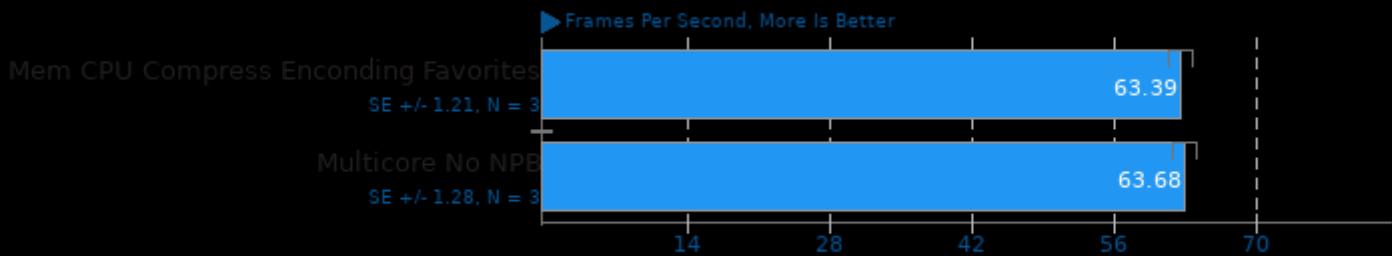
1080p 8-bit YUV To HEVC Video Encode



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

SVT-VP9 0.1

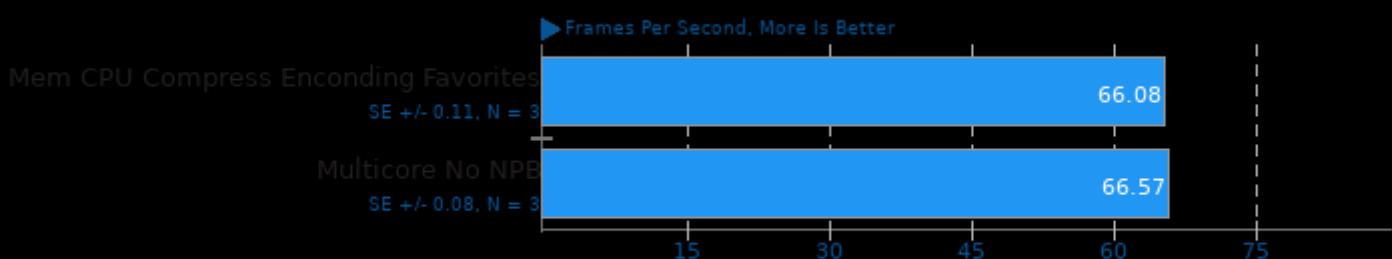
Tuning: VMAF Optimized - Input: Bosphorus 1080p



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

SVT-VP9 0.1

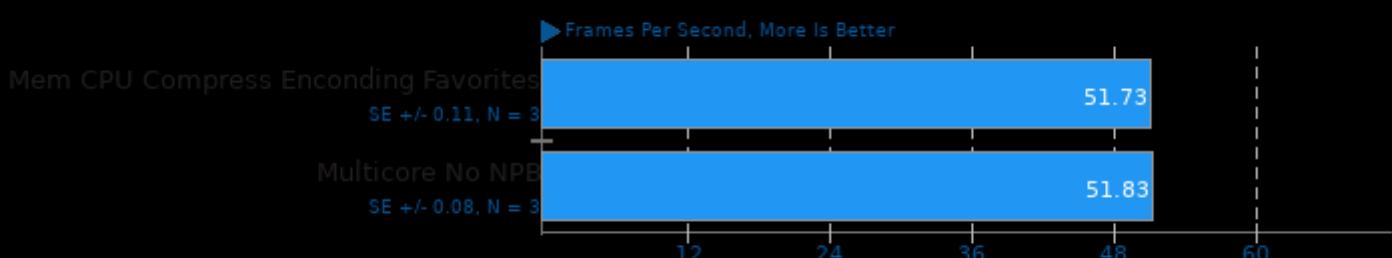
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 1080p



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

SVT-VP9 0.1

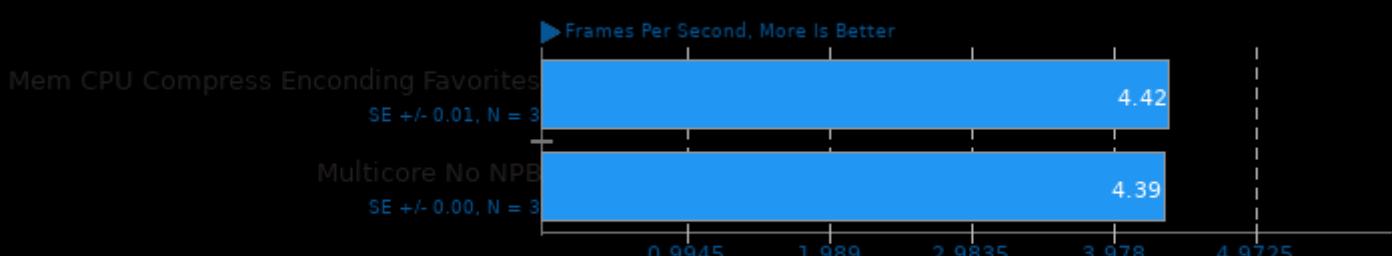
Tuning: Visual Quality Optimized - Input: Bosphorus 1080p



