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intel-core-i5-6200u-280ghz

Intel Core i5-6200U testing with a HP 8079 (N75 Ver. 01.18 BIOS) and Intel HD 520 3072MB on Ubuntu 18.04 via the Phoronix Test Suite.

Test Systems:

SAMSUNG MZNLN256

Intel Core i5-6200U

Intel Core i5-6200U - Intel HD 520 3072MB - HP 8079

Intel HD 520

Intel Connection I219-V

Processor: Intel Core i5-6200U @ 2.80GHz (2 Cores / 4 Threads), Motherboard: HP 8079 (N75 Ver. 01.18 BIOS), Chipset: Intel Xeon E3-1200 v5/E3-1500, Memory: 16384MB, Disk: 256GB SAMSUNG MZNLN256, Graphics: Intel HD

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520 3072MB (1000MHz), Audio: Conexant CX20724, Network: Intel Connection I219-V + Intel Wireless 8260

OS: Ubuntu 18.04, Kernel: 4.18.0-21-generic (x86_64), Desktop: GNOME Shell 3.28.4, Display Driver: modesetting 1.20.1, OpenGL: 4.5 Mesa 18.2.8, Compiler: GCC 7.4.0, File-System: ext4, Screen Resolution: 1920x1080

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++ --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: intel_pstate powersave
Security Notes: KPTI + __user pointer sanitization + Full generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling Protection

	SAMSUNG MZNLN256	Intel Core i5-6200U	Intel Core i5-6200U - Intel HD 520 3072MB - HP 8079	Intel HD 520	Intel Connection I219-V
hdparm Timed Disk Reads - /dev/sda (MB/s)	524.51				
Standard Deviation	0.5%				
Himeno Benchmark - P.P.S (MFLOPS)		1841			
Standard Deviation		1.5%			
Hierarchical INTegration - FLOAT (QUIPs)			281417773		
Standard Deviation			0.2%		
Hierarchical INTegration - DOUBLE (QUIPs)			653886506		
Standard Deviation			0.3%		
Timed HMMer Search - P.D.S (sec)		19.24			
Standard Deviation		1.1%			
HPC Challenge - G-HPL (GFLOPS)		20.14827			
Standard Deviation		0.2%			
HPC Challenge - G-Ffte		3.21539			
Standard Deviation		1.2%			
HPC Challenge - G-Ffte		3.21539			
Standard Deviation		1.2%			
HPC Challenge - EP-DGEMM (GFLOPS)		5.22681			
Standard Deviation		0.1%			
HPC Challenge - G-Ptrans (GB/s)		0.31648			
Standard Deviation		0.6%			
HPC Challenge - EP-STREAM Triad (GB/s)		4.72101			
Standard Deviation		0.1%			

HPC Challenge - G-Rand Access (GUP/s)	0.00204	
Standard Deviation	0.7%	
HPC Challenge - R.R.L (usecs)	0.66375	
Standard Deviation	0.6%	
HPC Challenge - R.R.B (GB/s)	2.70117	
Standard Deviation	0.7%	
HPC Challenge - M.P.P.B (MB/s)	7552	
Standard Deviation	2.7%	
High Performance Conjugate Gradient (GFLOP/s)	1.09	
Standard Deviation	0%	
Interbench - X - Burn (Max Latency ms)		246
Standard Deviation		2.1%
Interbench - X - Read (Max Latency ms)		48
Standard Deviation		17.3%
Interbench - Audio - X (Max Latency ms)		0.25
Standard Deviation		21.9%
Interbench - Video - X (Max Latency ms)		16.83
Standard Deviation		0.3%
Interbench - X - Video (Max Latency ms)		34
Standard Deviation		29.5%
Interbench - X - Write (Max Latency ms)		86
Standard Deviation		32.1%
Interbench - Gaming - X (Max Latency ms)		2.10
Interbench - X - Compile (Max Latency ms)		446
Standard Deviation		18.3%
Interbench - X - Memload (Max Latency ms)		15
Standard Deviation		105.8%
Interbench - Audio - Burn (Max Latency ms)		4.53
Standard Deviation		143.5%
Interbench - Audio - Read (Max Latency ms)		0.60
Standard Deviation		124.7%
Interbench - Video - Burn (Max Latency ms)		48.20
Standard Deviation		3%
Interbench - Video - Read (Max Latency ms)		5.98
Standard Deviation		139%

Interbench - Audio - Video (Max Latency ms)	0.20
Standard Deviation	0%
Interbench - Audio - Write (Max Latency ms)	124.02
Standard Deviation	44.2%
Interbench - Gaming - Burn (Max Latency ms)	100.08
Standard Deviation	6.5%
Interbench - Video - Write (Max Latency ms)	122.48
Standard Deviation	48.5%
Interbench - Gaming - Write (Max Latency ms)	51.20
Standard Deviation	27.7%
Interbench - Audio - Compile (Max Latency ms)	127.43
Standard Deviation	1.9%
Interbench - Audio - Memload (Max Latency ms)	0.68
Standard Deviation	63.7%
Interbench - Video - Compile (Max Latency ms)	142.68
Standard Deviation	26.5%
Interbench - Video - Memload (Max Latency ms)	0.38
Standard Deviation	99.6%
Interbench - Gaming - Compile (Max Latency ms)	267.97
Standard Deviation	18.6%
Interbench - Gaming - Memload (Max Latency ms)	2.80
IOzone - 1MB - 2GB - Read Performance (MB/s)	6933
Standard Deviation	2%
IOzone - 1MB - 4GB - Read Performance (MB/s)	6255
Standard Deviation	2.9%
IOzone - 1MB - 8GB - Read Performance (MB/s)	6988
Standard Deviation	2.2%
IOzone - 4Kb - 2GB - Read Performance (MB/s)	3394
Standard Deviation	3.3%
IOzone - 4Kb - 4GB - Read Performance (MB/s)	3677
Standard Deviation	0.4%
IOzone - 4Kb - 8GB - Read Performance (MB/s)	3726
Standard Deviation	1.3%

IOzone - 1MB - 2GB - Write Performance (MB/s)	254.98
Standard Deviation	4%
IOzone - 1MB - 4GB - Write Performance (MB/s)	264.61
Standard Deviation	4%
IOzone - 1MB - 8GB - Write Performance (MB/s)	285.24
Standard Deviation	0.4%
IOzone - 4Kb - 2GB - Write Performance (MB/s)	255.24
Standard Deviation	1.8%
IOzone - 4Kb - 4GB - Write Performance (MB/s)	271.24
Standard Deviation	0.5%
IOzone - 4Kb - 8GB - Write Performance (MB/s)	279.97
Standard Deviation	0.3%
IOzone - 64Kb - 2GB - Read Performance (MB/s)	6208
Standard Deviation	0.4%
IOzone - 64Kb - 4GB - Read Performance (MB/s)	6527
Standard Deviation	3.1%
IOzone - 64Kb - 8GB - Read Performance (MB/s)	7201
Standard Deviation	1.3%
IOzone - 1MB - 512MB - Read Performance (MB/s)	4076
Standard Deviation	2.2%
IOzone - 4Kb - 512MB - Read Performance (MB/s)	2802
Standard Deviation	0.6%
IOzone - 64Kb - 2GB - Write Performance (MB/s)	261.09
Standard Deviation	3.5%
IOzone - 64Kb - 4GB - Write Performance (MB/s)	278.01
Standard Deviation	0.3%
IOzone - 64Kb - 8GB - Write Performance (MB/s)	285.38
Standard Deviation	0.2%
IOzone - 1MB - 512MB - Write Performance (MB/s)	233.79
Standard Deviation	3.2%
IOzone - 4Kb - 512MB - Write Performance (MB/s)	230.88
Standard Deviation	2.7%
IOzone - 64Kb - 512MB - Read Performance (MB/s)	4390
Standard Deviation	11.3%

IOzone - 64Kb - 512MB - Write Performance (MB/s)	205.94			
Standard Deviation	14.2%			
Java 2D Microbenchmark - Text Rendering (Units/sec)				11706
Standard Deviation				3.5%
Java 2D Microbenchmark - Image Rendering (Units/sec)				1555370
Standard Deviation				0.3%
Java 2D Microbenchmark - A.R.T (Units/sec)				1042552
Standard Deviation				2.1%
Java 2D Microbenchmark - V.G.R (Units/sec)				895155
Standard Deviation				0.9%
Java Gradle Build - Reactor (sec)		30.76		
Standard Deviation		0.8%		
Java SciMark - Composite		1708		
Standard Deviation		0.8%		
Java SciMark - Monte Carlo (Mflops)		684.09		
Standard Deviation		0.5%		
Java SciMark - F.F.T (Mflops)		1070		
Standard Deviation		2.6%		
Java SciMark - S.M.M (Mflops)		1587		
Standard Deviation		0.4%		
Java SciMark - D.L.M.F (Mflops)		4189		
Standard Deviation		1%		
Java SciMark - J.S.O.R (Mflops)		1011		
Standard Deviation		0.2%		
John The Ripper - Blowfish (Real C/S)		2501		
Standard Deviation		0.1%		
John The Ripper - Traditional DES (Real C/S)		9620333		
Standard Deviation		0.2%		
John The Ripper - MD5 (Real		80361		
Standard Deviation		0.1%		
JuliaGPU - CPU (Samples/sec)			2211180	
Standard Deviation			0%	
JuliaGPU - CPU+GPU (Samples/sec)			2210998	
Standard Deviation			0%	
JXRenderMark - Simple Blit - 32x32 (Operations/sec)				279588
Standard Deviation				3%
JXRenderMark - 12pt Text LCD - 32x32 (Operations/sec)				155144
Standard Deviation				3.1%

JXRenderMark - Simple Blit - 128x128 (Operations/sec)	256952
Standard Deviation	6.2%
JXRenderMark - Simple Blit - 256x256 (Operations/sec)	95896
Standard Deviation	7.9%
JXRenderMark - Simple Blit - 512x512 (Operations/sec)	19533
Standard Deviation	8.5%
JXRenderMark - 12pt Text LCD - 128x128 (Operations/sec)	111009
Standard Deviation	4.2%
JXRenderMark - 12pt Text LCD - 256x256 (Operations/sec)	83353
Standard Deviation	3.4%
JXRenderMark - 12pt Text LCD - 512x512 (Operations/sec)	54374
Standard Deviation	3.5%
JXRenderMark - Put Composition - 32x32	15174
Standard Deviation	1.6%
JXRenderMark - Simple Blit - 1024x1024 (Operations/sec)	8913
Standard Deviation	17.3%
JXRenderMark - 12pt Text LCD - 1024x1024 (Operations/sec)	32527
Standard Deviation	4.3%
JXRenderMark - Put Composition - 128x128	11500
Standard Deviation	1.1%
JXRenderMark - Put Composition - 256x256	8504
Standard Deviation	4.5%
JXRenderMark - Put Composition - 512x512	5393
Standard Deviation	4.9%
JXRenderMark - Rects Composition - 32x32 (Operations/sec)	45354
Standard Deviation	3.6%
JXRenderMark - 1.T.G - 32x32 (Operations/sec)	154396
Standard Deviation	3.5%
JXRenderMark - Put Composition - 1024x1024	3347
Standard Deviation	10.4%
JXRenderMark - Rects Composition - 128x128 (Operations/sec)	35241
Standard Deviation	5.4%

JXRenderMark - Rects Composition - 256x256 (Operations/sec)	17806
Standard Deviation	5.4%
JXRenderMark - Rects Composition - 512x512 (Operations/sec)	9935
Standard Deviation	10.3%
JXRenderMark - 1.T.G - 128x128 (Operations/sec)	110398
Standard Deviation	3.4%
JXRenderMark - 1.T.G - 256x256 (Operations/sec)	82554
Standard Deviation	2.9%
JXRenderMark - 1.T.G - 512x512 (Operations/sec)	53410
Standard Deviation	5.1%
JXRenderMark - G.T.T - 32x32 (Operations/sec)	15247
Standard Deviation	3.6%
JXRenderMark - L.G.B - 32x32 (Operations/sec)	17945
Standard Deviation	3%
JXRenderMark - R.G.P - 32x32 (Operations/sec)	17663
Standard Deviation	3.5%
JXRenderMark - Rects Composition - 1024x1024 (Operations/sec)	5522
Standard Deviation	18.5%
JXRenderMark - 1.T.G - 1024x1024 (Operations/sec)	31972
Standard Deviation	2%
JXRenderMark - G.T.T - 128x128 (Operations/sec)	14173
Standard Deviation	3.4%
JXRenderMark - G.T.T - 256x256 (Operations/sec)	8898
Standard Deviation	6.1%
JXRenderMark - G.T.T - 512x512 (Operations/sec)	3209
Standard Deviation	8.5%
JXRenderMark - L.G.B - 128x128 (Operations/sec)	16741
Standard Deviation	3.7%
JXRenderMark - L.G.B - 256x256 (Operations/sec)	10638
Standard Deviation	8%
JXRenderMark - L.G.B - 512x512 (Operations/sec)	4037
Standard Deviation	7.6%