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

VP9 libvpx Encoding 1.8.2

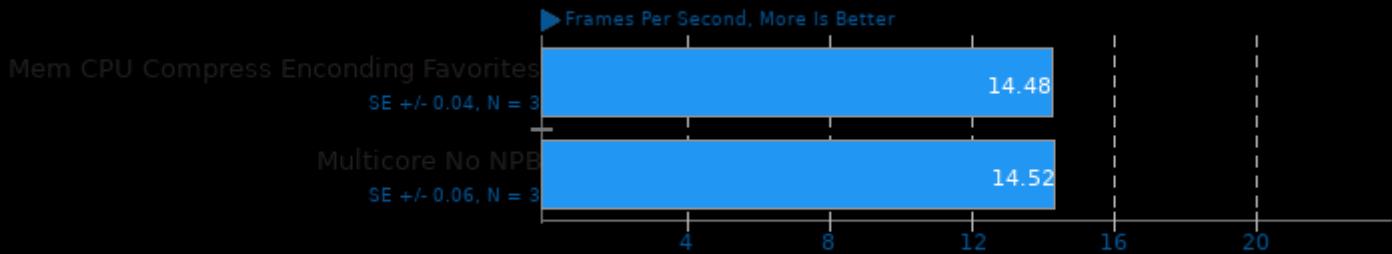
Speed: Speed 0



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

VP9 libvpx Encoding 1.8.2

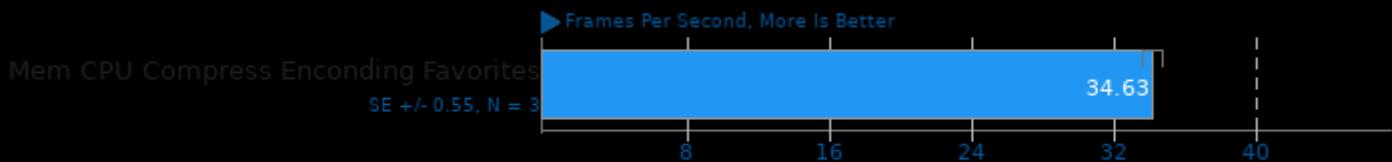
Speed: Speed 5



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

x264 2018-09-25

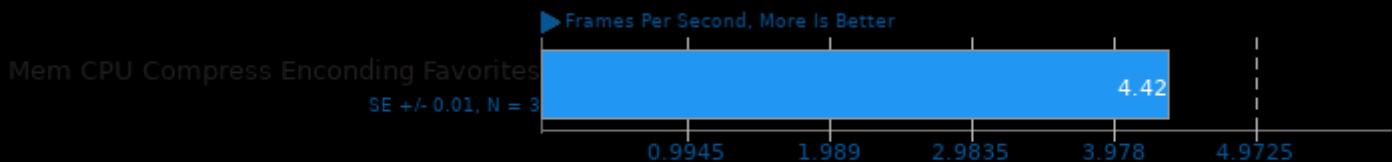
H.264 Video Encoding



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

x265 3.0

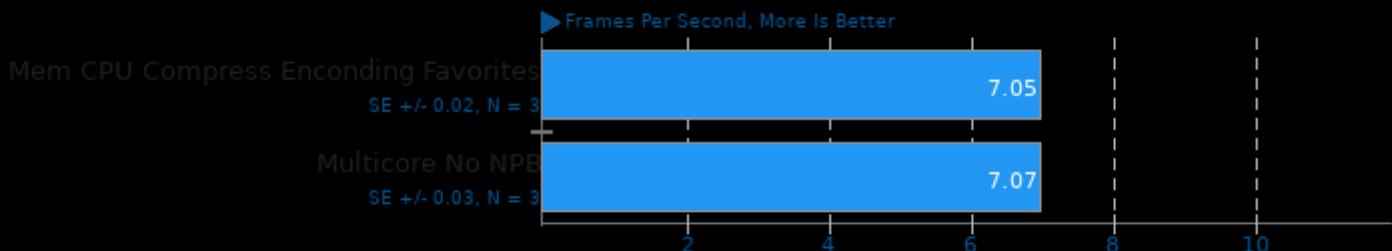
H.265 1080p Video Encoding



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

x265 3.1.2

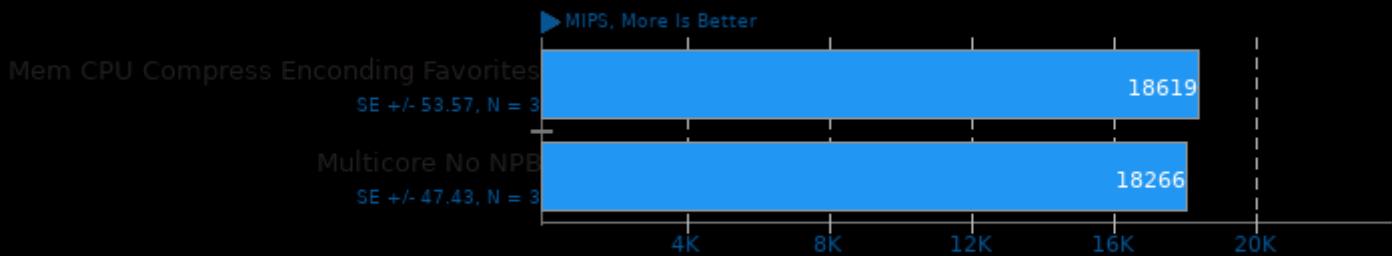
H.265 1080p Video Encoding



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

7-Zip Compression 16.02

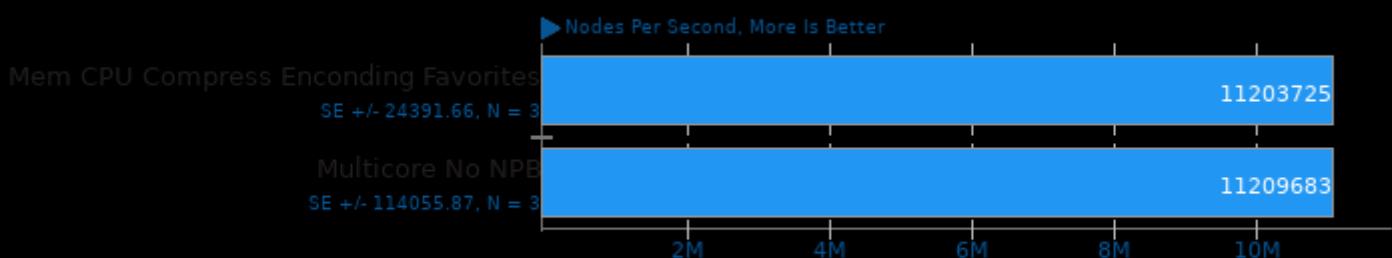
Compress Speed Test



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

Stockfish 9

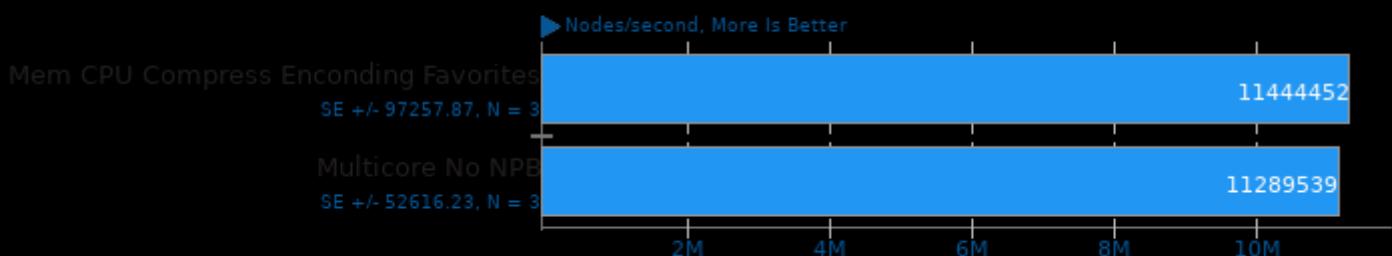
Total Time



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

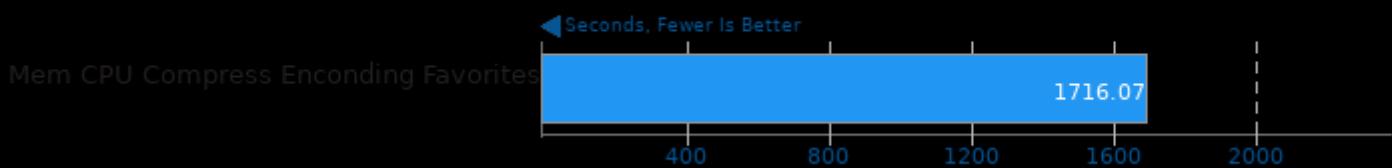
asmFish 2018-07-23

1024 Hash Memory, 26 Depth



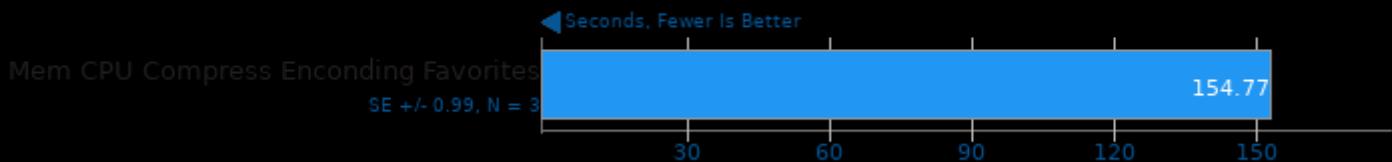
Timed GCC Compilation 8.2

Time To Compile



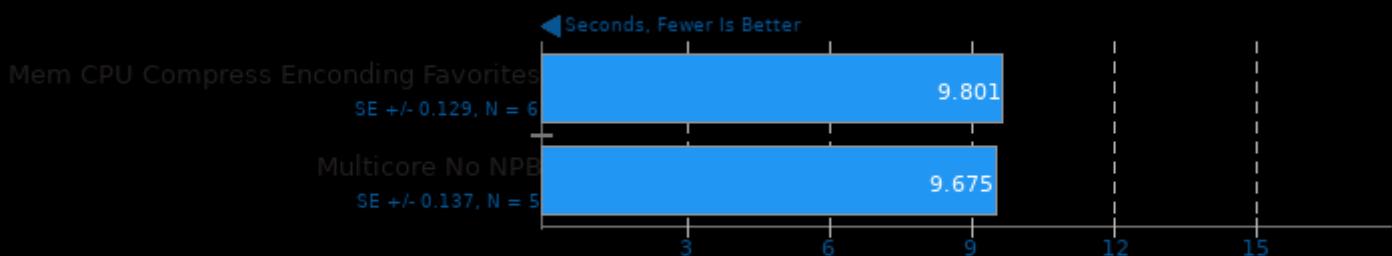
Timed Linux Kernel Compilation 4.18

Time To Compile



Parallel BZIP2 Compression 1.1.12

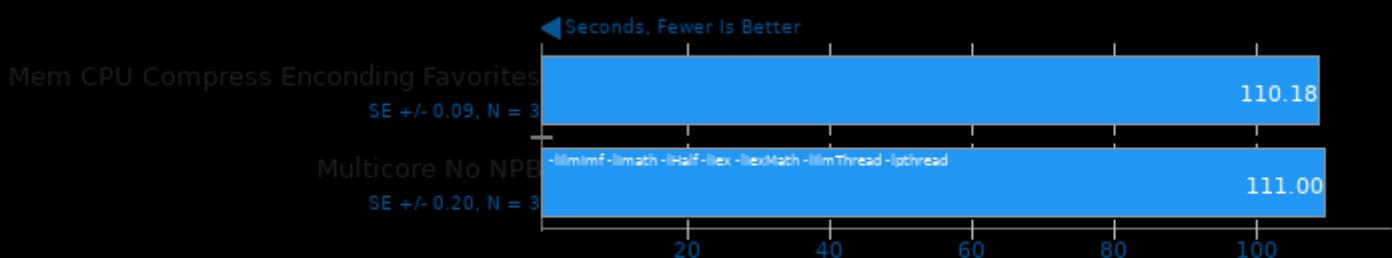
256MB File Compression



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

POV-Ray 3.7.0.7

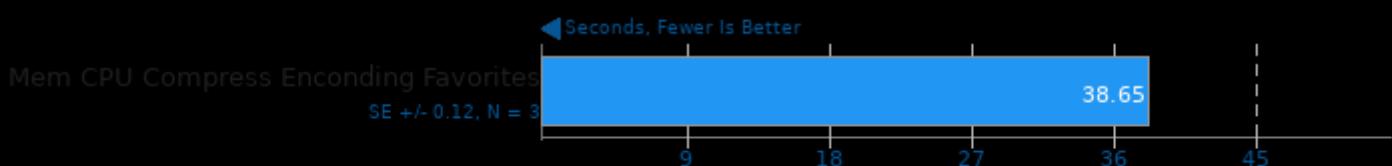
Trace Time



1. (CXX) g++ options: -pipe -O3 -ffast-math -march=native -pthread -lSDL -lXpm -lSM -lICE -lX11 -ltiff -ljpeg -png -lz -lrt -lm -boost_thread -boost_system

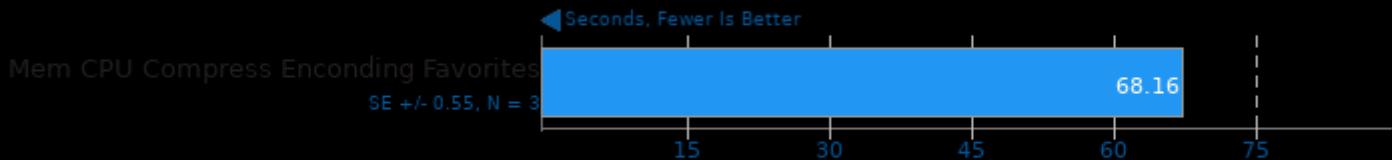
Gzip Compression

Linux Source Tree Archiving To .tar.gz



XZ Compression 5.2.4

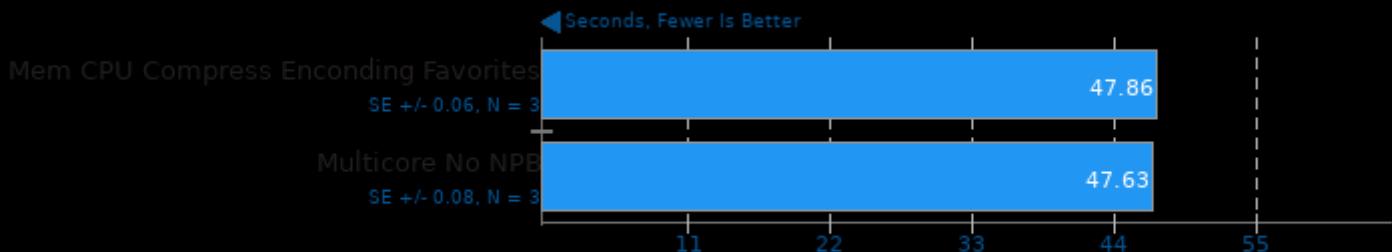
Compressing ubuntu-16.04.3-server-i386.img, Compression Level 9



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

Zstd Compression 1.3.4

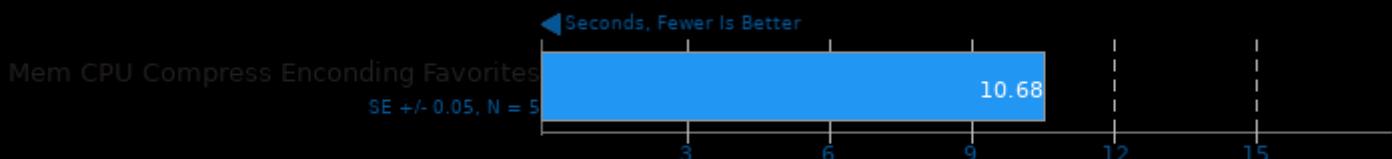
Compressing ubuntu-16.04.3-server-i386.img, Compression Level 19



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

FLAC Audio Encoding 1.3.2

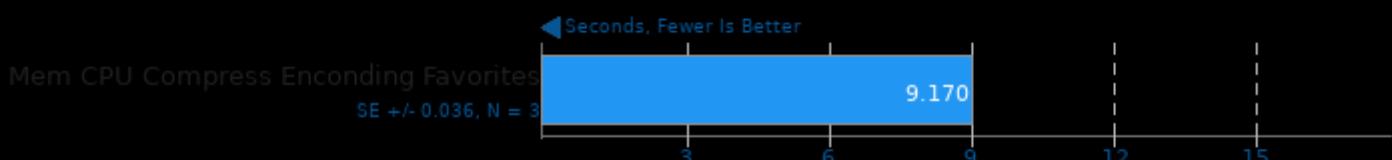
WAV To FLAC



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

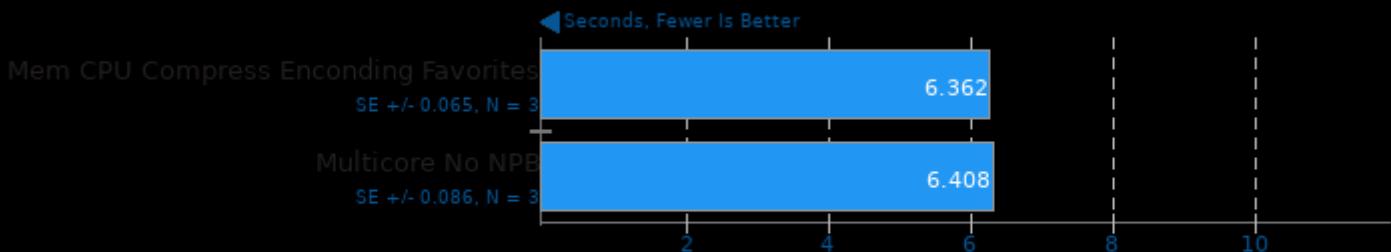
LAME MP3 Encoding 3.100

WAV To MP3

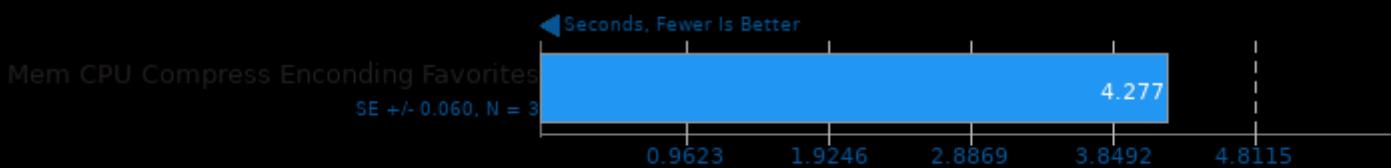
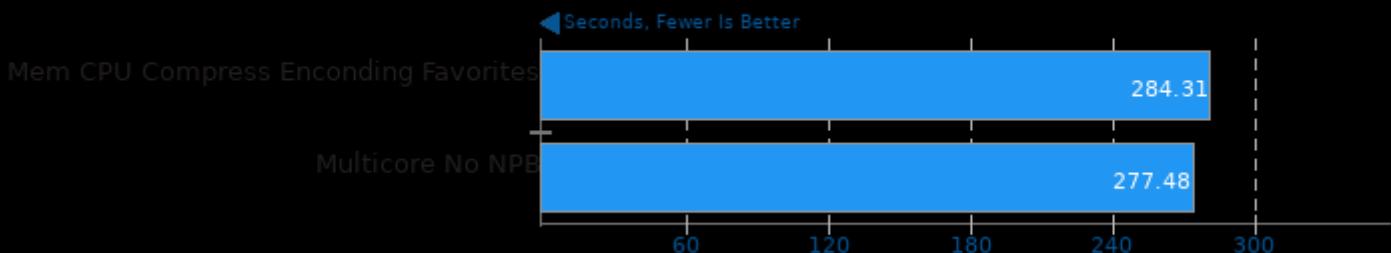
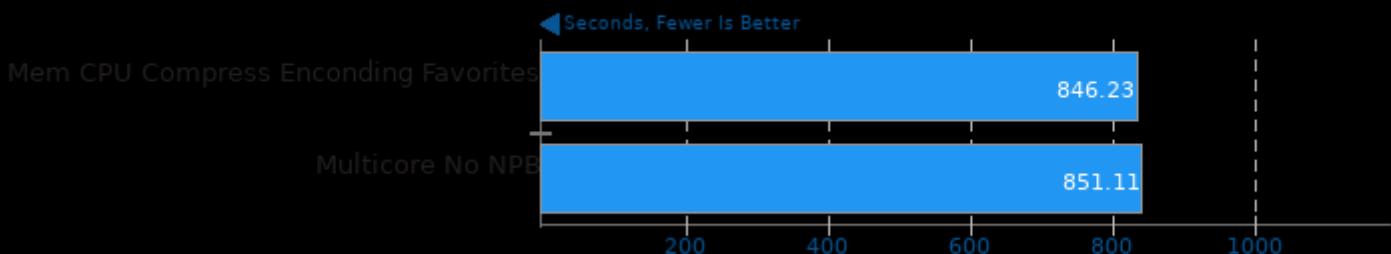


1. (CC) gcc options: -O3 -ffast-math -funroll-loops -fschedule-insns2 -fbranch-count-reg -fforce-addr -pipe -lm