JXRenderMark - R.G.P - 128x128 (Operations/sec)	16952
Standard Deviation	1.9%
JXRenderMark - R.G.P - 256x256 (Operations/sec)	12016
Standard Deviation	3.5%
JXRenderMark - R.G.P - 512x512 (Operations/sec)	5169
Standard Deviation	12.2%
JXRenderMark - T.B.L - 32x32 (Operations/sec)	205110
Standard Deviation	1.3%
JXRenderMark - G.T.T - 1024x1024 (Operations/sec)	2217
Standard Deviation	10.2%
JXRenderMark - L.G.B - 1024x1024 (Operations/sec)	1829
Standard Deviation	13.5%
JXRenderMark - R.G.P - 1024x1024 (Operations/sec)	2347
Standard Deviation	7.2%
JXRenderMark - T.B.B - 32x32 (Operations/sec)	46869
Standard Deviation	1.9%
JXRenderMark - T.B.L - 128x128 (Operations/sec)	193199
Standard Deviation	5.4%
JXRenderMark - T.B.L - 256x256 (Operations/sec)	55114
Standard Deviation	8.8%
JXRenderMark - T.B.L - 512x512 (Operations/sec)	15424
Standard Deviation	22.7%
JXRenderMark - T.T.P - 32x32 (Operations/sec)	49442
Standard Deviation	3.4%
JXRenderMark - T.B.B - 128x128 (Operations/sec)	42487
Standard Deviation	4%
JXRenderMark - T.B.B - 256x256 (Operations/sec)	25935
Standard Deviation	7.2%
JXRenderMark - T.B.B - 512x512 (Operations/sec)	8860
Standard Deviation	8%
JXRenderMark - T.B.L - 1024x1024 (Operations/sec)	69108
Standard Deviation	132.1%
JXRenderMark - T.T.P - 128x128 (Operations/sec)	46930
Standard Deviation	3.4%

JXRenderMark - T.T.P - 256x256 (Operations/sec)		18621
Standard Deviation		6.3%
JXRenderMark - T.T.P - 512x512 (Operations/sec)		9580
Standard Deviation		6.9%
JXRenderMark - T.B.B - 1024x1024 (Operations/sec)		4985
Standard Deviation		10%
JXRenderMark - T.T.P - 1024x1024 (Operations/sec)		5441
Standard Deviation		9.4%
LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein (Loop Time)	44.46	
Standard Deviation	0.4%	
LLVM Test Suite - Time To Run (sec)	293.54	
Standard Deviation	0.2%	
LuaJIT - Composite (Mflops)	918.47	
Standard Deviation	0.4%	
LuaJIT - Monte Carlo (Mflops)	347.12	
Standard Deviation	0.6%	
LuaJIT - F.F.T (Mflops)	213.57	
Standard Deviation	0.4%	
LuaJIT - S.M.M (Mflops)	886.88	
Standard Deviation	0.5%	
LuaJIT - D.L.M.F (Mflops)	2103	
Standard Deviation	0.7%	
LuaJIT - J.S.O.R (Mflops)	1041	
Standard Deviation	0.4%	
lzbench - XZ 0 - Compression (MB/s)	25	
lzbench - XZ 0 - Decompression (MB/s)	69	
lzbench - Zstd 1 - Compression (MB/s)	279	
lzbench - Zstd 1 - Decompression (MB/s)	749	
lzbench - Brotli 0 - Compression (MB/s)	288	
Standard Deviation	0.8%	
lzbench - Brotli 0 - Decompression (MB/s)	377	
Standard Deviation	0.6%	
lzbench - Libdeflate 1 - Compression (MB/s)	145	
lzbench - Libdeflate 1 - Decompression (MB/s)	735	
Standard Deviation	0.4%	
m-queens - Time To Solve (sec)	547.31	

Standard Deviation	0%	
Timed MAFFT Alignment - M.S.A (sec)	9.72	
Standard Deviation	1.1%	
MandelbulbGPU - CPU (Samples/sec)		602305
Standard Deviation		0.1%
MandelbulbGPU - CPU+GPU (Samples/sec)		602012
Standard Deviation		0.1%
MandelGPU - CPU (Samples/sec)		1650180
Standard Deviation		0%
MandelGPU - CPU+GPU (Samples/sec)		1650583
Standard Deviation		0.1%
MBW - Memory Copy - 128 MiB (MiB/s)		11242
Standard Deviation		0.9%
MBW - Memory Copy - 512 MiB (MiB/s)		10719
Standard Deviation		0.2%
MBW - Memory Copy - 1024 MiB (MiB/s)		10261
Standard Deviation		6.9%
MBW - Memory Copy - 4096 MiB (MiB/s)		11005
Standard Deviation		8%
MBW - M.C.F.B.S - 128 MiB (MiB/s)		6640
Standard Deviation		0.8%
MBW - M.C.F.B.S - 512 MiB (MiB/s)		6594
Standard Deviation		0.3%
MBW - M.C.F.B.S - 1024 MiB (MiB/s)		6504
Standard Deviation		0.2%
MBW - M.C.F.B.S - 4096 MiB (MiB/s)		6628
Standard Deviation		2.2%
Memcached mcperf - Add (Operations/sec)		51218
Standard Deviation		0.9%
Memcached mcperf - Get (Operations/sec)		79289
Standard Deviation		0.5%
Memcached mcperf - Set (Operations/sec)		51305
Standard Deviation		0.6%
Memcached mcperf - Append (Operations/sec)		53966
Standard Deviation		1.3%

Memcached mcperf - Delete (Operations/sec)		79660	
Standard Deviation		1%	
Memcached mcperf - Prepend (Operations/sec)		54383	
Standard Deviation		0.3%	
Memcached mcperf - Replace (Operations/sec)		53288	
Standard Deviation		3.1%	
Mencoder - AVI To LAVC (sec)	25.56		
Standard Deviation	0.4%		
Minion - Graceful (sec)	78.53		
Standard Deviation	0.5%		
Minion - Solitaire (sec)	102.82		
Standard Deviation	0.3%		
Minion - Quasigroup (sec)	174.51		
Standard Deviation	0.6%		
Mixbench - Integer (GIOPS)			5.30
Standard Deviation			1.9%
Mixbench - Double Precision (GFLOPS)			5.82
Standard Deviation			0.1%
Mixbench - Single Precision (GFLOPS)			0.12
Standard Deviation			0%
MKL-DNN - IP Batch 1D - f32	37.42		
Standard Deviation	1.3%		
MKL-DNN - IP Batch All - f32	437.58		
Standard Deviation	1.3%		
MKL-DNN - IP Batch 1D - u8s8u8s32 (ms)	23.05		
Standard Deviation	1%		
MKL-DNN - IP Batch 1D - u8s8f32s32 (ms)	22.19		
Standard Deviation	1%		
MKL-DNN - IP Batch All - u8s8u8s32 (ms)	280.78		
Standard Deviation	0.9%		
MKL-DNN - IP Batch All - u8s8f32s32 (ms)	279.23		
Standard Deviation	2.2%		
MKL-DNN - C.B.c - f32 (ms)	95.42		
Standard Deviation	0.1%		
MKL-DNN - C.B.c - f32 (ms)	16768		
Standard Deviation	0%		
MKL-DNN - D.B.d - f32 (ms)	34.68		
Standard Deviation	0.5%		
MKL-DNN - D.B.d - f32 (ms)	36.09		
Standard Deviation	0.6%		
MKL-DNN - C.B.c - f32 (ms)	2251		
Standard Deviation	0.1%		
MKL-DNN - D.B.d - f32 (ms)	13428		

Standard Deviation	0.2%
MKL-DNN - C.B.c - u8s8u8s32 (ms)	77617
Standard Deviation	0%
MKL-DNN - C.B.c - u8s8f32s32 (ms)	79533
Standard Deviation	0.1%
MKL-DNN - C.B.c - u8s8u8s32 (ms)	93554
Standard Deviation	0.1%
MKL-DNN - C.B.c - u8s8f32s32 (ms)	91265
Standard Deviation	0.1%
MKL-DNN - C.B.c - f32 (ms)	931.12
Standard Deviation	0.1%
MKL-DNN - D.B.d - u8s8u8s32 (ms)	39192
Standard Deviation	0%
MKL-DNN - D.B.d - u8s8u8s32 (ms)	63700
Standard Deviation	0%
MKL-DNN - C.B.c - u8s8u8s32 (ms)	3152
Standard Deviation	0.4%
MKL-DNN - D.B.d - u8s8f32s32 (ms)	38981
Standard Deviation	0.1%
MKL-DNN - D.B.d - u8s8f32s32 (ms)	63906
Standard Deviation	0%
MKL-DNN - D.B.d - u8s8u8s32 (ms)	112049
Standard Deviation	0.1%
MKL-DNN - C.B.c - u8s8f32s32 (ms)	2892
Standard Deviation	0.1%
MKL-DNN - C.B.c - u8s8u8s32 (ms)	1856
Standard Deviation	0.4%
MKL-DNN - C.B.c - u8s8f32s32 (ms)	1610
Standard Deviation	0.2%
GNU MPC - M.P.B (Global Score)	6447
Standard Deviation	0.3%
Timed MrBayes Analysis - P.P.A (sec)	576.39
Standard Deviation	0%
Multichase Pointer Chaser - 4.A.6.B.S (ns)	9.53
Standard Deviation	2.7%

Multichase Pointer Chaser - 1.A.2.B.S (ns)	90.39		
Standard Deviation	1.7%		
Multichase Pointer Chaser - 2.A.2.B.S (ns)	91.63		
Standard Deviation	0.5%		
Multichase Pointer Chaser - 1.A.2.B.S.2.T (ns)	99.84		
Standard Deviation	0.8%		
Multichase Pointer Chaser - 1.A.2.B.S.4.T (ns)	187.87		
Standard Deviation	2.5%		
N-Queens - Elapsed Time (sec)	96.74		
Standard Deviation	0.2%		
NAMD - ATPase Simulation - 327,506 Atoms (days/ns)	10.46223		
Standard Deviation	0.2%		
Open FMM Nero2D - Total Time (sec)	241.16		
Standard Deviation	0.7%		
Loopback TCP Network Performance - T.T.T.1.V.L (sec)			12.39
Standard Deviation			0.3%
NGINX Benchmark - S.W.P.S (Reqs/sec)		22358	
Standard Deviation		0.2%	
Node.js Octane Benchmark (Score)	27150		
Standard Deviation	0.8%		
NAS Parallel Benchmarks - BT.A (Mop/s)	2094		
Standard Deviation	1.2%		
NAS Parallel Benchmarks - EP.C (Mop/s)	127.79		
Standard Deviation	0.4%		
NAS Parallel Benchmarks - FT.A (Mop/s)	3800		
Standard Deviation	0.4%		
NAS Parallel Benchmarks - FT.B (Mop/s)	3837		
Standard Deviation	0.6%		
NAS Parallel Benchmarks - LU.A (Mop/s)	6926		
Standard Deviation	0.3%		
NAS Parallel Benchmarks - LU.C (Mop/s)	5893		
Standard Deviation	0.1%		
NAS Parallel Benchmarks - SP.A (Mop/s)	1856		
Standard Deviation	1%		

Numenta Anomaly Benchmark - Time To Completion (sec)		961.02		
Standard Deviation		0.4%		
Numpy Benchmark	7139022			
Nuttcp - 10G+ UDP - 5.20.0.41 (Mbits/s)				166.07
Standard Deviation				5.7%
Nuttcp - TCP Transfer - Default - 5.20.0.41 (Mbits/s)				127.38
Standard Deviation				6.4%
OpenArena - 800 x 600 (FPS)			178.87	
Standard Deviation			0.4%	
OpenArena - 1024 x 768 (FPS)			126.23	
Standard Deviation			0%	
OpenArena - 1920 x 1080 (FPS)			49.07	
Standard Deviation			0.1%	
OpenArena - 2560 x 1440 (FPS)			197.00	
Standard Deviation			0.8%	
OpenSSL - R.4.b.P (Signs/sec)	410.97			
Standard Deviation	0.1%			
Optcarrot - O.B (FPS)		82.75		
Standard Deviation		0.6%		
OSBench - Create Files		20.43		
Standard Deviation		1%		
OSBench - Create Threads (us/Event)		19.31		
Standard Deviation		3.1%		
OSBench - Launch Programs (us/Event)		118.63		
Standard Deviation		0.4%		
OSBench - Create Processes (us/Event)		34.92		
Standard Deviation		0.5%		
OSBench - Memory Allocations (Ns/Event)		106.60		
Standard Deviation		0.1%		
ParaView - Many Spheres - 800 x 600 (Frames / Sec)			5.03	
Standard Deviation			0.3%	
ParaView - Many Spheres - 800 x 600 (MiPolys / Sec)			504.59	
Standard Deviation			0.3%	
ParaView - Many Spheres - 1024 x 576 (Frames / Sec)			5.02	
Standard Deviation			0.7%	
ParaView - Many Spheres - 1024 x 576 (MiPolys / Sec)			503.21	
Standard Deviation			0.7%	
ParaView - Many Spheres - 1024 x 768 (Frames / Sec)			5.00	
Standard Deviation			0.1%	