FFmpeg 4.0.2

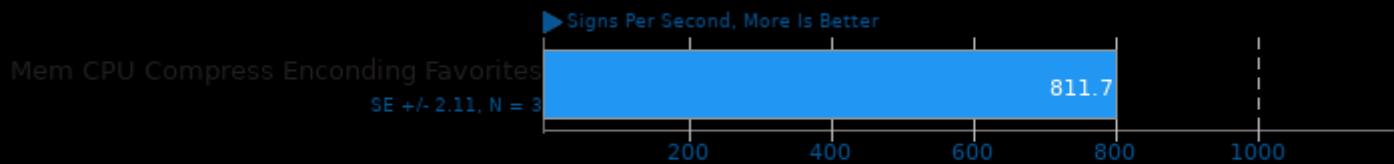


1. (CC) gcc options: -lavdevice -lavfilter -lavformat -lavcodec -lswresample -lswscale -lavutil -lXv -lX11 -lXext -lm -lxcb -lxcb-shape -lxcb-xfixes -lasound -lpthread



OpenSSL 1.1.1

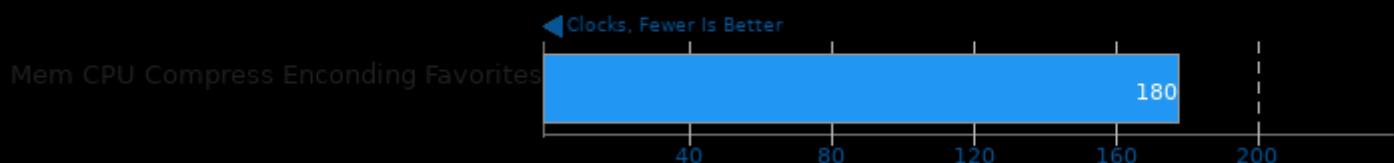
RSA 4096-bit Performance



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

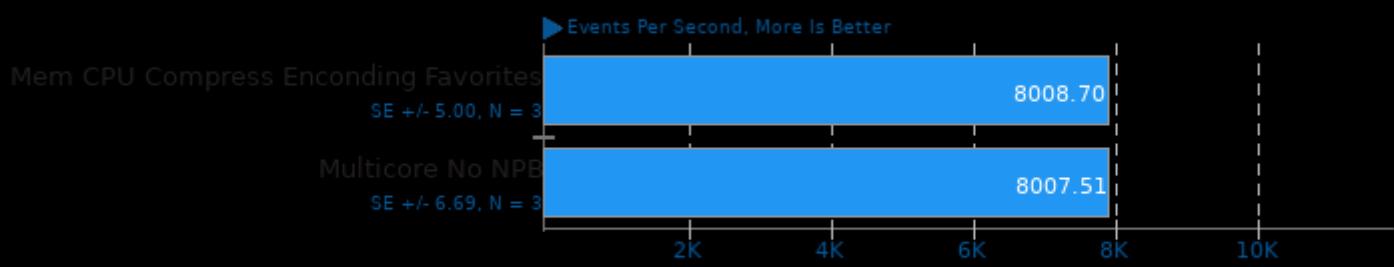
ctx_clock

Context Switch Time



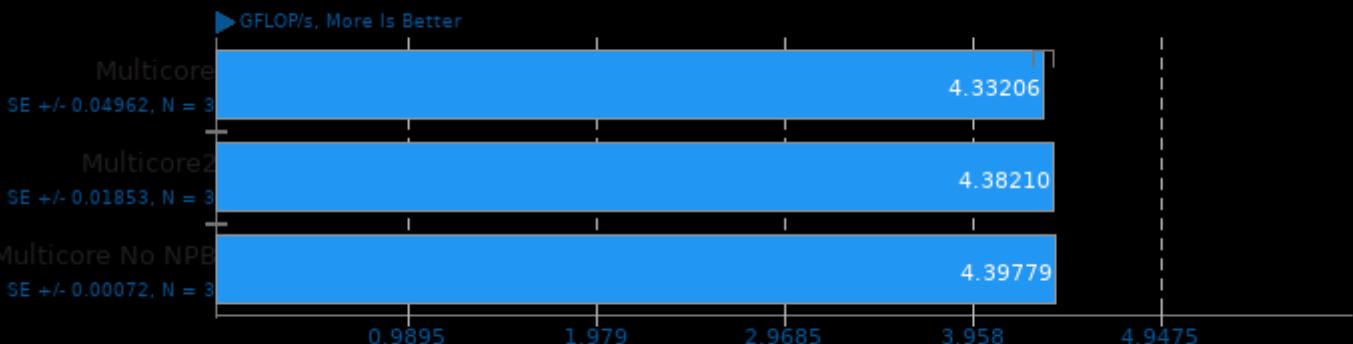
Sysbench 2018-07-28

Test: CPU



1. (CC) gcc options: -pthread -O3 -funroll-loops -ggdb3 -march=amdfam10 -rdynamic -ldl -lao -lm