ParaView - Many Spheres - 1024 x 768 (MiPolys / Sec)	501.01
Standard Deviation	0.1%
ParaView - Many Spheres - 1280 x 800 (Frames / Sec)	4.99
Standard Deviation	0.1%
ParaView - Many Spheres - 1280 x 800 (MiPolys / Sec)	499.93
Standard Deviation	0.1%
ParaView - Many Spheres - 1280 x 960 (Frames / Sec)	4.95
Standard Deviation	0%
ParaView - Many Spheres - 1280 x 960 (MiPolys / Sec)	495.97
Standard Deviation	0%
ParaView - Many Spheres - 1368 x 768 (Frames / Sec)	5.01
Standard Deviation	0.3%
ParaView - Many Spheres - 1368 x 768 (MiPolys / Sec)	501.96
Standard Deviation	0.3%
ParaView - Many Spheres - 1400 x 900 (Frames / Sec)	4.93
Standard Deviation	1.1%
ParaView - Many Spheres - 1400 x 900 (MiPolys / Sec)	494.32
Standard Deviation	1%
ParaView - Many Spheres - 1440 x 810 (Frames / Sec)	4.97
Standard Deviation	0.1%
ParaView - Many Spheres - 1440 x 810 (MiPolys / Sec)	498.74
Standard Deviation	0.2%
ParaView - Many Spheres - 1440 x 900 (Frames / Sec)	4.95
Standard Deviation	0.2%
ParaView - Many Spheres - 1440 x 900 (MiPolys / Sec)	496.10
Standard Deviation	0.2%
ParaView - Many Spheres - 1600 x 900 (Frames / Sec)	4.94
Standard Deviation	0%
ParaView - Many Spheres - 1600 x 900 (MiPolys / Sec)	495.22
Standard Deviation	0.1%
ParaView - Many Spheres - 1280 x 1024 (Frames / Sec)	4.91
Standard Deviation	0.1%
ParaView - Many Spheres - 1280 x 1024 (MiPolys / Sec)	492.47
Standard Deviation	0.1%

ParaView - Many Spheres - 1400 x 1050 (Frames / Sec)	4.91
Standard Deviation	0.1%
ParaView - Many Spheres - 1400 x 1050 (MiPolys / Sec)	491.74
Standard Deviation	0.1%
ParaView - Many Spheres - 1600 x 1024 (Frames / Sec)	4.89
Standard Deviation	0.1%
ParaView - Many Spheres - 1600 x 1024 (MiPolys / Sec)	490.80
Standard Deviation	0.1%
ParaView - Many Spheres - 1680 x 1050 (Frames / Sec)	4.88
Standard Deviation	0.1%
ParaView - Many Spheres - 1680 x 1050 (MiPolys / Sec)	489.43
Standard Deviation	0.1%
ParaView - Many Spheres - 1920 x 1080 (Frames / Sec)	4.88
Standard Deviation	0.1%
ParaView - Many Spheres - 1920 x 1080 (MiPolys / Sec)	489.54
Standard Deviation	0%
ParaView - Wavelet Volume - 800 x 600 (Frames / Sec)	36.68
Standard Deviation	0.4%
ParaView - Wavelet Volume - 800 x 600 (MiVoxels / Sec)	586.84
Standard Deviation	0.4%
ParaView - Wavelet Contour - 800 x 600 (Frames / Sec)	30.77
Standard Deviation	0.9%
ParaView - Wavelet Contour - 800 x 600 (MiPolys / Sec)	320.66
Standard Deviation	0.9%
ParaView - Wavelet Volume - 1024 x 576 (Frames / Sec)	37.96
Standard Deviation	0.6%
ParaView - Wavelet Volume - 1024 x 576 (MiVoxels / Sec)	607.32
Standard Deviation	0.6%
ParaView - Wavelet Volume - 1024 x 768 (Frames / Sec)	28.60
Standard Deviation	0.8%
ParaView - Wavelet Volume - 1024 x 768 (MiVoxels / Sec)	457.66
Standard Deviation	0.8%
ParaView - Wavelet Volume - 1280 x 800 (Frames / Sec)	27.10
Standard Deviation	0.3%

ParaView - Wavelet Volume - 1280 x 800 (MiVoxels / Sec)	433.66
Standard Deviation	0.2%
ParaView - Wavelet Volume - 1280 x 960 (Frames / Sec)	22.94
Standard Deviation	0.5%
ParaView - Wavelet Volume - 1280 x 960 (MiVoxels / Sec)	367.08
Standard Deviation	0.6%
ParaView - Wavelet Volume - 1368 x 768 (Frames / Sec)	28.27
Standard Deviation	0.4%
ParaView - Wavelet Volume - 1368 x 768 (MiVoxels / Sec)	452.36
Standard Deviation	0.4%
ParaView - Wavelet Volume - 1400 x 900 (Frames / Sec)	24.23
Standard Deviation	0.3%
ParaView - Wavelet Volume - 1400 x 900 (MiVoxels / Sec)	387.66
Standard Deviation	0.3%
ParaView - Wavelet Volume - 1440 x 810 (Frames / Sec)	26.76
Standard Deviation	0.4%
ParaView - Wavelet Volume - 1440 x 810 (MiVoxels / Sec)	428.15
Standard Deviation	0.4%
ParaView - Wavelet Volume - 1440 x 900 (Frames / Sec)	24.14
Standard Deviation	0.7%
ParaView - Wavelet Volume - 1440 x 900 (MiVoxels / Sec)	386.32
Standard Deviation	0.7%
ParaView - Wavelet Volume - 1600 x 900 (Frames / Sec)	24.03
Standard Deviation	0.6%
ParaView - Wavelet Volume - 1600 x 900 (MiVoxels / Sec)	384.45
Standard Deviation	0.6%
ParaView - Wavelet Contour - 1024 x 576 (Frames / Sec)	32.16
Standard Deviation	0.2%
ParaView - Wavelet Contour - 1024 x 576 (MiPolys / Sec)	335.16
Standard Deviation	0.2%
ParaView - Wavelet Contour - 1024 x 768 (Frames / Sec)	20.63
Standard Deviation	0.2%
ParaView - Wavelet Contour - 1024 x 768 (MiPolys / Sec)	215.04
Standard Deviation	0.2%

ParaView - Wavelet Contour - 1280 x 800 (Frames / Sec)	19.50
Standard Deviation	0%
ParaView - Wavelet Contour - 1280 x 800 (MiPolys / Sec)	203.27
Standard Deviation	0%
ParaView - Wavelet Contour - 1280 x 960 (Frames / Sec)	15.72
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1280 x 960 (MiPolys / Sec)	163.83
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1368 x 768 (Frames / Sec)	20.55
Standard Deviation	0.2%
ParaView - Wavelet Contour - 1368 x 768 (MiPolys / Sec)	214.18
Standard Deviation	0.2%
ParaView - Wavelet Contour - 1400 x 900 (Frames / Sec)	16.84
Standard Deviation	0.2%
ParaView - Wavelet Contour - 1400 x 900 (MiPolys / Sec)	175.53
Standard Deviation	0.2%
ParaView - Wavelet Contour - 1440 x 810 (Frames / Sec)	19.12
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1440 x 810 (MiPolys / Sec)	199.22
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1440 x 900 (Frames / Sec)	16.81
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1440 x 900 (MiPolys / Sec)	175.16
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1600 x 900 (Frames / Sec)	16.80
Standard Deviation	0.2%
ParaView - Wavelet Contour - 1600 x 900 (MiPolys / Sec)	175.01
Standard Deviation	0.2%
ParaView - Wavelet Volume - 1280 x 1024 (Frames / Sec)	21.62
Standard Deviation	0.3%
ParaView - Wavelet Volume - 1280 x 1024 (MiVoxels / Sec)	345.95
Standard Deviation	0.3%
ParaView - Wavelet Volume - 1400 x 1050 (Frames / Sec)	21.36
Standard Deviation	0.2%

ParaView - Wavelet Volume - 1400 x 1050 (MiVoxels / Sec)	341.83
Standard Deviation	0.2%
ParaView - Wavelet Volume - 1600 x 1024 (Frames / Sec)	20.93
Standard Deviation	0.8%
ParaView - Wavelet Volume - 1600 x 1024 (MiVoxels / Sec)	334.93
Standard Deviation	0.8%
ParaView - Wavelet Volume - 1680 x 1050 (Frames / Sec)	20.99
Standard Deviation	0.3%
ParaView - Wavelet Volume - 1680 x 1050 (MiVoxels / Sec)	335.81
Standard Deviation	0.3%
ParaView - Wavelet Volume - 1920 x 1080 (Frames / Sec)	20.97
Standard Deviation	0.1%
ParaView - Wavelet Volume - 1920 x 1080 (MiVoxels / Sec)	335.61
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1280 x 1024 (Frames / Sec)	14.64
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1280 x 1024 (MiPolys / Sec)	152.53
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1400 x 1050 (Frames / Sec)	14.58
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1400 x 1050 (MiPolys / Sec)	151.91
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1600 x 1024 (Frames / Sec)	14.45
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1600 x 1024 (MiPolys / Sec)	150.58
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1680 x 1050 (Frames / Sec)	14.44
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1680 x 1050 (MiPolys / Sec)	150.44
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1920 x 1080 (Frames / Sec)	14.43
Standard Deviation	0.1%
ParaView - Wavelet Contour - 1920 x 1080 (MiPolys / Sec)	150.43
Standard Deviation	0.1%

Parboil - OpenMP LBM (sec)	181.55	
Standard Deviation	0.9%	
Parboil - OpenMP CUTCP (sec)	23.08	
Standard Deviation	0.2%	
Parboil - OpenMP Stencil (sec)	33.54	
Standard Deviation	0.7%	
Parboil - O.M.G (sec)	30.74	
Standard Deviation	2.2%	
Perl Benchmarks - Pod2html	0.17173742	
Standard Deviation	1%	
Perl Benchmarks - Interpreter	0.00138340	
Standard Deviation	0.3%	
PostgreSQL pgbench - On-Disk - Normal Load - Read Only (TPS)		55343
Standard Deviation		1.6%
PostgreSQL pgbench - On-Disk - Normal Load - Read Write (TPS)		312.78
Standard Deviation		0.2%
PostgreSQL pgbench - On-Disk - Single Thread - Read Only (TPS)		20891
Standard Deviation		1.8%
PostgreSQL pgbench - Mostly RAM - Normal Load - Read Only (TPS)		0.07
Standard Deviation		0.1%
PostgreSQL pgbench - On-Disk - Single Thread - Read Write (TPS)		91.69
Standard Deviation		0.6%
PostgreSQL pgbench - Buffer Test - Normal Load - Read Only		38061
Standard Deviation		0.8%
PostgreSQL pgbench - Mostly RAM - Normal Load - Read Write (TPS)		0.04
Standard Deviation		0.3%
PostgreSQL pgbench - Buffer Test - Normal Load - Read Write		870.09
Standard Deviation		0.5%
PostgreSQL pgbench - Mostly RAM - Single Thread - Read Only (TPS)		0.01
Standard Deviation		0.1%
PostgreSQL pgbench - On-Disk - Heavy Contention - Read Only (TPS)		51057
Standard Deviation		0.7%
PostgreSQL pgbench - Buffer Test - Single Thread - Read Only		14428
Standard Deviation		0.3%

PostgreSQL pgbench - On-Disk - Heavy Contention - Read Write (TPS)			309.28	
Standard Deviation			0.3%	
PostgreSQL pgbench - Buffer Test - Single Thread - Read Write			148.94	
Standard Deviation			9.1%	
PostgreSQL pgbench - Mostly RAM - Heavy Contention - Read Only (TPS)			0.07	
Standard Deviation			0.7%	
PostgreSQL pgbench - Buffer Test - Heavy Contention - Read Only (TPS)			35013	
Standard Deviation			0.5%	
PostgreSQL pgbench - Mostly RAM - Heavy Contention - Read Write (TPS)			0.04	
Standard Deviation			2.1%	
PostgreSQL pgbench - Buffer Test - Heavy Contention - Read Write (TPS)			1190	
Standard Deviation			7%	
PHP Micro Benchmarks - Zend bench (sec)			0.59	
Standard Deviation			0.5%	
PHP Micro Benchmarks - Zend micro_bench (sec)			2.93	
Standard Deviation			0.9%	
PHPBench - P.B.S (Score)			445196	
Standard Deviation			0.4%	
Pjdfstest (sec)	176			
PolyBench-C - C.C (sec)		8.31		
Standard Deviation		1.2%		
PolyBench-C - C.C (sec)		8.23		
Standard Deviation		0.5%		
PolyBench-C - 3.M.M (sec)		5.74		
Standard Deviation		0.8%		
PostMark - D.T.P (TPS)	4190			
Standard Deviation	1%			
POV-Ray - Trace Time (sec)		299.17		
Standard Deviation		0.2%		
Primesieve - 1.P.N.G (sec)		152.26		
Standard Deviation		0.6%		
PyBench - T.F.A.T.T			1521	
Standard Deviation			0.6%	
QGears2 - OpenGL - Text (FPS)				532.12
Standard Deviation				0.2%
QGears2 - OpenGL - Gears (FPS)				607.31
Standard Deviation				1.9%

QGears2 - OpenGL - Image Scaling (FPS)			2390
Standard Deviation			0.6%
QGears2 - CPU-based Raster - Text (FPS)			293.73
Standard Deviation			0.9%
QGears2 - CPU-based Raster - Gears (FPS)			179.38
Standard Deviation			0.1%
QGears2 - XRender Extension - Text (FPS)			280.15
Standard Deviation			0.1%
QGears2 - XRender Extension - Gears (FPS)			186.50
Standard Deviation			0.1%
QGears2 - CPU-based Raster - Image Scaling (FPS)			1328
Standard Deviation			0.4%
QGears2 - XRender Extension - Image Scaling (FPS)			1639
Standard Deviation			0.6%
Qmlbench - Fib10 (Frames)		263.20	
Qmlbench - Canvas Text Simple (Frames)		241.20	
Qmlbench - C.D.F (Frames)		285	
Qmlbench - M.I.A (Frames)		383.20	
Radiance Benchmark - Serial	1133		
Radiance Benchmark - SMP Parallel (sec)	594.13		
RAMspeed SMP - Add - Integer (MB/s)		19479	
RAMspeed SMP - Copy - Integer (MB/s)		17464	
RAMspeed SMP - Scale - Integer (MB/s)		17513	
RAMspeed SMP - Triad - Integer (MB/s)		19752	
RAMspeed SMP - Average - Integer (MB/s)		18553	
RAMspeed SMP - Add - Floating Point (MB/s)		19556	
RAMspeed SMP - Copy - Floating Point (MB/s)		17485	
RAMspeed SMP - Scale - Floating Point (MB/s)		17498	
RAMspeed SMP - Triad - Floating Point (MB/s)		19454	

RAMspeed SMP - Average - Floating Point (MB/s)		18497	
R Benchmark (sec)	0.5950		
Standard Deviation	0.7%		
Redis - LPOP (Reqs/sec)		1870223	
Standard Deviation		10.9%	
Redis - SADD (Reqs/sec)		1543506	
Standard Deviation		1.7%	
Redis - LPUSH (Reqs/sec)		1208132	
Standard Deviation		6.8%	
Redis - GET (Reqs/sec)		1777741	
Standard Deviation		11%	
Redis - SET (Reqs/sec)		1230756	
Standard Deviation		7.7%	
Renaissance - Scala Dotty (ms)	13687		
Standard Deviation	2.5%		
Renaissance - Twitter Finagle	11028		
Standard Deviation	3.4%		
Renaissance - Apache Spark ALS (ms)	12630		
Standard Deviation	3.3%		
Renaissance - Apache Spark Bayes (ms)	19291		
Standard Deviation	5%		
Renaissance - Savina Reactors.IO (ms)	24755		
Standard Deviation	1.5%		
Renaissance - A.S.P (ms)	55023		
Standard Deviation	1.3%		
Renaissance - I.M.D.S (ms)	11442		
Standard Deviation	4.9%		
Renaissance - A.U.C.T (ms)	25099		
Standard Deviation	3.5%		
Render Bench (sec)			17.17
Standard Deviation			0.2%
Rodinia - OpenMP LavaMD (sec)	471.34		
Standard Deviation	0.1%		
Rodinia - OpenMP CFD Solver (sec)	114.02		
Standard Deviation	0.1%		
Rodinia - O.S (sec)	55.31		
Standard Deviation	0.2%		
CP2K Molecular Dynamics - Fayalite-FIST Data (sec)	866.15		
GROMACS - Water Benchmark (Ns/Day)		0.24	
Standard Deviation		0%	
Rust Mandelbrot - T.T.C.S.P.M (sec)	147.15		
Standard Deviation	0.1%		

Rust Prime Benchmark - P.N.T.T.2.0.0 (sec)	72.19	
Standard Deviation	0.1%	
Schbench - 2 - 2 (usec, 99.9th Latency Percentile)		2503
Standard Deviation		124.3%
Schbench - 2 - 4 (usec, 99.9th Latency Percentile)		14675
Standard Deviation		9.1%
Schbench - 2 - 6 (usec, 99.9th Latency Percentile)		38293
Standard Deviation		3.3%
Schbench - 2 - 8 (usec, 99.9th Latency Percentile)		45803
Standard Deviation		1.2%
Schbench - 4 - 2 (usec, 99.9th Latency Percentile)		16829
Standard Deviation		7.4%
Schbench - 4 - 4 (usec, 99.9th Latency Percentile)		41963
Standard Deviation		3.1%
Schbench - 4 - 6 (usec, 99.9th Latency Percentile)		56811
Standard Deviation		6.5%
Schbench - 4 - 8 (usec, 99.9th Latency Percentile)		91605
Standard Deviation		0.8%
Schbench - 6 - 2 (usec, 99.9th Latency Percentile)		34923
Standard Deviation		2.2%
Schbench - 6 - 4 (usec, 99.9th Latency Percentile)		54848
Standard Deviation		2.1%
Schbench - 6 - 6 (usec, 99.9th Latency Percentile)		103552
Standard Deviation		0.9%
Schbench - 6 - 8 (usec, 99.9th Latency Percentile)		134955
Standard Deviation		2.7%
Schbench - 8 - 2 (usec, 99.9th Latency Percentile)		39659
Standard Deviation		2.7%
Schbench - 8 - 4 (usec, 99.9th Latency Percentile)		82517
Standard Deviation		10.2%
Schbench - 8 - 6 (usec, 99.9th Latency Percentile)		129941
Standard Deviation		3.7%
Schbench - 8 - 8 (usec, 99.9th Latency Percentile)		168960
Standard Deviation		6.6%

Schbench - 16 - 2 (usec, 99.9th Latency Percentile)	55360
Standard Deviation	1.6%
Schbench - 16 - 4 (usec, 99.9th Latency Percentile)	171093
Standard Deviation	1.5%
Schbench - 16 - 6 (usec, 99.9th Latency Percentile)	243584
Standard Deviation	6.6%
Schbench - 16 - 8 (usec, 99.9th Latency Percentile)	316587
Standard Deviation	1.8%
Schbench - 2 - 16 (usec, 99.9th Latency Percentile)	93653
Standard Deviation	5.5%
Schbench - 2 - 24 (usec, 99.9th Latency Percentile)	128192
Standard Deviation	3.8%
Schbench - 2 - 32 (usec, 99.9th Latency Percentile)	169472
Standard Deviation	5.8%
Schbench - 32 - 2 (usec, 99.9th Latency Percentile)	150443
Standard Deviation	3.5%
Schbench - 32 - 4 (usec, 99.9th Latency Percentile)	328192
Standard Deviation	2.4%
Schbench - 32 - 6 (usec, 99.9th Latency Percentile)	552619
Standard Deviation	3%
Schbench - 32 - 8 (usec, 99.9th Latency Percentile)	703147
Standard Deviation	6.1%
Schbench - 4 - 16 (usec, 99.9th Latency Percentile)	170069
Standard Deviation	6.3%
Schbench - 4 - 24 (usec, 99.9th Latency Percentile)	243456
Standard Deviation	3.9%
Schbench - 4 - 32 (usec, 99.9th Latency Percentile)	361301
Standard Deviation	2.7%
Schbench - 6 - 16 (usec, 99.9th Latency Percentile)	243840
Standard Deviation	3.3%
Schbench - 6 - 24 (usec, 99.9th Latency Percentile)	404309
Standard Deviation	1.2%
Schbench - 6 - 32 (usec, 99.9th Latency Percentile)	568320
Standard Deviation	3.4%

Schbench - 8 - 16 (usec, 99.9th Latency Percentile)		354816	
Standard Deviation		2.8%	
Schbench - 8 - 24 (usec, 99.9th Latency Percentile)		541696	
Standard Deviation		3.3%	
Schbench - 8 - 32 (usec, 99.9th Latency Percentile)		701440	
Standard Deviation		3.8%	
Schbench - 16 - 16 (usec, 99.9th Latency Percentile)		715776	
Standard Deviation		9.1%	
Schbench - 16 - 24 (usec, 99.9th Latency Percentile)		1040384	
Standard Deviation		3%	
Schbench - 16 - 32 (usec, 99.9th Latency Percentile)		1374208	
Standard Deviation		3.4%	
Schbench - 32 - 16 (usec, 99.9th Latency Percentile)		1313451	
Standard Deviation		5.5%	
Schbench - 32 - 24 (usec, 99.9th Latency Percentile)		2069163	
Standard Deviation		18%	
Schbench - 32 - 32 (usec, 99.9th Latency Percentile)		2688341	
Standard Deviation		13.4%	
Scikit-Learn (sec)		42.36	
Standard Deviation		0.5%	
SciMark - Composite (Mflops)	420.35		
Standard Deviation	0.4%		
SciMark - Monte Carlo (Mflops)	95.40		
Standard Deviation	0.6%		
SciMark - F.F.T (Mflops)	120.72		
Standard Deviation	0.2%		
SciMark - S.M.M (Mflops)	498.72		
Standard Deviation	0.5%		
SciMark - D.L.M.F (Mflops)	604.12		
Standard Deviation	0.5%		
SciMark - J.S.O.R (Mflops)	782.81		
Standard Deviation	0.4%		
SHOC Scalable HeterOgeneous Computing - OpenCL - Triad (GB/s)			7.15
Standard Deviation			0.2%
SHOC Scalable HeterOgeneous Computing - OpenCL - FFT SP (GFLOPS)			0.99
Standard Deviation			0%

SHOC Scalable HeterOgeneous Computing - OpenCL - MD5 Hash (GHash/s)			0.02		
Standard Deviation			0%		
SHOC Scalable HeterOgeneous Computing - OpenCL - Max SP Flops (GFLOPS)			74.00		
Standard Deviation			2.9%		
SHOC Scalable HeterOgeneous Computing - OpenCL - Bus Speed Download (GB/s)			14.76		
Standard Deviation			5%		
SHOC Scalable HeterOgeneous Computing - OpenCL - Bus Speed Readback (GB/s)			14.15		
Standard Deviation			3%		
SHOC Scalable HeterOgeneous Computing - OpenCL - T.R.B (GB/s)			2.14		
Standard Deviation			0.2%		
Smallpt - G.I.R.1.S (sec)		73.70			
Standard Deviation		0.1%			
Sockperf - Throughput (Messages/sec)					338069
Standard Deviation					14.3%
Sockperf - Latency Ping Pong (usec)					5.03
Standard Deviation					1.2%
Sockperf - Latency Under Load (usec)					13.66
Standard Deviation					33.9%
SQLite - T.S.I (sec)	122.56				
Standard Deviation	0.2%				
Application Start-up Time - O.S.R - xterm (sec)	1.86				
Standard Deviation	0.4%				
Application Start-up Time - O.S.R - GNOME Terminal (sec)	7.85				
Standard Deviation	2.1%				
Application Start-up Time - O.S.R - LibreOffice Writer (sec)	6.00				
Standard Deviation	0.3%				
Stockfish - Total Time (Nodes/s)		4006845			
Standard Deviation		1.1%			
Stream - Copy (MB/s)			24905		
Standard Deviation			0%		
Stream - Scale (MB/s)			17090		
Standard Deviation			0%		
Stream - Triad (MB/s)			18598		
Standard Deviation			0%		
Stream - Add (MB/s)			18623		

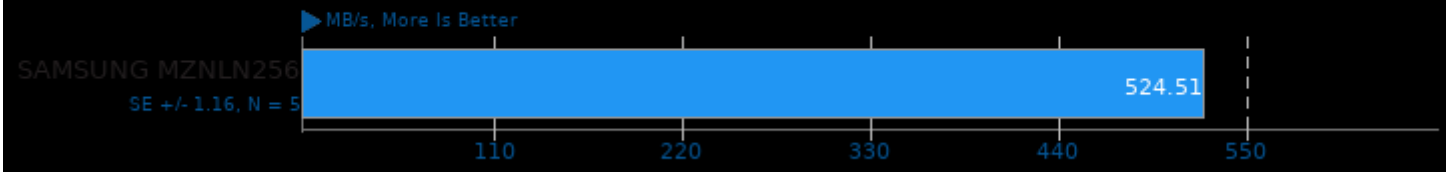
Standard Deviation		0%
Stress-NG - Crypto (Bogo Ops/s)		308.84
Standard Deviation		0.2%
Stress-NG - Bsearch (Bogo		864.20
Standard Deviation		1%
Stress-NG - Forking (Bogo		16328
Standard Deviation		1%
Stress-NG - Hsearch (Bogo		8737
Standard Deviation		0.2%
Stress-NG - Lsearch (Bogo		20.01
Standard Deviation		0.1%
Stress-NG - Tsearch (Bogo		26.03
Standard Deviation		0.2%
Stress-NG - CPU Stress (Bogo Ops/s)		667.57
Standard Deviation		0.1%
Stress-NG - Semaphores (Bogo Ops/s)		3491645
Standard Deviation		0.6%
Stress-NG - Matrix Math (Bogo Ops/s)		10585
Standard Deviation		0.7%
Stress-NG - Vector Math (Bogo Ops/s)		3569
Standard Deviation		0.1%
Stress-NG - Memory Copying (Bogo Ops/s)		977.62
Standard Deviation		0.7%
Stress-NG - Socket Activity (Bogo Ops/s)		1077
Standard Deviation		0.4%
Stress-NG - Context Switching (Bogo Ops/s)		654249
Standard Deviation		0.2%
Stress-NG - G.C.S.F (Bogo		118157
Standard Deviation		1.7%
Stress-NG - G.Q.D.S (Bogo		24.97
Standard Deviation		0.5%
Stress-NG - S.V.M.P (Bogo		1314504
Standard Deviation		10%
Sudokut - Total Time (sec)	15.25	
Standard Deviation	0.5%	
Sunflow Rendering System - G.I.I.S (sec)		6.24
Standard Deviation		0.3%
SVT-AV1 - 1.8.b.Y.T.A.V.E (FPS)	6.27	
Standard Deviation	0.8%	
SVT-HEVC - 1.8.b.Y.T.H.V.E (FPS)	33.97	
Standard Deviation	3.4%	
SVT-VP9 - 1.8.b.Y.T.V.V.E (FPS)	8.93	
Standard Deviation	0.7%	