High Performance Conjugate Gradient 3.1



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

NAS Parallel Benchmarks 3.4

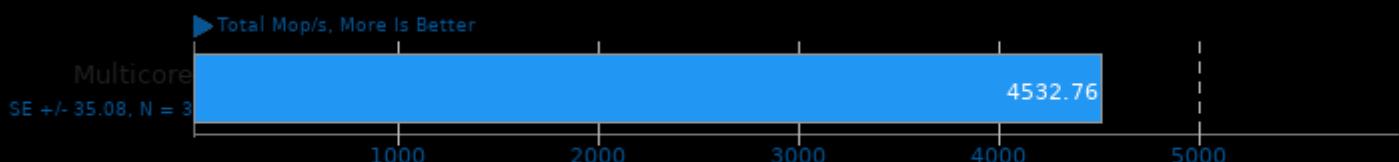
Test / Class: BT.C



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Open MPI 2.1.1

NAS Parallel Benchmarks 3.4

Test / Class: CG.C



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Open MPI 2.1.1

NAS Parallel Benchmarks 3.4

Test / Class: EP.C



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Open MPI 2.1.1

NAS Parallel Benchmarks 3.4

Test / Class: EP.D



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Open MPI 2.1.1

NAS Parallel Benchmarks 3.4

Test / Class: FT.C

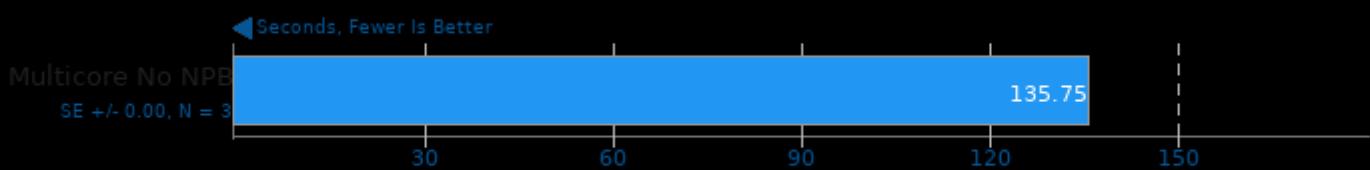


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi

2. Open MPI 2.1.1

Parboil 2.5

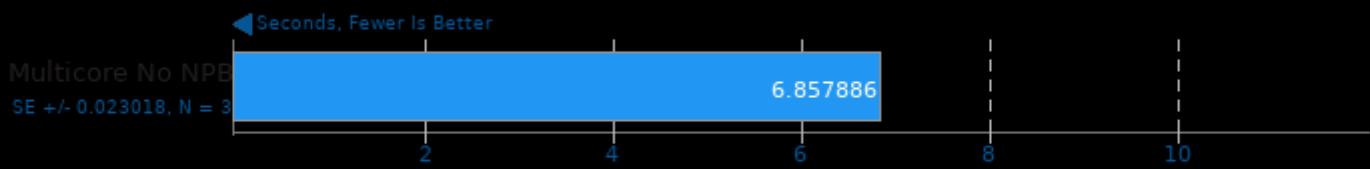
Test: OpenMP LBM



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

Parboil 2.5

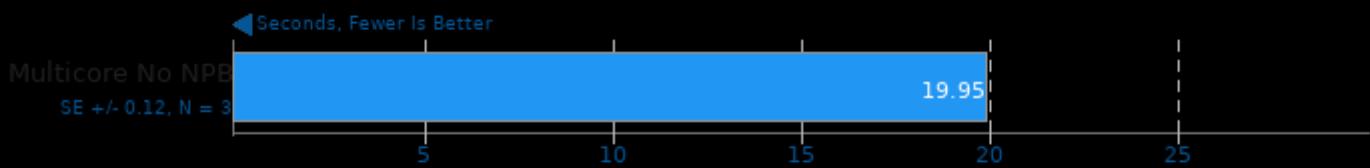
Test: OpenMP CUTCP



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

Parboil 2.5

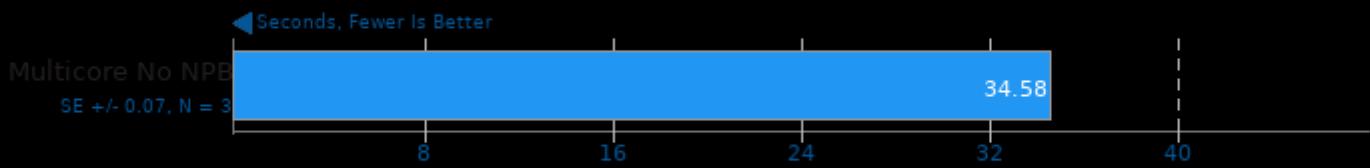
Test: OpenMP Stencil



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

Parboil 2.5

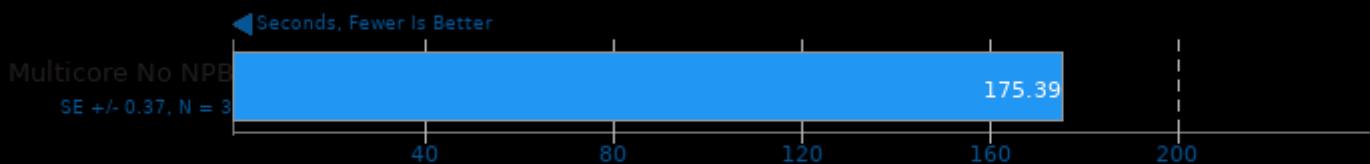
Test: OpenMP MRI Gridding



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

Rodinia 2.4

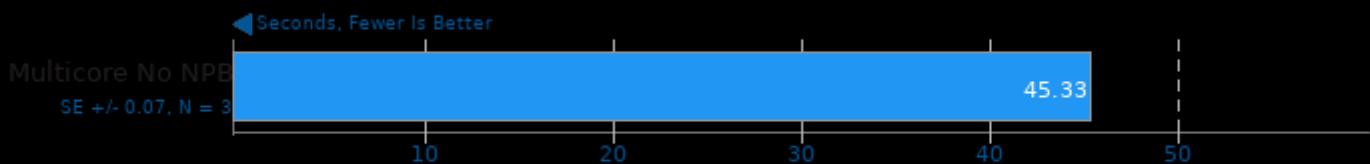
Test: OpenMP LavaMD



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

Rodinia 2.4

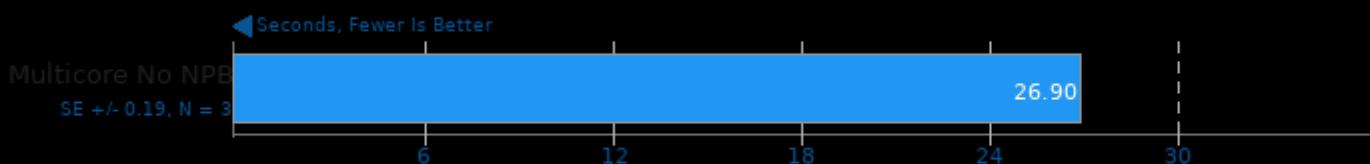
Test: OpenMP CFD Solver



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

Rodinia 2.4

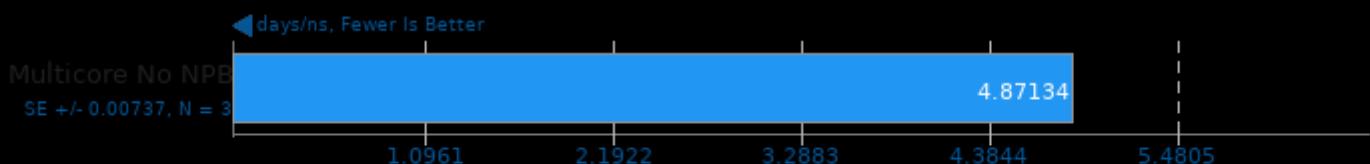
Test: OpenMP Streamcluster



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

NAMD 2.13

ATPase Simulation - 327,506 Atoms



Pennant 1.0.1

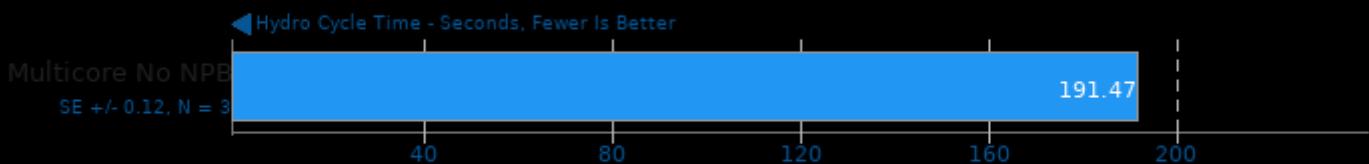
Test: sedovbig



1. (CXX) g++ options: -fopenmp -fthread -fmpi_cxx -fmpi

Pennant 1.0.1

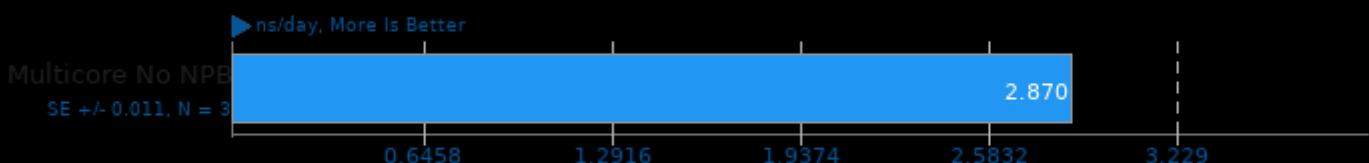
Test: leblancbig



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

LAMMPS Molecular Dynamics Simulator 9Jan2020

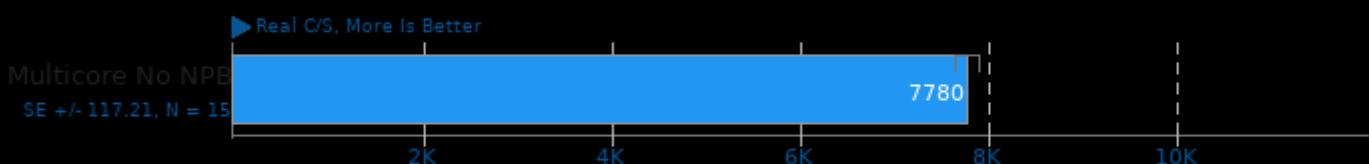
Model: Rhodopsin Protein



1. (CXX) g++ options: -fopenmp -O3 -rdynamic -lmpi -ljpeg -lpng -lz -fftw3 -lm

John The Ripper 1.9.0-jumbo-1

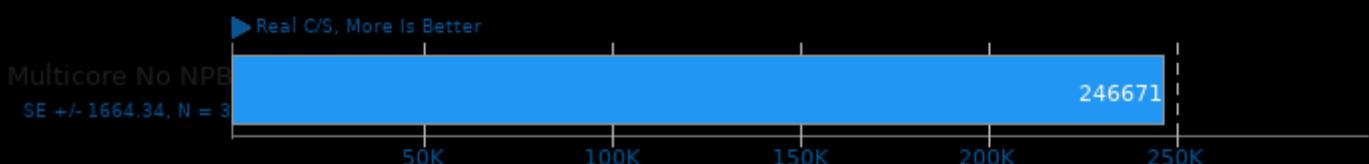
Test: Blowfish



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

John The Ripper 1.9.0-jumbo-1

Test: MD5



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

Open FMM Nero2D 2.0.2

Total Time



1. (CXX) g++ options: -O2 -fftw3 -llapack -lblas -lgfortran -lquadmath -lm -pthread -lmpi_cxx -lmpi

GraphicsMagick 1.3.33

Operation: Swirl



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

GraphicsMagick 1.3.33

Operation: Rotate



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

GraphicsMagick 1.3.33

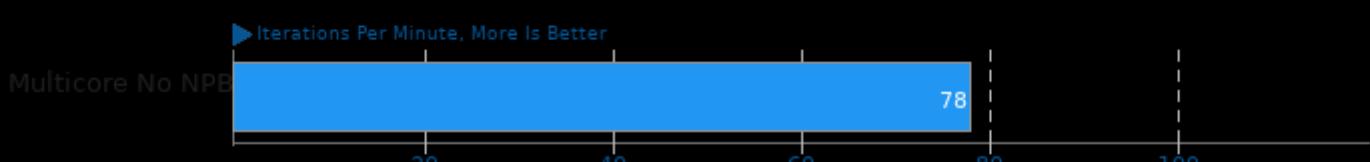
Operation: Sharpen



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

GraphicsMagick 1.3.33

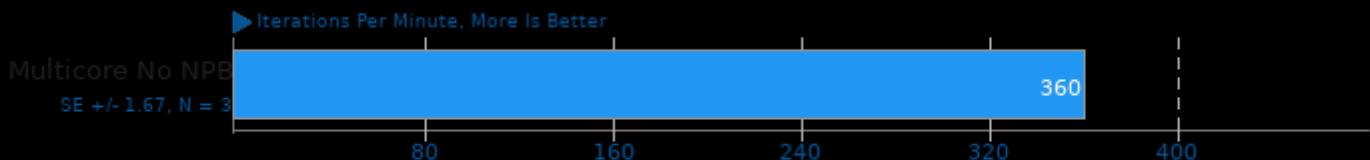
Operation: Enhanced



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

GraphicsMagick 1.3.33

Operation: Resizing



1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -jpeg -lXext -lSM -ICE -lX11 -lzma -lbz2 -xml2 -lz -lm -pthread

GraphicsMagick 1.3.33

Operation: Noise-Gaussian



1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -jpeg -lXext -lSM -ICE -lX11 -lzma -lbz2 -xml2 -lz -lm -pthread

GraphicsMagick 1.3.33

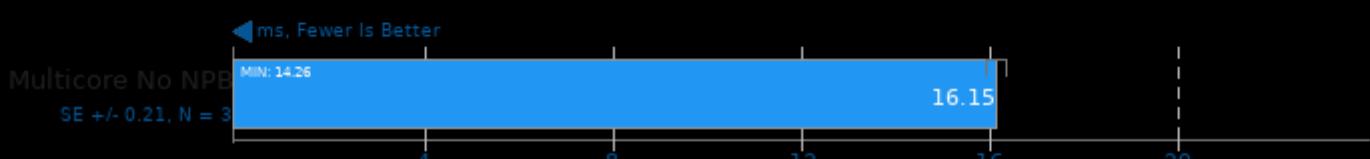
Operation: HWB Color Space



1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -jpeg -lXext -lSM -ICE -lX11 -lzma -lbz2 -xml2 -lz -lm -pthread

oneDNN MKL-DNN 1.3

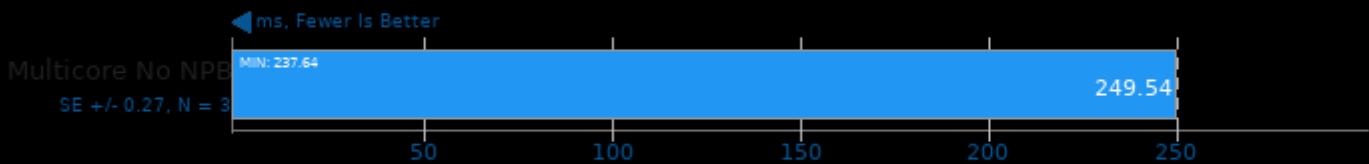
Harness: IP Batch 1D - Data Type: f32



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

oneDNN MKL-DNN 1.3

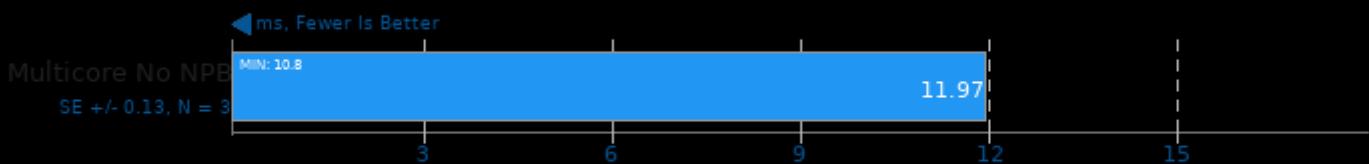
Harness: IP Batch All - Data Type: f32



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

oneDNN MKL-DNN 1.3

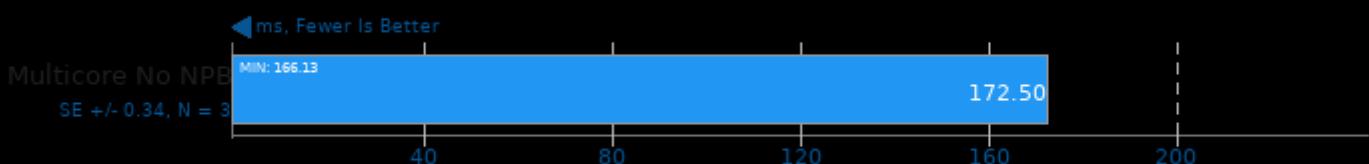
Harness: IP Batch 1D - Data Type: u8s8f32



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

oneDNN MKL-DNN 1.3

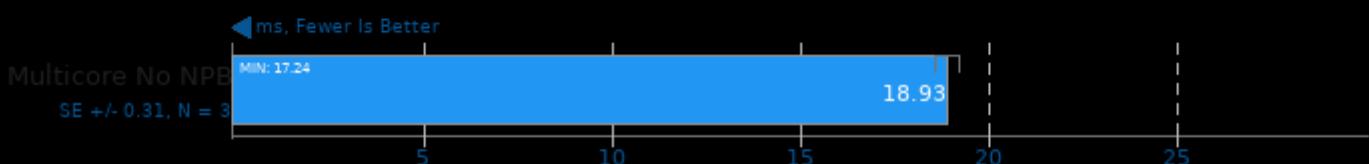
Harness: IP Batch All - Data Type: u8s8f32



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

oneDNN MKL-DNN 1.3

Harness: Deconvolution Batch deconv_1d - Data Type: f32



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

oneDNN MKL-DNN 1.3

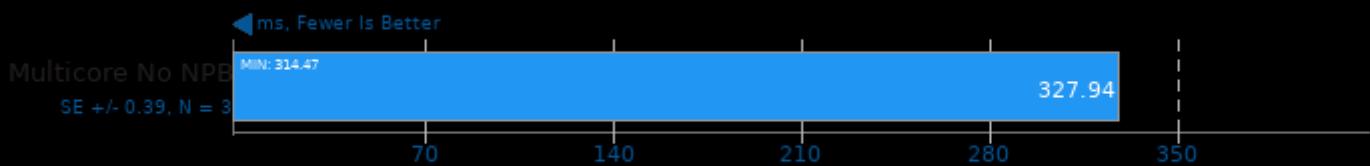
Harness: Deconvolution Batch deconv_3d - Data Type: f32



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

oneDNN MKL-DNN 1.3

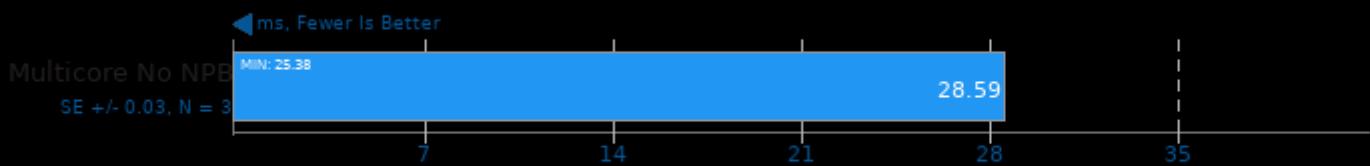
Harness: Deconvolution Batch deconv_1d - Data Type: u8s8f32



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

oneDNN MKL-DNN 1.3

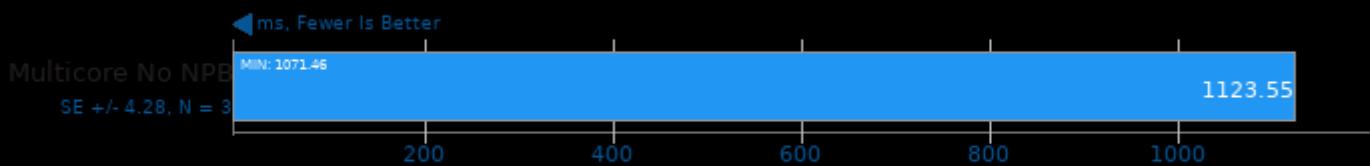
Harness: Deconvolution Batch deconv_3d - Data Type: u8s8f32



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

oneDNN MKL-DNN 1.3

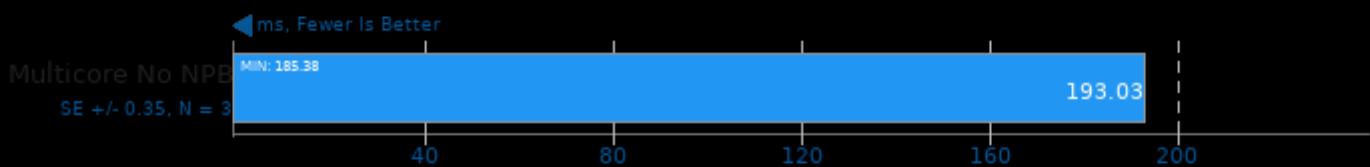
Harness: Recurrent Neural Network Training - Data Type: f32



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

oneDNN MKL-DNN 1.3

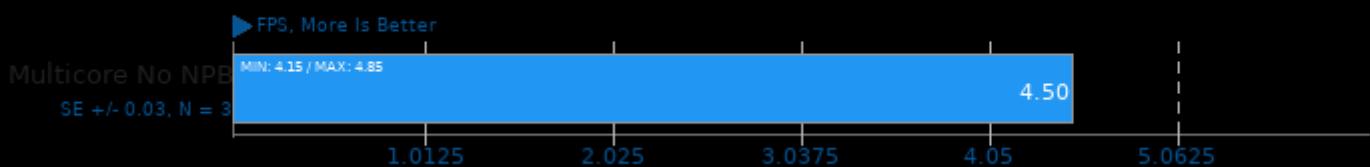
Harness: Recurrent Neural Network Inference - Data Type: f32