Swet - Average (Operations/sec)	498425702	
Standard Deviation	0.3%	
Sysbench - Memory (Events/sec)		10257157
Standard Deviation		0.4%
Sysbench - CPU (Events/sec)		3101
Standard Deviation		0%
System Libxml2 Parsing - 1 MB (ms)	635	
Standard Deviation	2.2%	
System Libxml2 Parsing - 2 MB (ms)	1995	
System Libxml2 Parsing - 3 MB (ms)	2971	
Standard Deviation	0.8%	
System Libxml2 Parsing - 5 KB (ms)	9	
Standard Deviation	25.1%	
System Libxml2 Parsing - 50 KB (ms)	36	
Standard Deviation	17.5%	
System Libxml2 Parsing - 100 KB (ms)	114	
Standard Deviation	3.2%	
System Libxml2 Parsing - 112 MB (ms)	88878	
Standard Deviation	0.5%	
System Libxml2 Parsing - 150 KB (ms)	96	
Standard Deviation	6%	
System Libxml2 Parsing - 200 KB (ms)	132	
Standard Deviation	2.4%	
System Libxml2 Parsing - 250 KB (ms)	153	
Standard Deviation	2.4%	
System Libxml2 Parsing - 300 KB (ms)	195	
Standard Deviation	1.9%	
System Libxml2 Parsing - 350 KB (ms)	216	
Standard Deviation	1.5%	
System Libxml2 Parsing - 400 KB (ms)	397	
Standard Deviation	1.2%	
System Libxml2 Parsing - 450 KB (ms)	281	
Standard Deviation	1.1%	
System Libxml2 Parsing - 500 KB (ms)	496	
Standard Deviation	0.7%	

System Libxml2 Parsing - 550 KB (ms)	336
Standard Deviation	0.5%
System Libxml2 Parsing - 600 KB (ms)	582
Standard Deviation	0.8%
System Libxml2 Parsing - 650 KB (ms)	400
Standard Deviation	1%
System Libxml2 Parsing - 700 KB (ms)	422
Standard Deviation	1%
System Libxml2 Parsing - 750 KB (ms)	464
Standard Deviation	1.6%
System Libxml2 Parsing - 800 KB (ms)	490
Standard Deviation	0.6%
System Libxml2 Parsing - 850 KB (ms)	820
Standard Deviation	0.6%
System Libxml2 Parsing - 900 KB (ms)	562
Standard Deviation	1.1%
System Libxml2 Parsing - 950 KB (ms)	579
Standard Deviation	0.3%

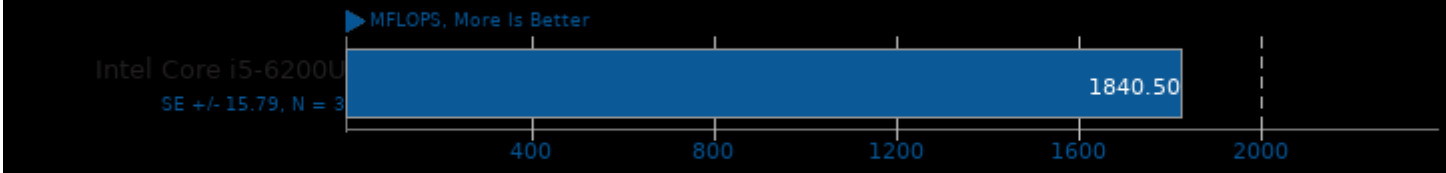
hdparm Timed Disk Reads

Disk To Read: /dev/sda



Himeno Benchmark 3.0

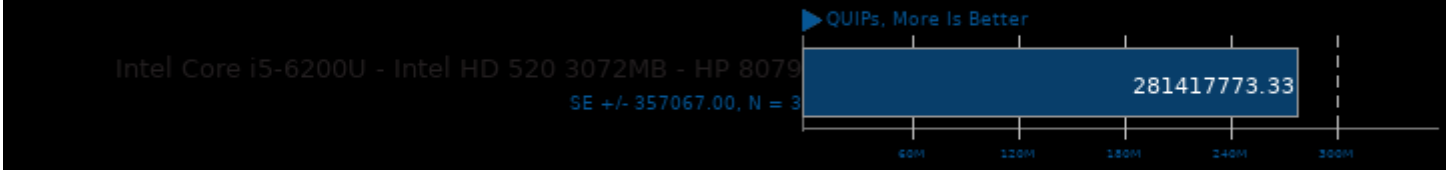
Poisson Pressure Solver



1. (CC) gcc options: -O3 -mavx2

Hierarchical INTegration 1.0

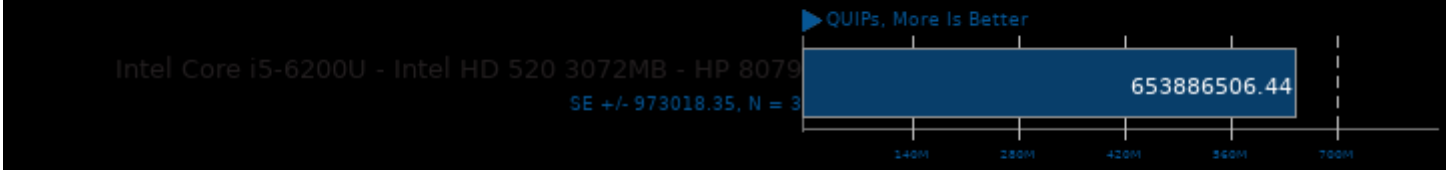
Test: FLOAT



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

Hierarchical INTegration 1.0

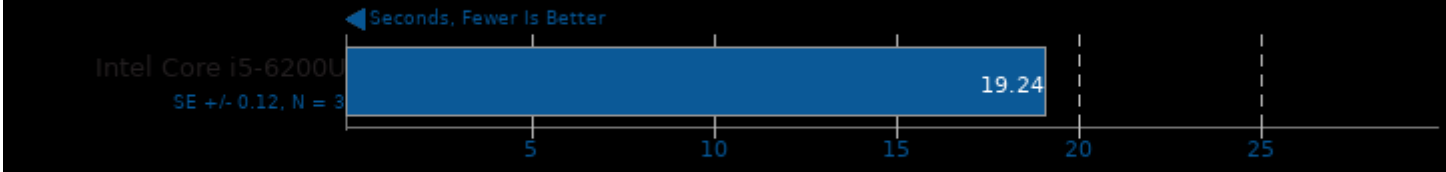
Test: DOUBLE



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

Timed HMMer Search 2.3.2

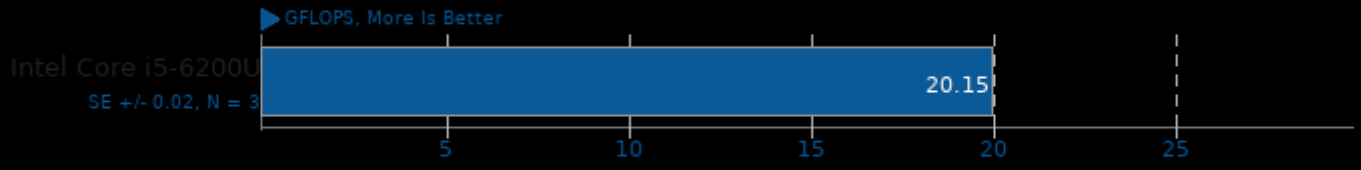
Pfam Database Search



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

HPC Challenge 1.5.0

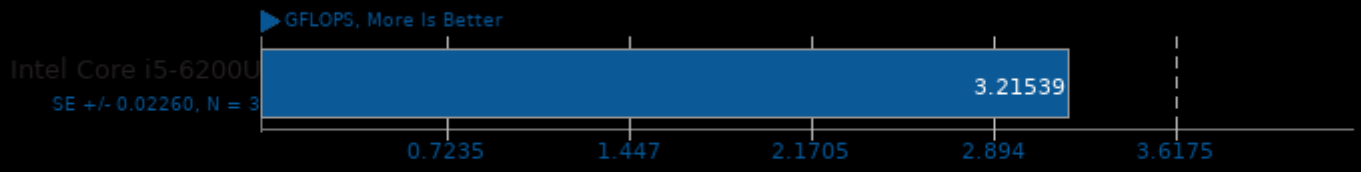
Test / Class: G-HPL



1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -O3 -march=native -funroll-loops
2. ATLAS + Open MPI 2.1.1

HPC Challenge 1.5.0

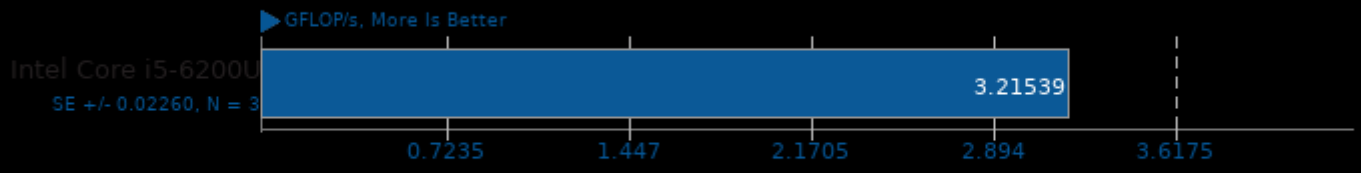
Test / Class: G-Ffte



1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -O3 -march=native -funroll-loops
2. ATLAS + Open MPI 2.1.1

HPC Challenge 1.5.0

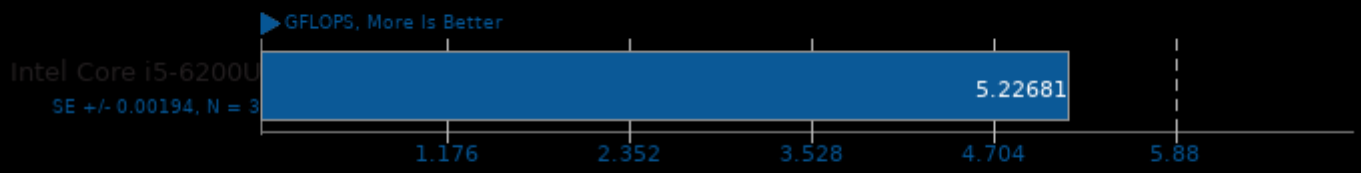
Test / Class: G-Ffte



1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -O3 -march=native -funroll-loops
2. ATLAS + Open MPI 2.1.1

HPC Challenge 1.5.0

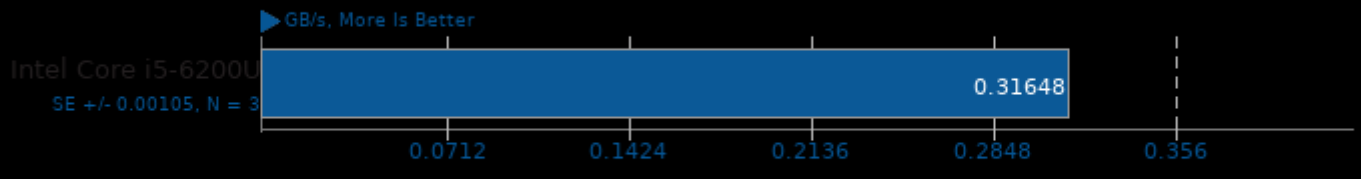
Test / Class: EP-DGEMM



1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -O3 -march=native -funroll-loops
2. ATLAS + Open MPI 2.1.1

HPC Challenge 1.5.0

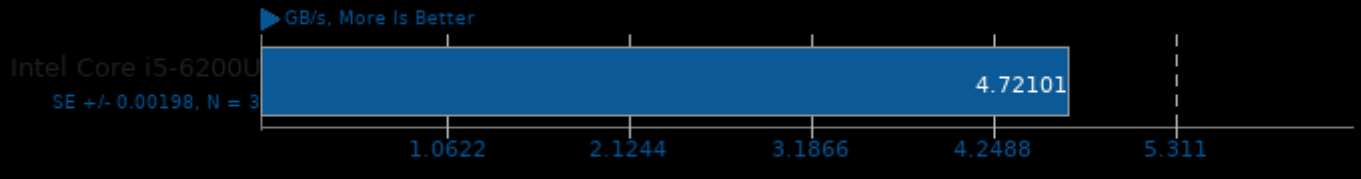
Test / Class: G-Ptrans



1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -O3 -march=native -funroll-loops
2. ATLAS + Open MPI 2.1.1

HPC Challenge 1.5.0

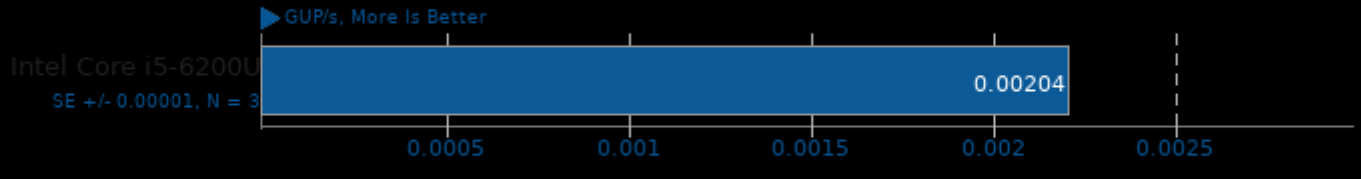
Test / Class: EP-STREAM Triad



1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -O3 -march=native -funroll-loops
2. ATLAS + Open MPI 2.1.1

HPC Challenge 1.5.0

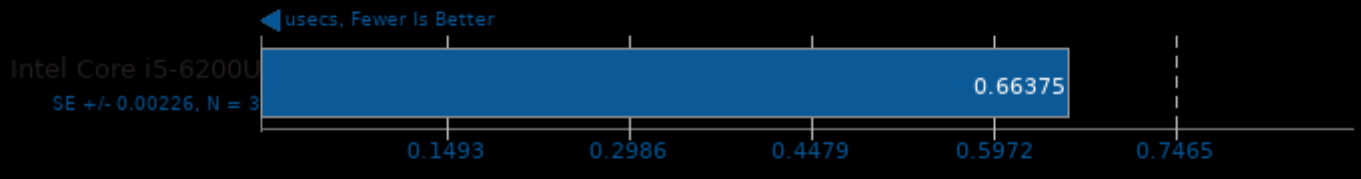
Test / Class: G-Random Access



1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -O3 -march=native -funroll-loops
2. ATLAS + Open MPI 2.1.1

HPC Challenge 1.5.0

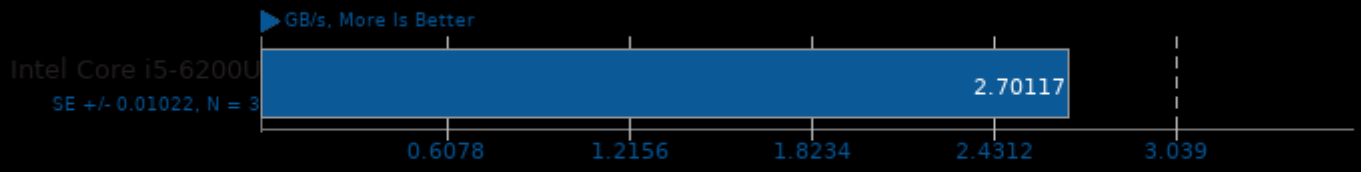
Test / Class: Random Ring Latency



1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -O3 -march=native -funroll-loops
2. ATLAS + Open MPI 2.1.1

HPC Challenge 1.5.0

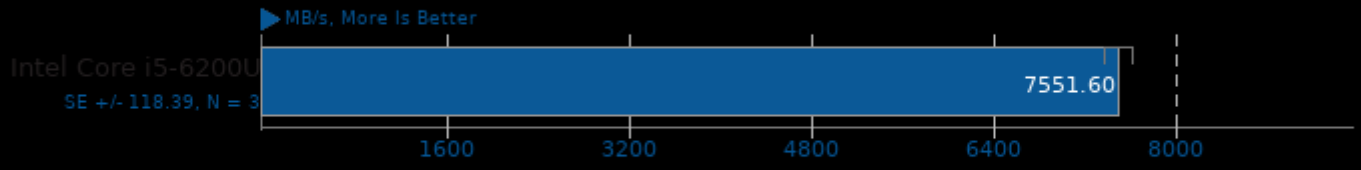
Test / Class: Random Ring Bandwidth



1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -O3 -march=native -funroll-loops
2. ATLAS + Open MPI 2.1.1

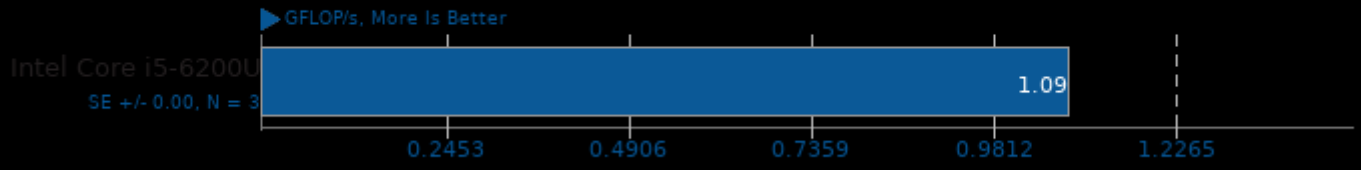
HPC Challenge 1.5.0

Test / Class: Max Ping Pong Bandwidth



1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -O3 -march=native -funroll-loops
2. ATLAS + Open MPI 2.1.1

High Performance Conjugate Gradient 3.0



Interbench 0.31

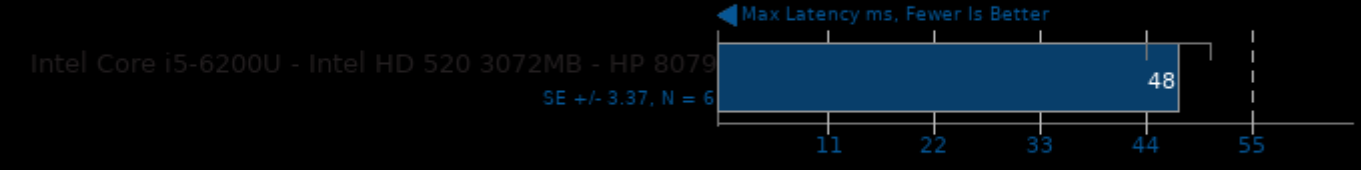
Benchmark: X - Background Load: Burn



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

Interbench 0.31

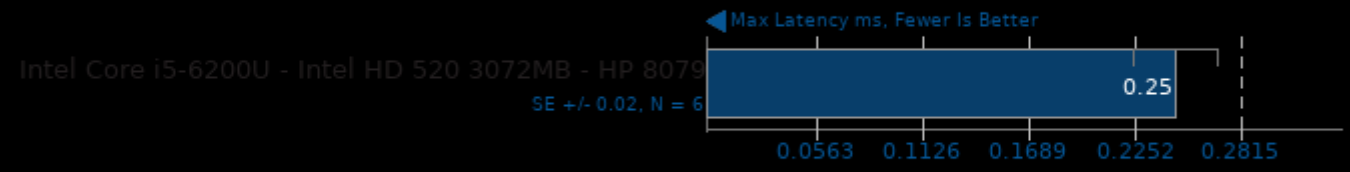
Benchmark: X - Background Load: Read



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

Interbench 0.31

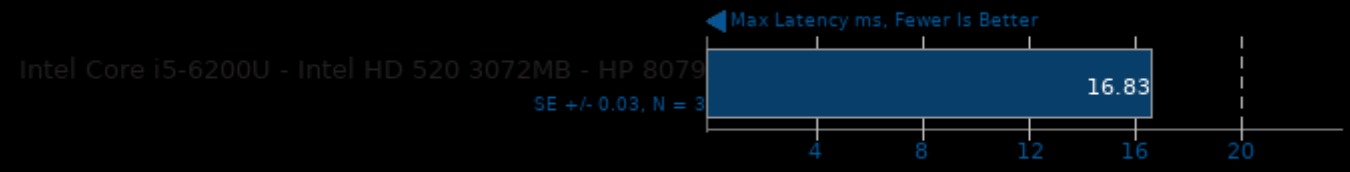
Benchmark: Audio - Background Load: X



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

Interbench 0.31

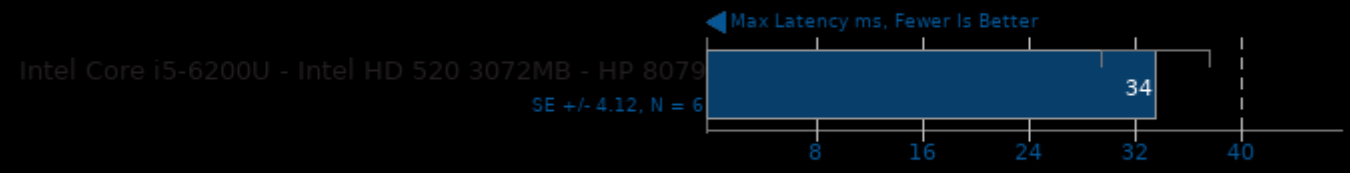
Benchmark: Video - Background Load: X



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

Interbench 0.31

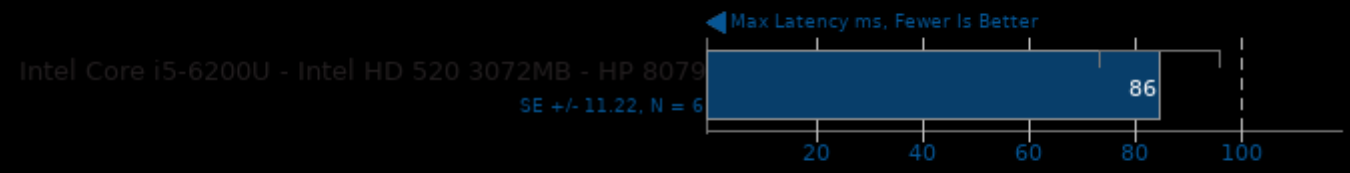
Benchmark: X - Background Load: Video



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

Interbench 0.31

Benchmark: X - Background Load: Write



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

Interbench 0.31

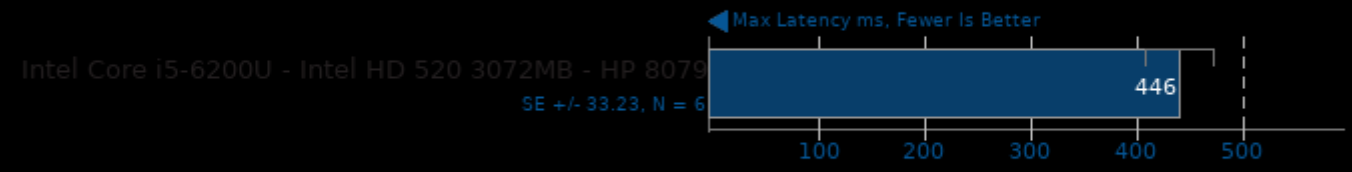
Benchmark: Gaming - Background Load: X



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

Interbench 0.31

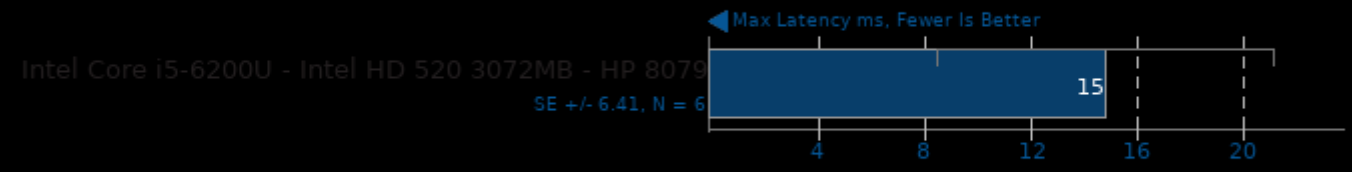
Benchmark: X - Background Load: Compile



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

Interbench 0.31

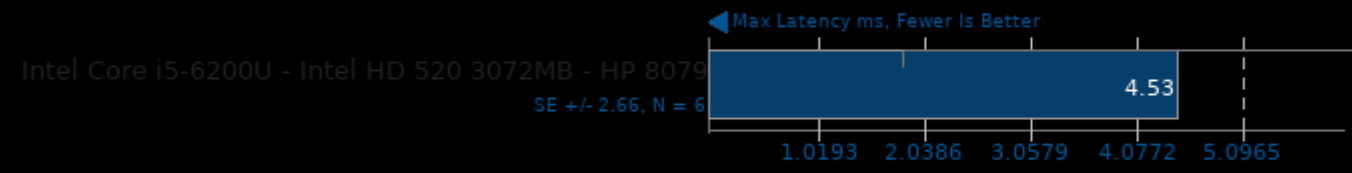
Benchmark: X - Background Load: Memload



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

Interbench 0.31

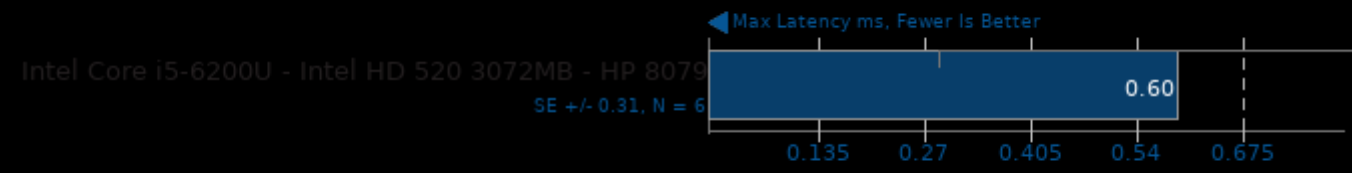
Benchmark: Audio - Background Load: Burn



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

Interbench 0.31

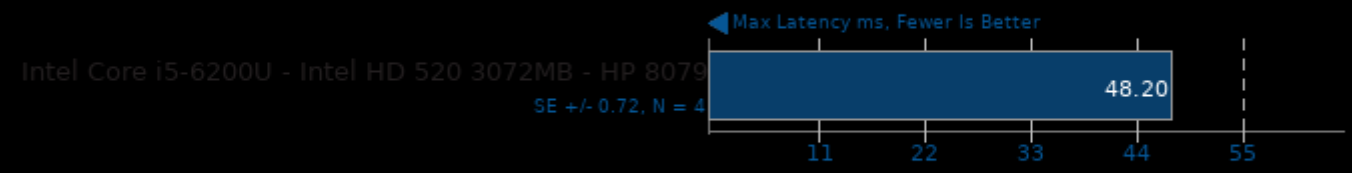
Benchmark: Audio - Background Load: Read