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

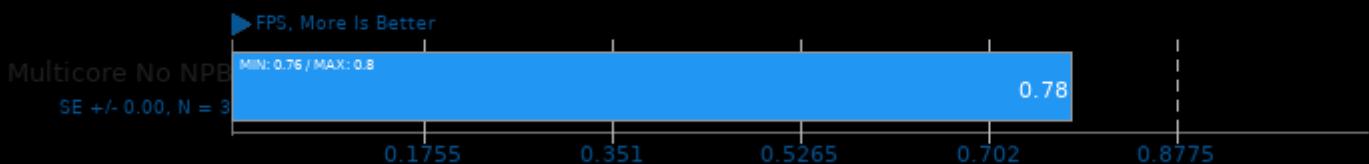
OSPray 1.8.5

Demo: San Miguel - Renderer: SciVis



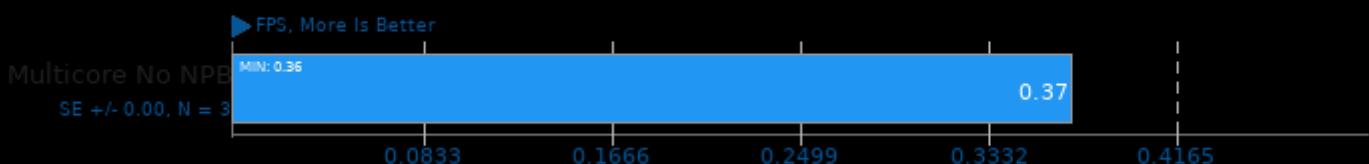
OSPray 1.8.5

Demo: XFrog Forest - Renderer: SciVis



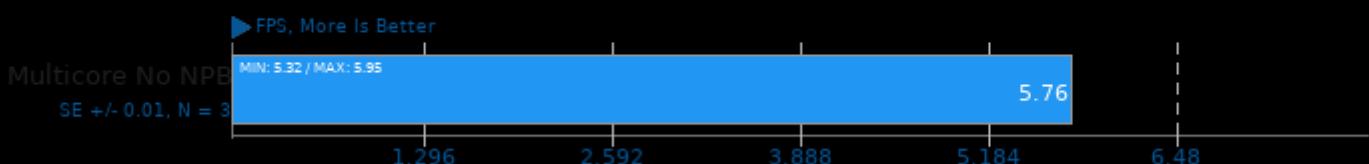
OSPray 1.8.5

Demo: San Miguel - Renderer: Path Tracer



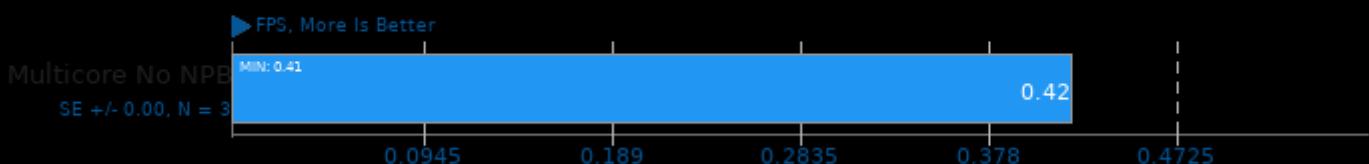
OSPray 1.8.5

Demo: NASA Streamlines - Renderer: SciVis



OSPray 1.8.5

Demo: XFrog Forest - Renderer: Path Tracer



OSPray 1.8.5

Demo: Magnetic Reconnection - Renderer: SciVis



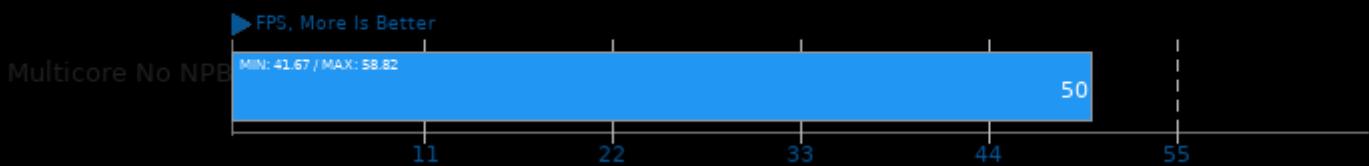
OSPray 1.8.5

Demo: NASA Streamlines - Renderer: Path Tracer



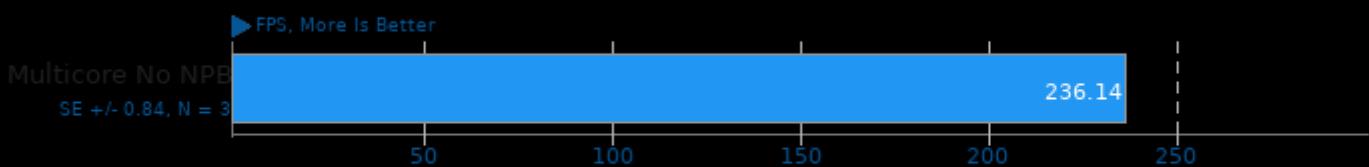
OSPray 1.8.5

Demo: Magnetic Reconnection - Renderer: Path Tracer



TTSIOD 3D Renderer 2.3b

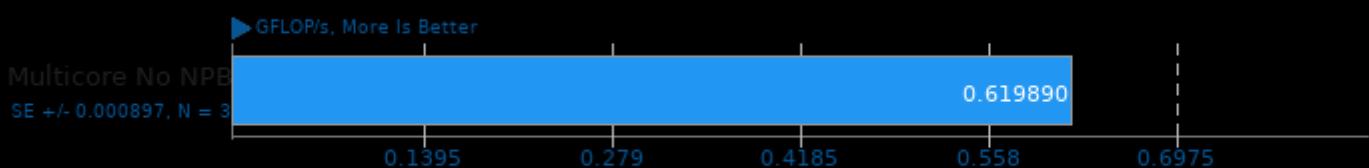
Phong Rendering With Soft-Shadow Mapping



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

ACES DGEMM 1.0

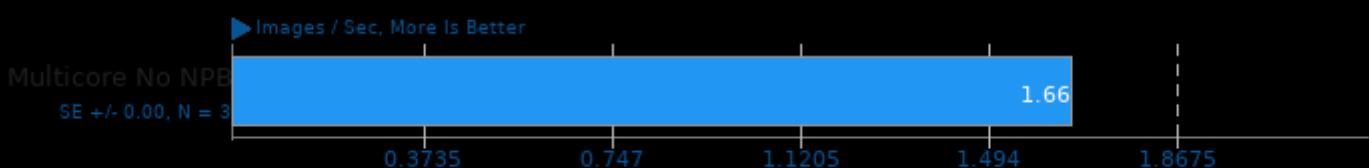
Sustained Floating-Point Rate



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

Intel Open Image Denoise 1.2.0

Scene: Memorial



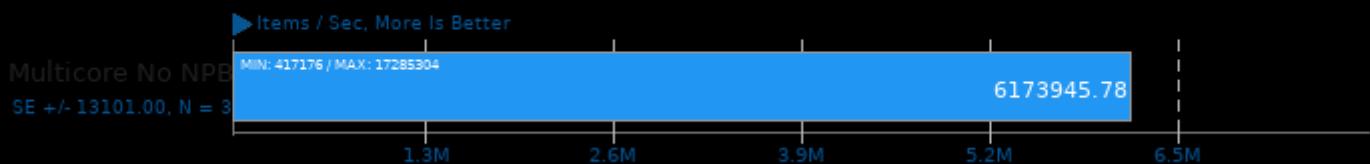
OpenVKL 0.9

Benchmark: vklBenchmark



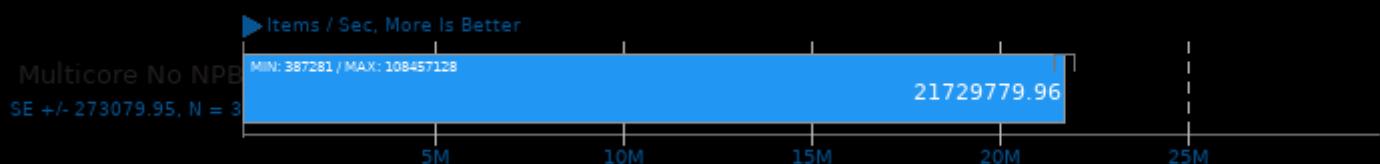
OpenVKL 0.9

Benchmark: vklBenchmarkVdbVolume



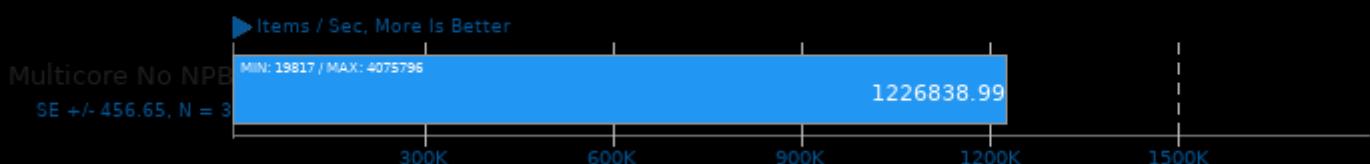
OpenVKL 0.9

Benchmark: vklBenchmarkStructuredVolume



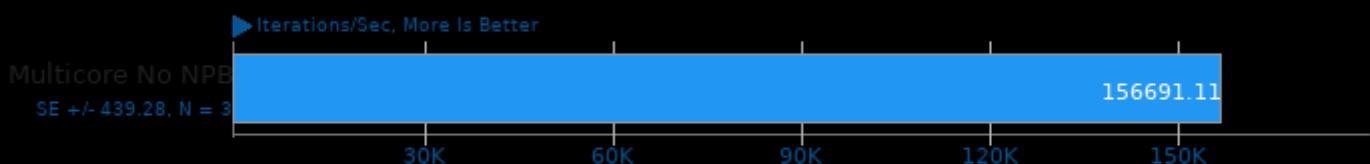
OpenVKL 0.9

Benchmark: vklBenchmarkUnstructuredVolume



Coremark 1.0

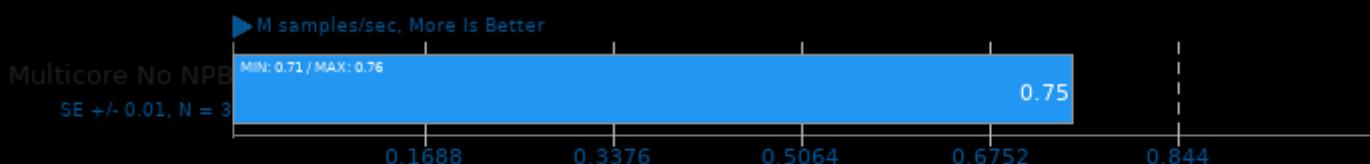
CoreMark Size 666 - Iterations Per Second