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

Interbench 0.31

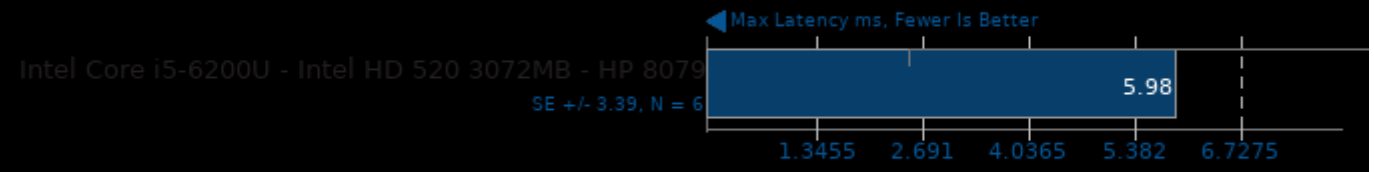
Benchmark: Video - Background Load: Burn



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

Interbench 0.31

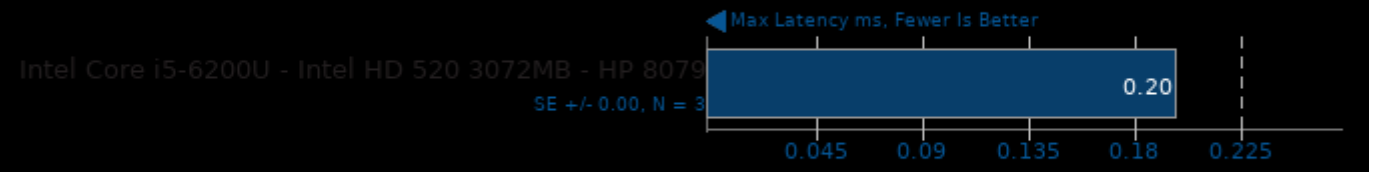
Benchmark: Video - Background Load: Read



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

Interbench 0.31

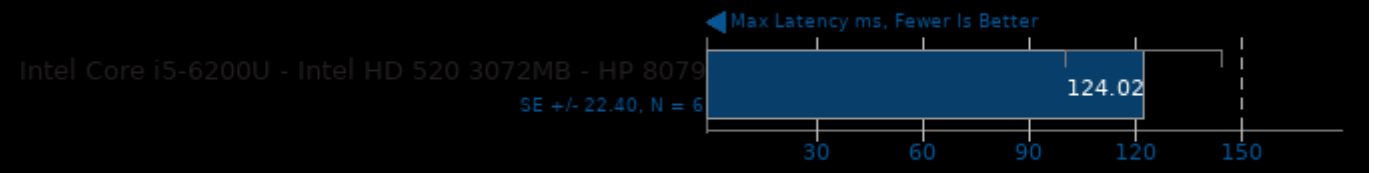
Benchmark: Audio - Background Load: Video



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

Interbench 0.31

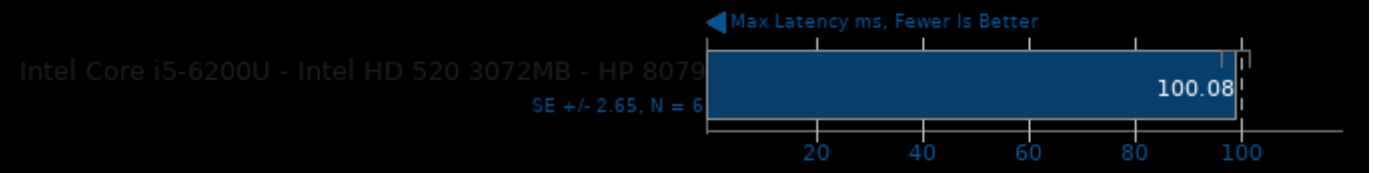
Benchmark: Audio - Background Load: Write



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

Interbench 0.31

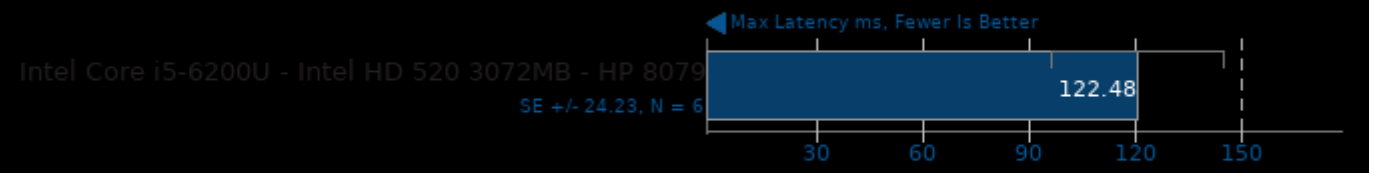
Benchmark: Gaming - Background Load: Burn



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

Interbench 0.31

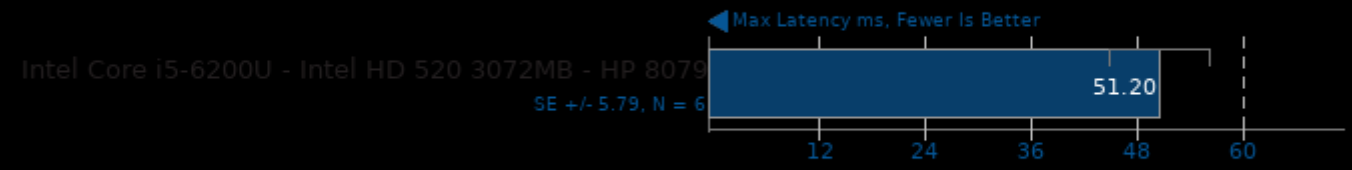
Benchmark: Video - Background Load: Write



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

Interbench 0.31

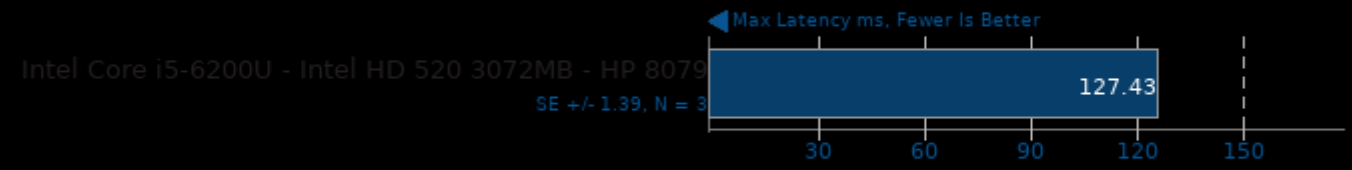
Benchmark: Gaming - Background Load: Write



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

Interbench 0.31

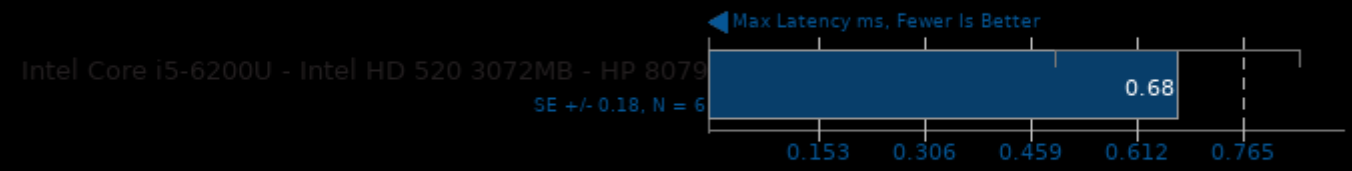
Benchmark: Audio - Background Load: Compile



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

Interbench 0.31

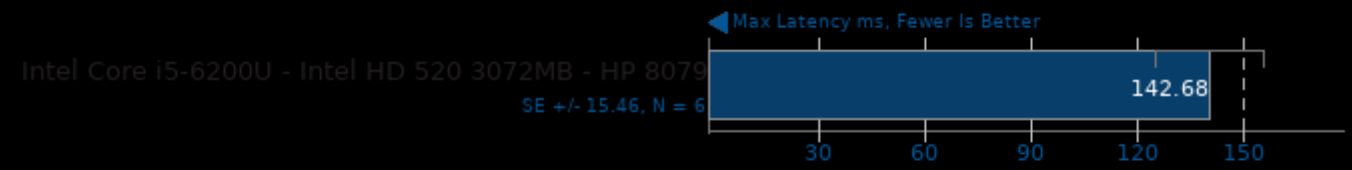
Benchmark: Audio - Background Load: Memload



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

Interbench 0.31

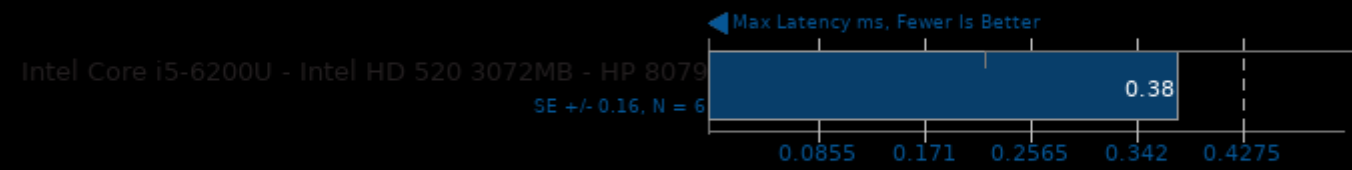
Benchmark: Video - Background Load: Compile



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

Interbench 0.31

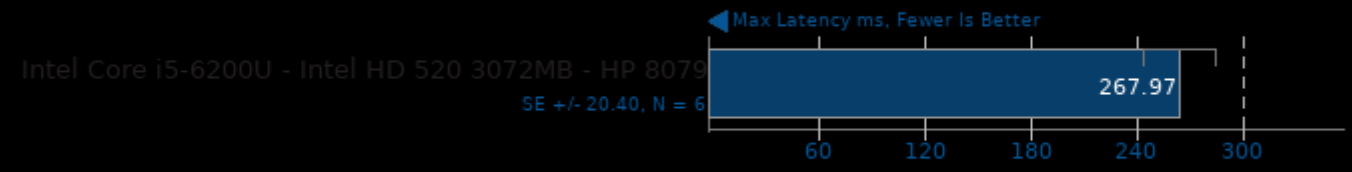
Benchmark: Video - Background Load: Memload



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

Interbench 0.31

Benchmark: Gaming - Background Load: Compile



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

Interbench 0.31

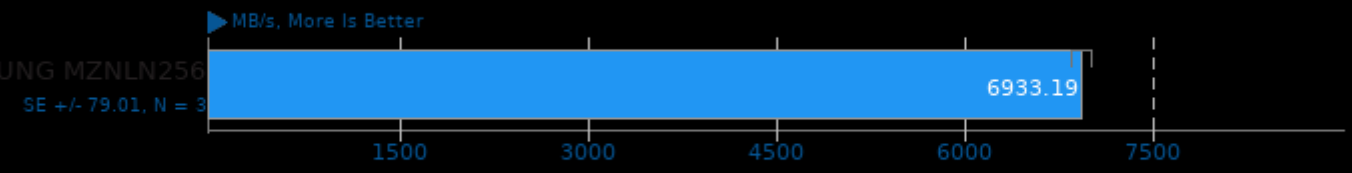
Benchmark: Gaming - Background Load: Memload



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

IOzone 3.465

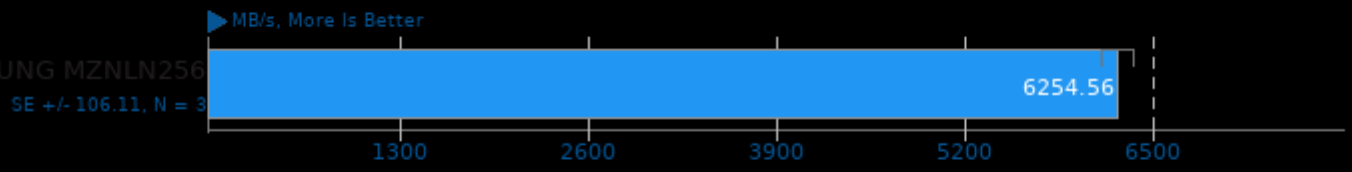
Record Size: 1MB - File Size: 2GB - Disk Test: Read Performance



1. (CC) gcc options: -O3

IOzone 3.465

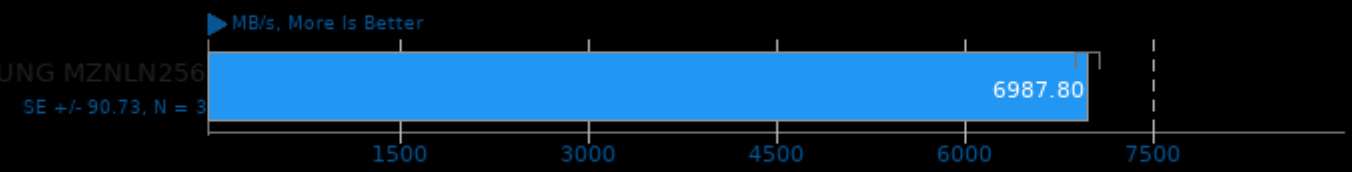
Record Size: 1MB - File Size: 4GB - Disk Test: Read Performance