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

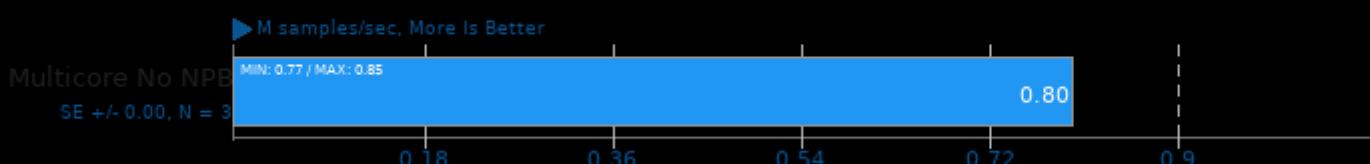
LuxCoreRender 2.3

Scene: DLSC



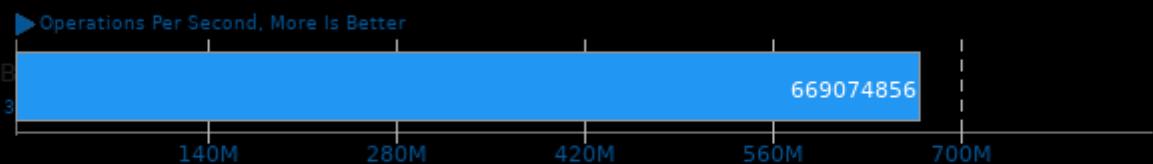
LuxCoreRender 2.3

Scene: Rainbow Colors and Prism



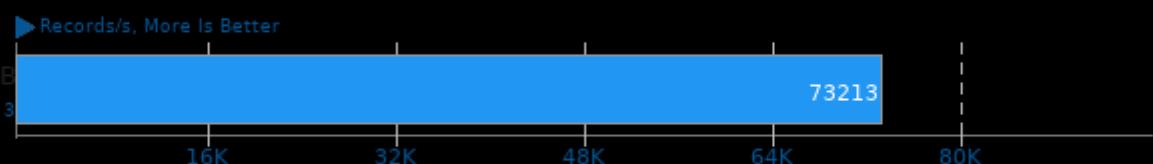
Swet 1.5.16

Average



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

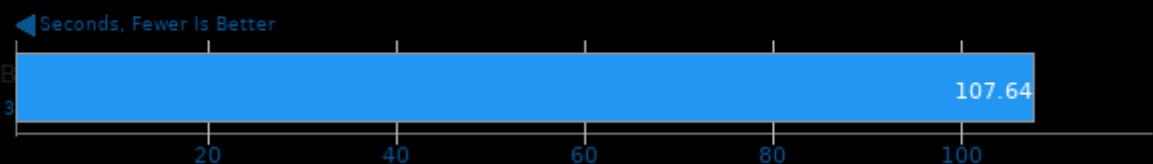
ebizzy 0.3



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

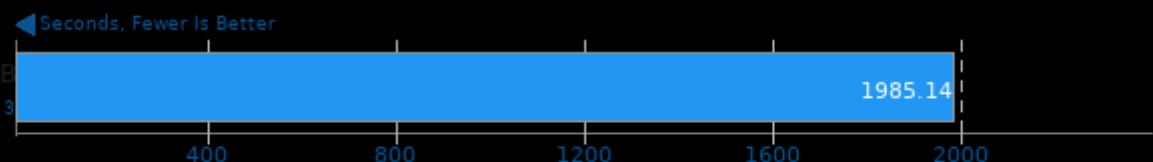
Timed FFmpeg Compilation 4.2.2

Time To Compile



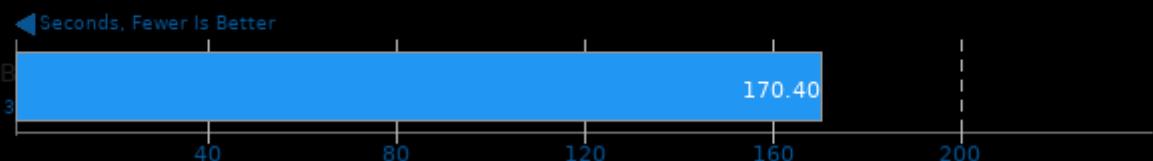
Timed GCC Compilation 9.3.0

Time To Compile



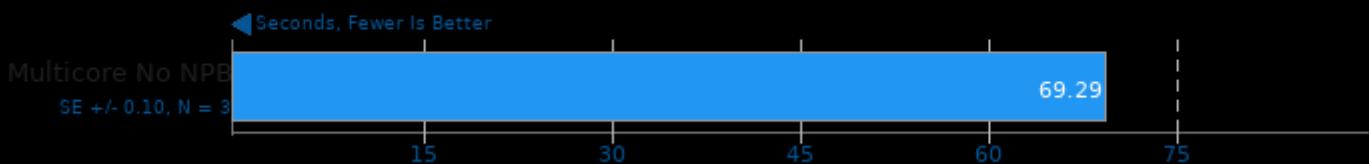
Timed GDB GNU Debugger Compilation 9.1

Time To Compile



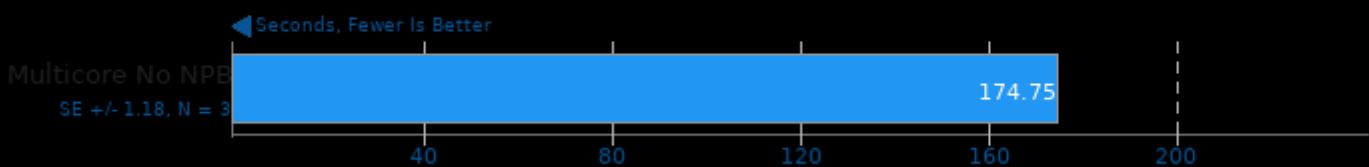
Timed ImageMagick Compilation 6.9.0

Time To Compile



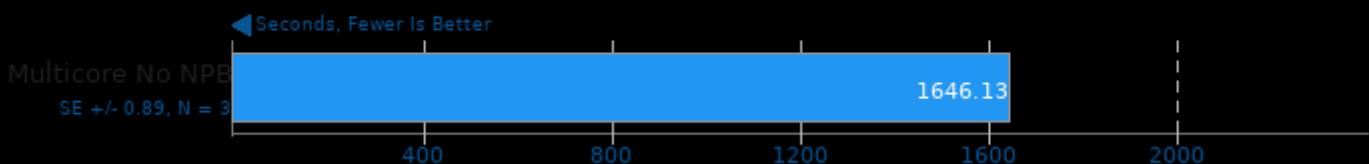
Timed Linux Kernel Compilation 5.4

Time To Compile



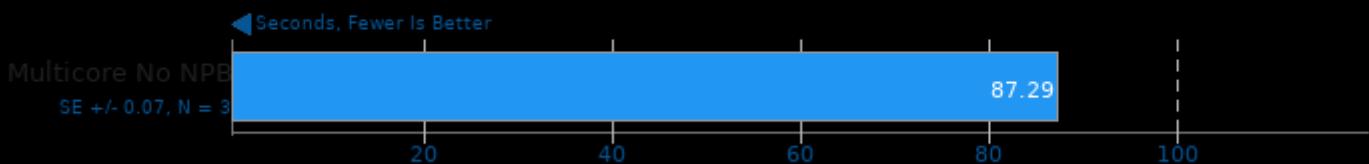
Timed LLVM Compilation 10.0

Time To Compile



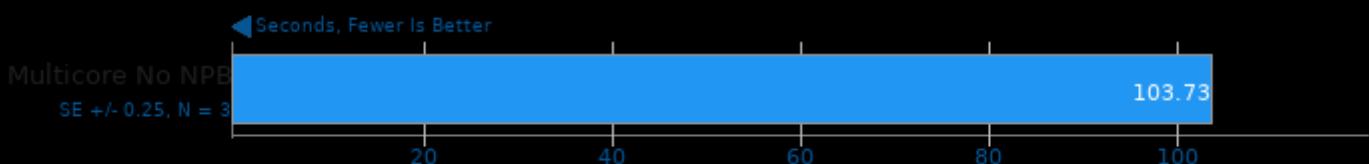
Timed MPlayer Compilation 1.4

Time To Compile



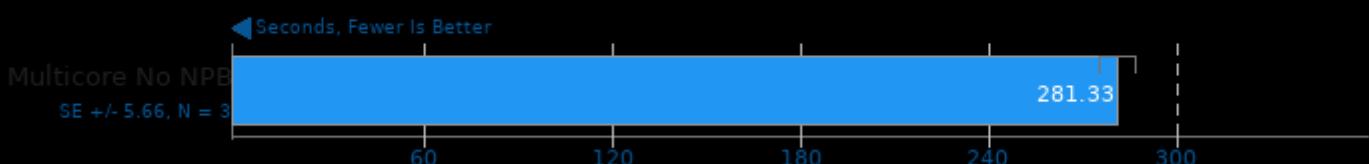
Timed PHP Compilation 7.4.2

Time To Compile



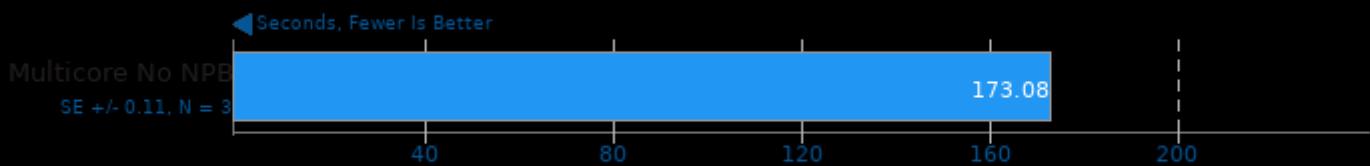
Build2 0.12

Time To Compile



C-Ray 1.1

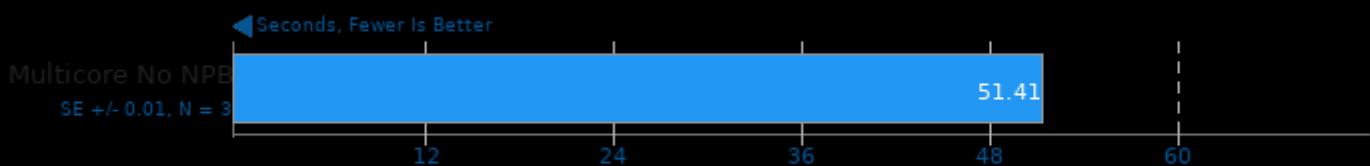
Total Time - 4K, 16 Rays Per Pixel



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

Primesieve 7.4

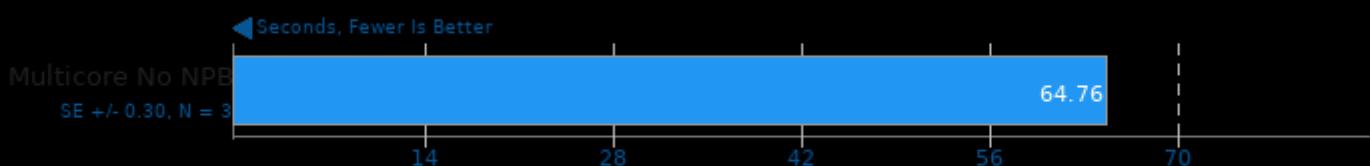
1e12 Prime Number Generation



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

Rust Mandelbrot

Time To Complete Serial/Parallel Mandelbrot



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

Rust Prime Benchmark

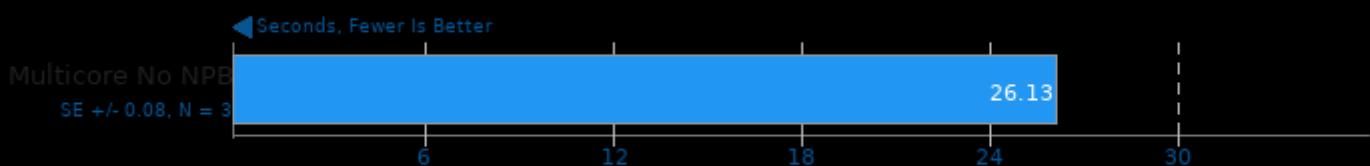
Prime Number Test To 200,000,000



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

Smallpt 1.0

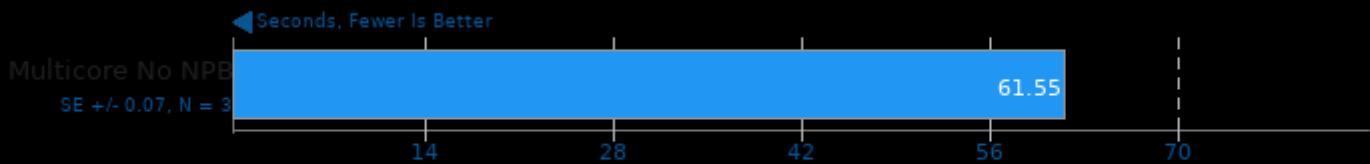
Global Illumination Renderer; 128 Samples



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

Tungsten Renderer 0.2.2

Scene: Hair



1. (CXX) g++ options: -std=c++0x -march=znver1 -msse2 -msse3 -mssse3 -msse4.1 -msse4.2 -msse4a -mfma -mbmi2 -mno-avx -mno-avx2 -mno-xop -m

Tungsten Renderer 0.2.2

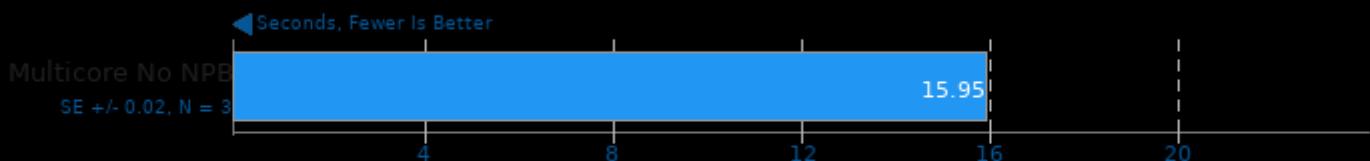
Scene: Water Caustic



1. (CXX) g++ options: -std=c++0x -march=znver1 -msse2 -msse3 -mssse3 -msse4.1 -msse4.2 -msse4a -mfma -mbmi2 -mno-avx -mno-avx2 -mno-xop -m

Tungsten Renderer 0.2.2

Scene: Non-Exponential



1. (CXX) g++ options: -std=c++0x -march=znver1 -msse2 -msse3 -mssse3 -msse4.1 -msse4.2 -msse4a -mfma -mbmi2 -mno-avx -mno-avx2 -mno-xop -m

Tungsten Renderer 0.2.2

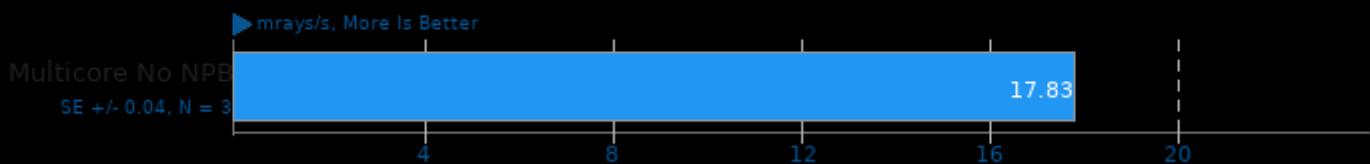
Scene: Volumetric Caustic



1. (CXX) g++ options: -std=c++0x -march=znver1 -msse2 -msse3 -mssse3 -msse4.1 -msse4.2 -msse4a -mfma -mbmi2 -mno-avx -mno-avx2 -mno-xop -m

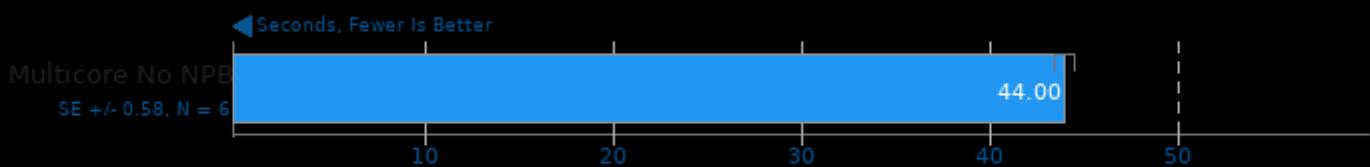
rays1bench 2020-01-09

Large Scene



AOBench

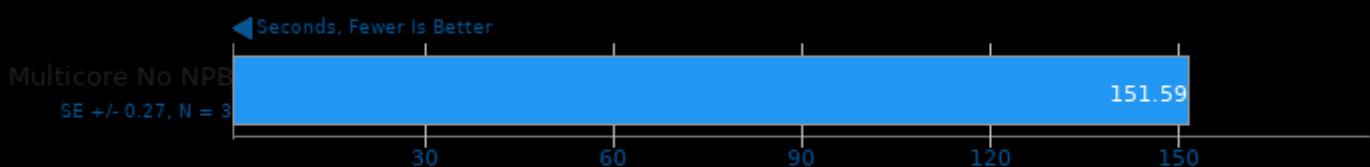
Size: 2048 x 2048 - Total Time



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

m-queens 1.2

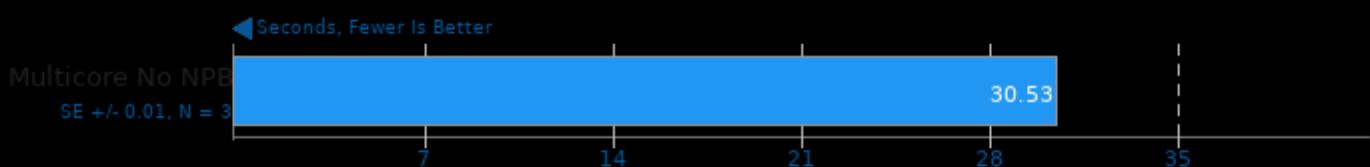
Time To Solve



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

N-Queens 1.0

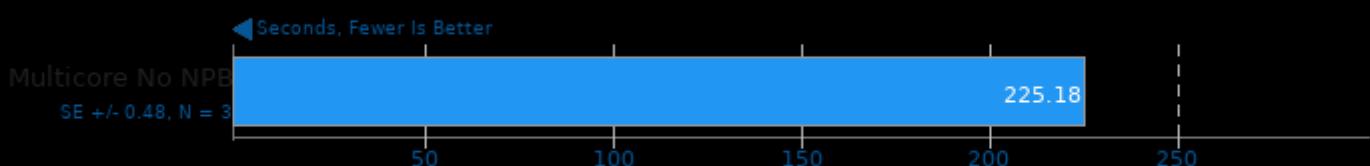
Elapsed Time



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

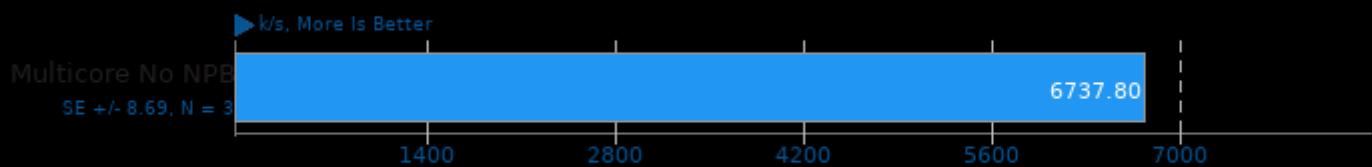
Tachyon 0.99b6

Total Time



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

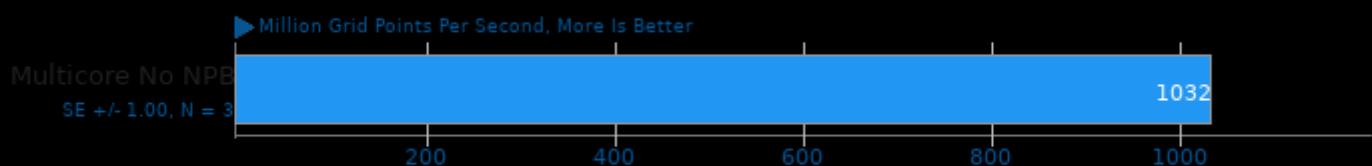
Aircrack-ng 1.5.2



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

ASKAP 2018-11-10

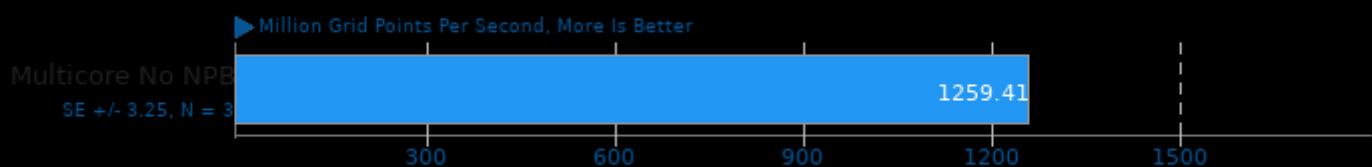
Test: tConvolve MT - Gridding



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

ASKAP 2018-11-10

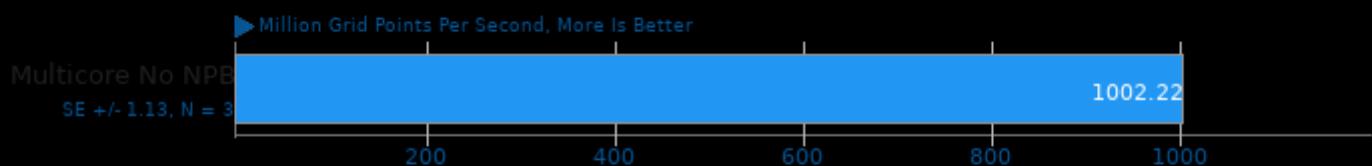
Test: tConvolve MT - Degridding



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

ASKAP 2018-11-10

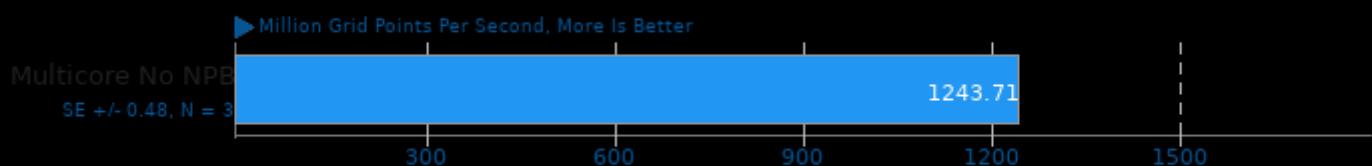
Test: tConvolve MPI - Gridding



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

ASKAP 2018-11-10

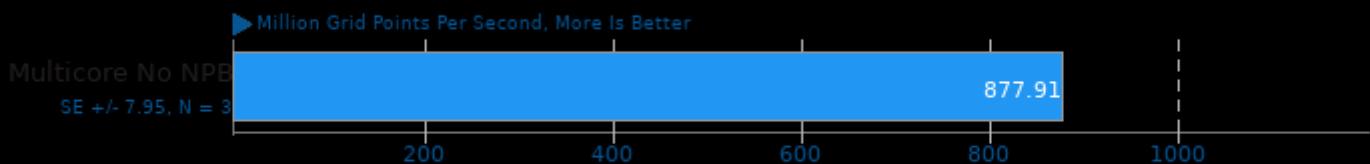
Test: tConvolve MPI - Degridding



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

ASKAP 2018-11-10

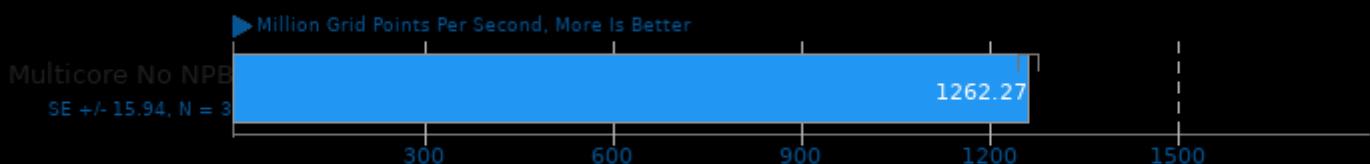
Test: tConvolve OpenMP - Gridding



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

ASKAP 2018-11-10

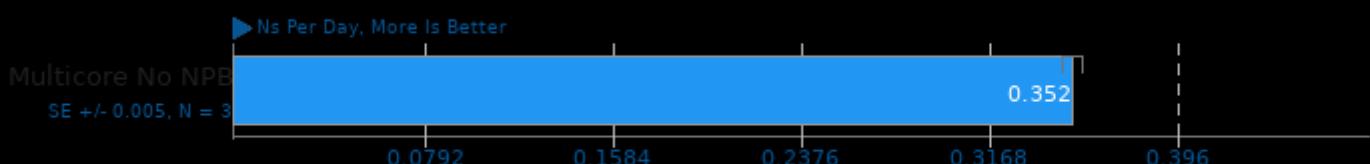
Test: tConvolve OpenMP - Degridding



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

GROMACS 2020

Water Benchmark



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

MariaDB 10.3.8

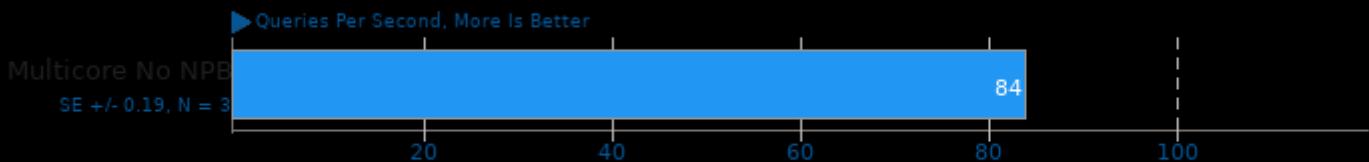
Clients: 1



1. (CXX) g++ options: -pie -fPIC -fstack-protector -fno-rtti -O2 -lpthread -lzma -lbz2 -laio -lnuma -lz -lm -lpcre -lcrypt -lssl -lcrypto -ldl

MariaDB 10.3.8

Clients: 4



MariaDB 10.3.8

Clients: 8



MariaDB 10.3.8

Clients: 16



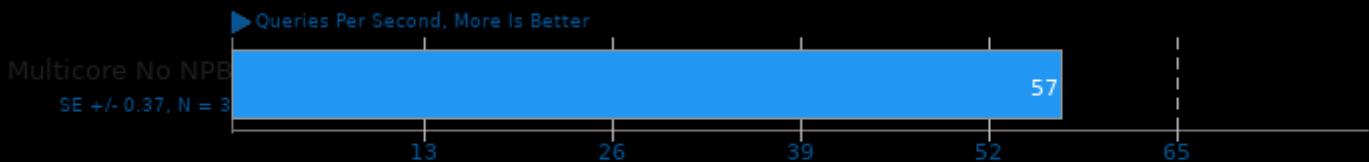
MariaDB 10.3.8

Clients: 32



MariaDB 10.3.8

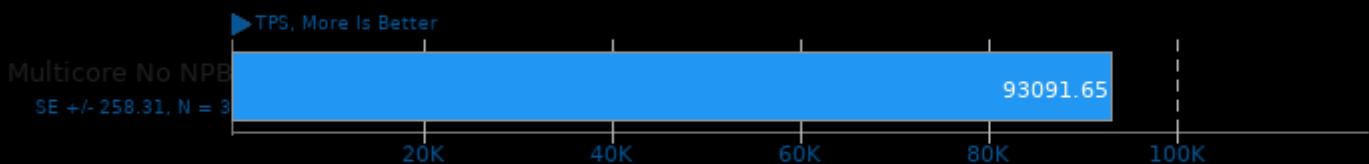
Clients: 64



1. (CXX) g++ options: -pie -fPIC -fstack-protector -fno-rtti -O2 -lpthread -llzma -lbz2 -lao -l numa -lz -lm -lpcres -lcrypt -lssl -lcrypto -ldl

PostgreSQL pgbench 12.0

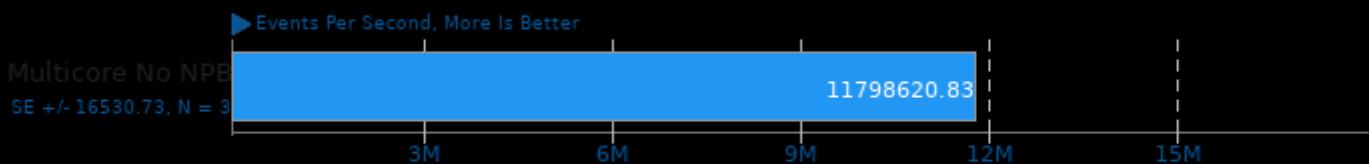
Scaling: Buffer Test - Test: Normal Load - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgcccommon -lgccport -lpq -lpthread -lrt -lcrypt -ldl -lm

Sysbench 2018-07-28

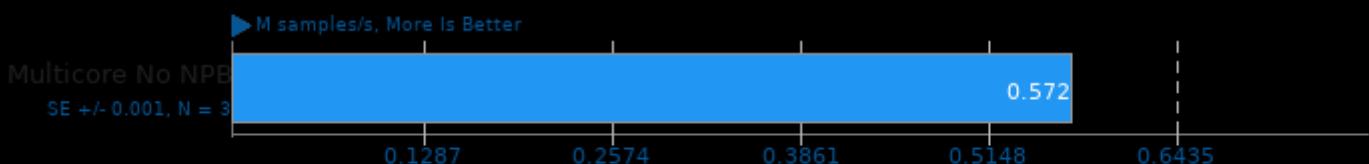
Test: Memory



1. (CC) gcc options: -pthread -O3 -funroll-loops -ggdb3 -march=amdfam10 -rdynamic -ldl -lao -lm

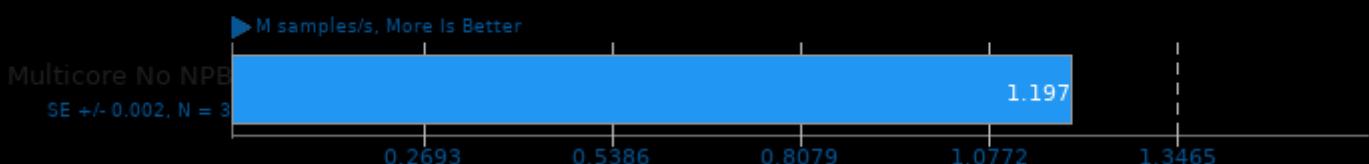
IndigoBench 4.0.64

Scene: Bedroom



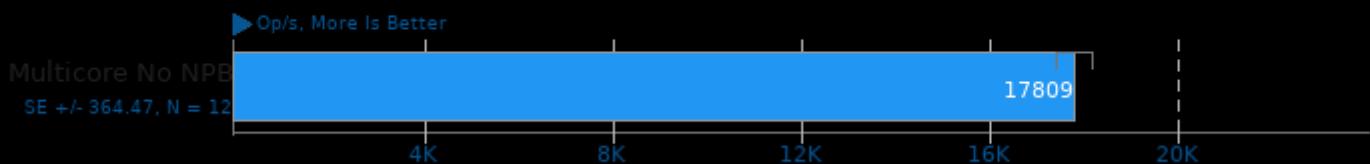
IndigoBench 4.0.64

Scene: Supercar



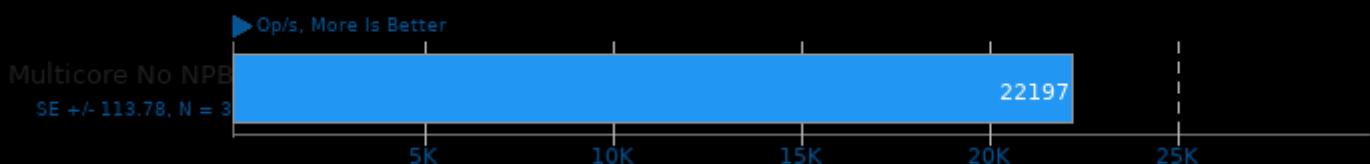
Apache Cassandra 3.11.4

Test: Reads



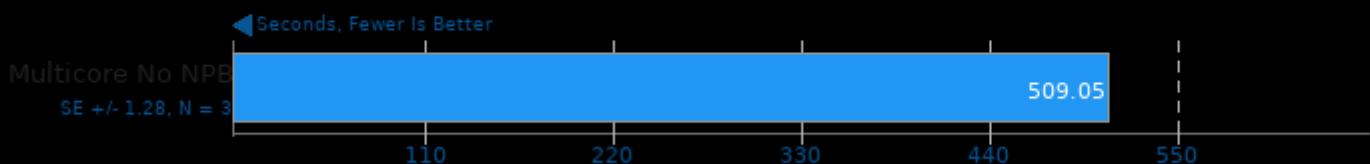
Apache Cassandra 3.11.4

Test: Writes



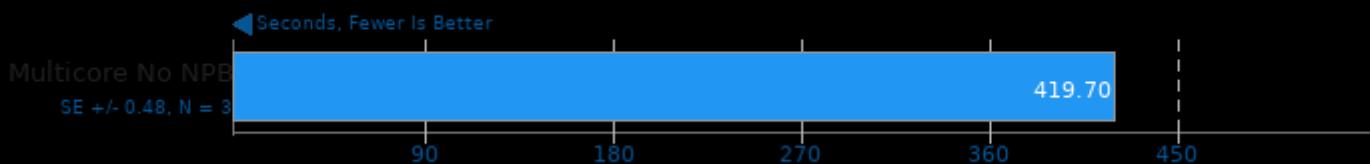
Blender 2.82

Blend File: BMW27 - Compute: OpenCL



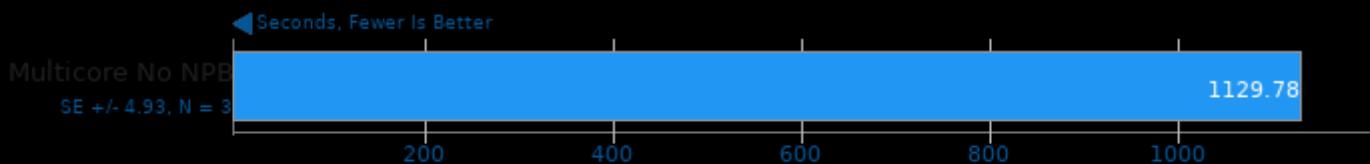
Blender 2.82

Blend File: BMW27 - Compute: CPU-Only



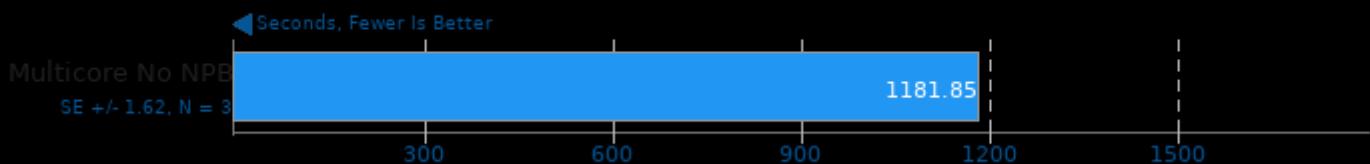
Blender 2.82

Blend File: Classroom - Compute: OpenCL



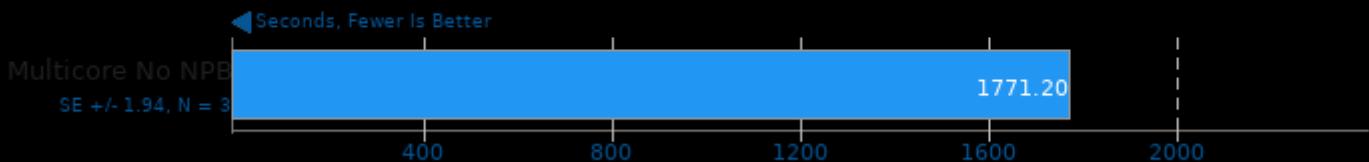
Blender 2.82

Blend File: Fishy Cat - Compute: OpenCL



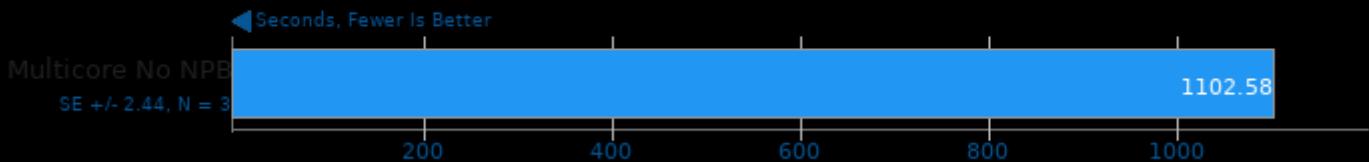
Blender 2.82

Blend File: Barbershop - Compute: OpenCL



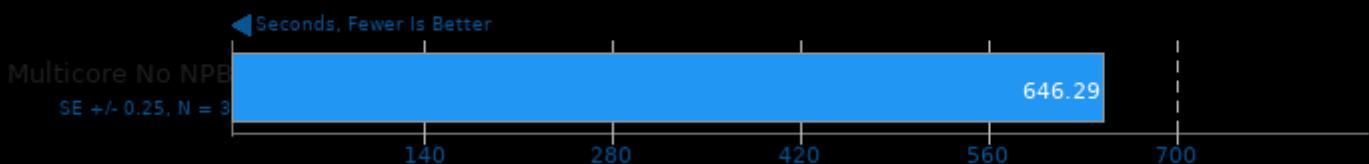
Blender 2.82

Blend File: Classroom - Compute: CPU-Only



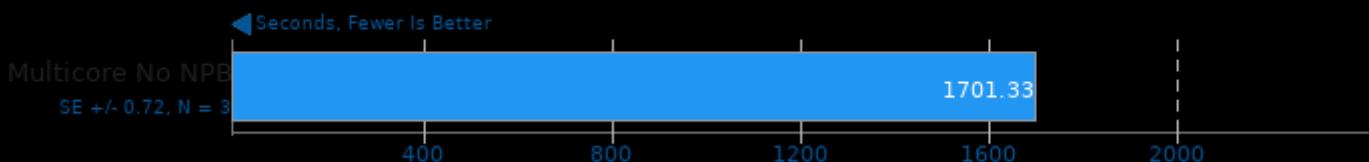
Blender 2.82

Blend File: Fishy Cat - Compute: CPU-Only



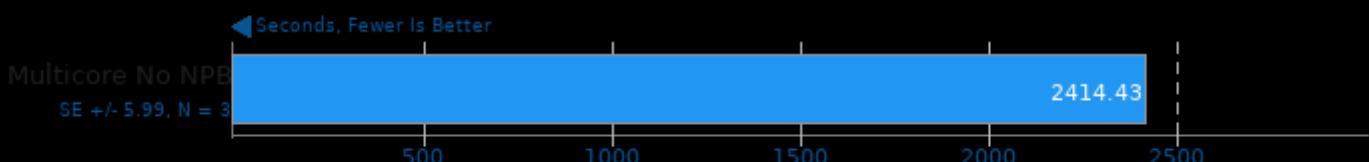
Blender 2.82

Blend File: Barbershop - Compute: CPU-Only



Blender 2.82

Blend File: Pabellon Barcelona - Compute: OpenCL

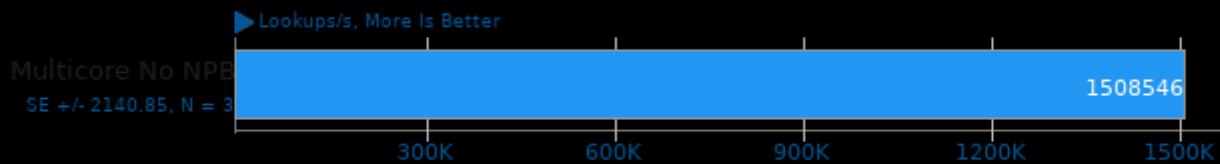


Blender 2.82

Blend File: Pabellon Barcelona - Compute: CPU-Only



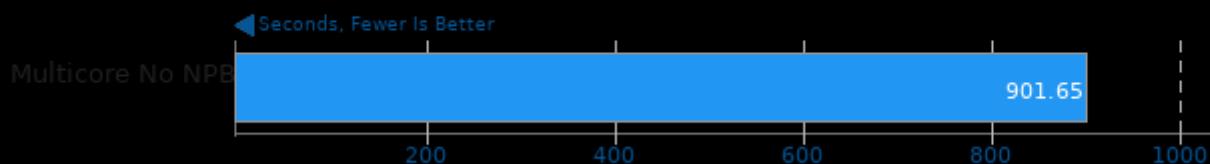
Xsbench 2017-07-06



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

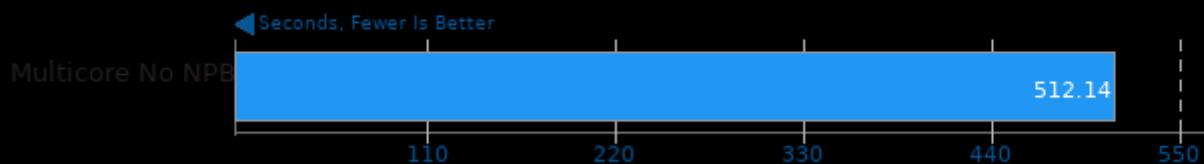
Appleseed 2.0 Beta

Scene: Emily



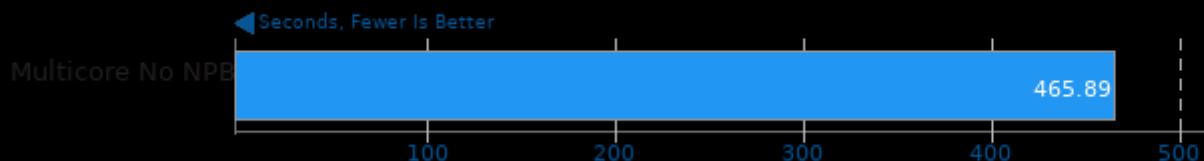
Appleseed 2.0 Beta

Scene: Disney Material



Appleseed 2.0 Beta

Scene: Material Tester



This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 11:05.