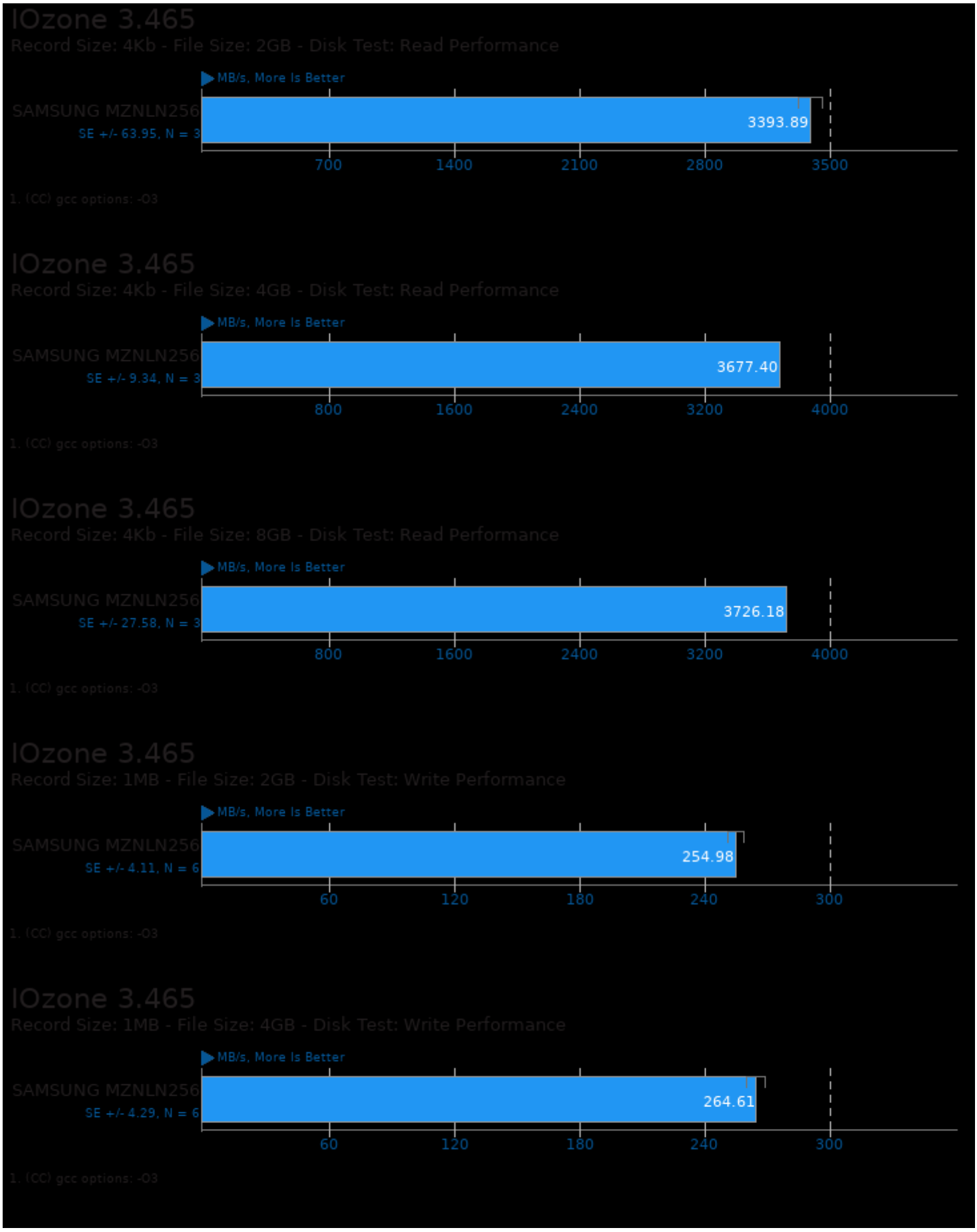
1. (CC) gcc options: -O3

IOzone 3.465

Record Size: 1MB - File Size: 8GB - Disk Test: Read Performance

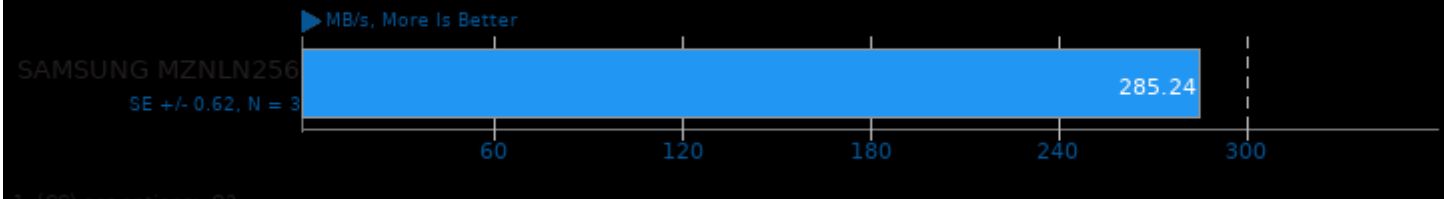


1. (CC) gcc options: -O3


IOzone 3.465
Record Size: 4Kb - File Size: 2GB - Disk Test: Read Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 63.95, N = 3
3393.89
700
1400
2100
2800
3500
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 4Kb - File Size: 4GB - Disk Test: Read Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 9.34, N = 3
3677.40
800
1600
2400
3200
4000
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 4Kb - File Size: 8GB - Disk Test: Read Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 27.58, N = 3
3726.18
800
1600
2400
3200
4000
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 1MB - File Size: 2GB - Disk Test: Write Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 4.11, N = 6
254.98
60
120
180
240
300
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 1MB - File Size: 4GB - Disk Test: Write Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 4.29, N = 6
264.61
60
120
180
240
300
1. (CC) gcc options: -O3

IOzone 3.465

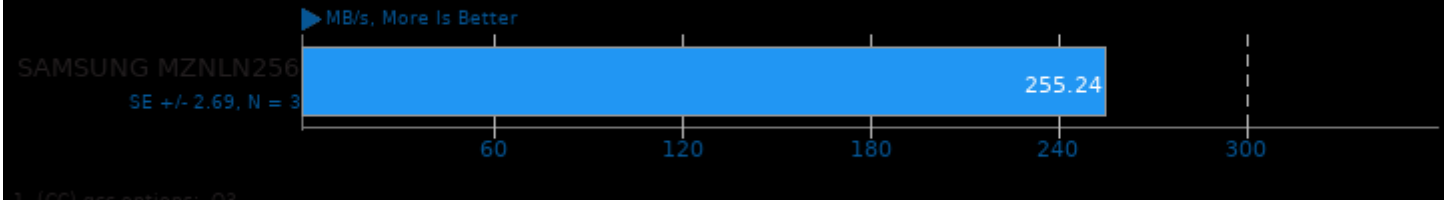
Record Size: 1MB - File Size: 8GB - Disk Test: Write Performance



1. (CC) gcc options: -O3

IOzone 3.465

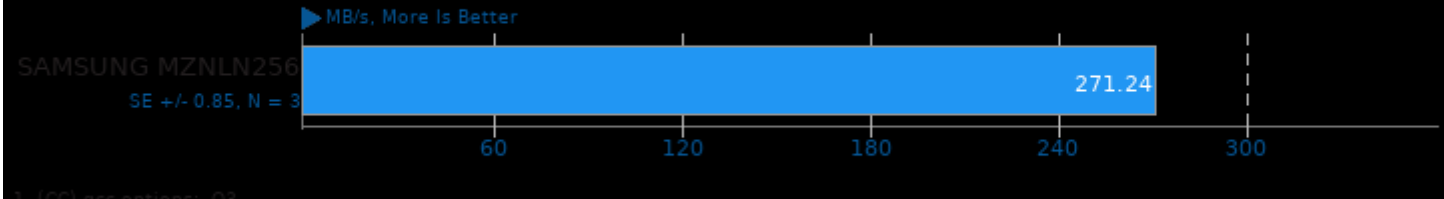
Record Size: 4Kb - File Size: 2GB - Disk Test: Write Performance



1. (CC) gcc options: -O3

IOzone 3.465

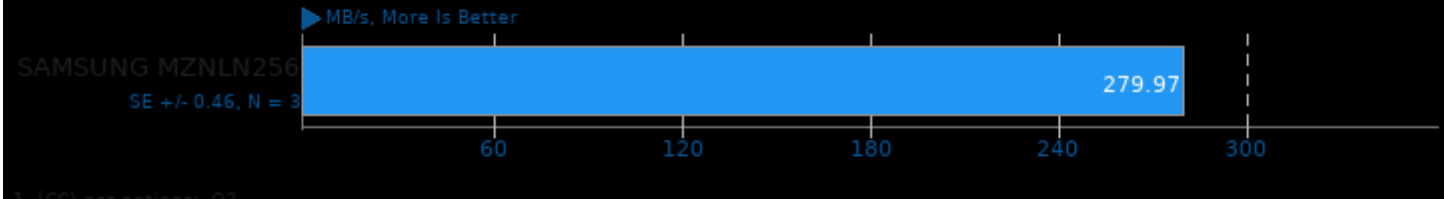
Record Size: 4Kb - File Size: 4GB - Disk Test: Write Performance



1. (CC) gcc options: -O3

IOzone 3.465

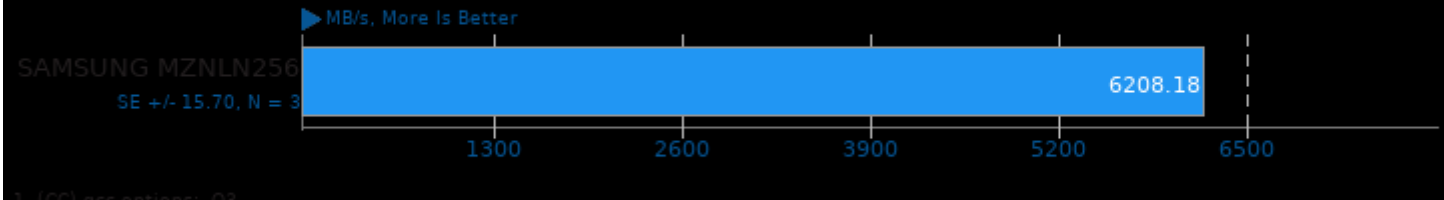
Record Size: 4Kb - File Size: 8GB - Disk Test: Write Performance



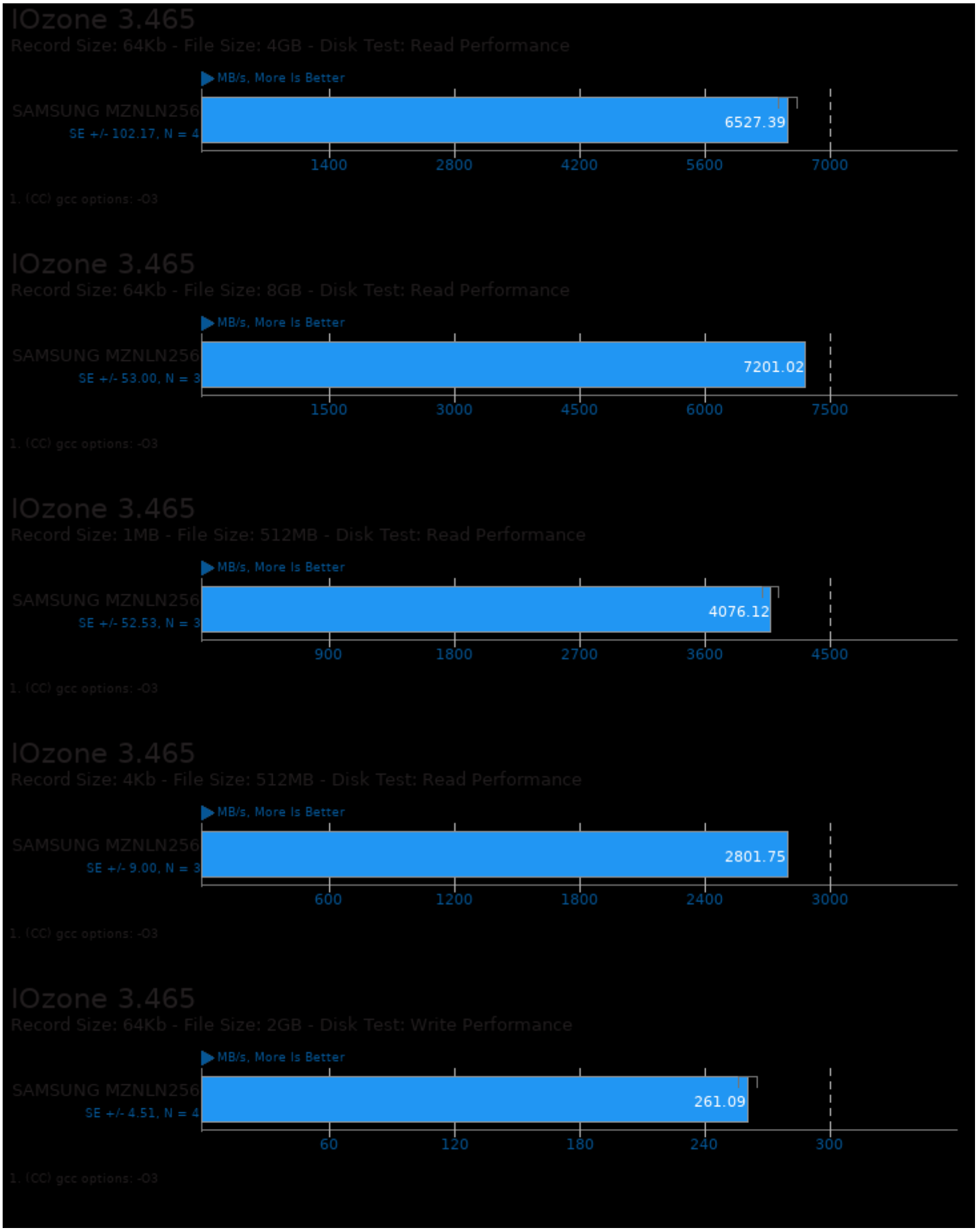
1. (CC) gcc options: -O3

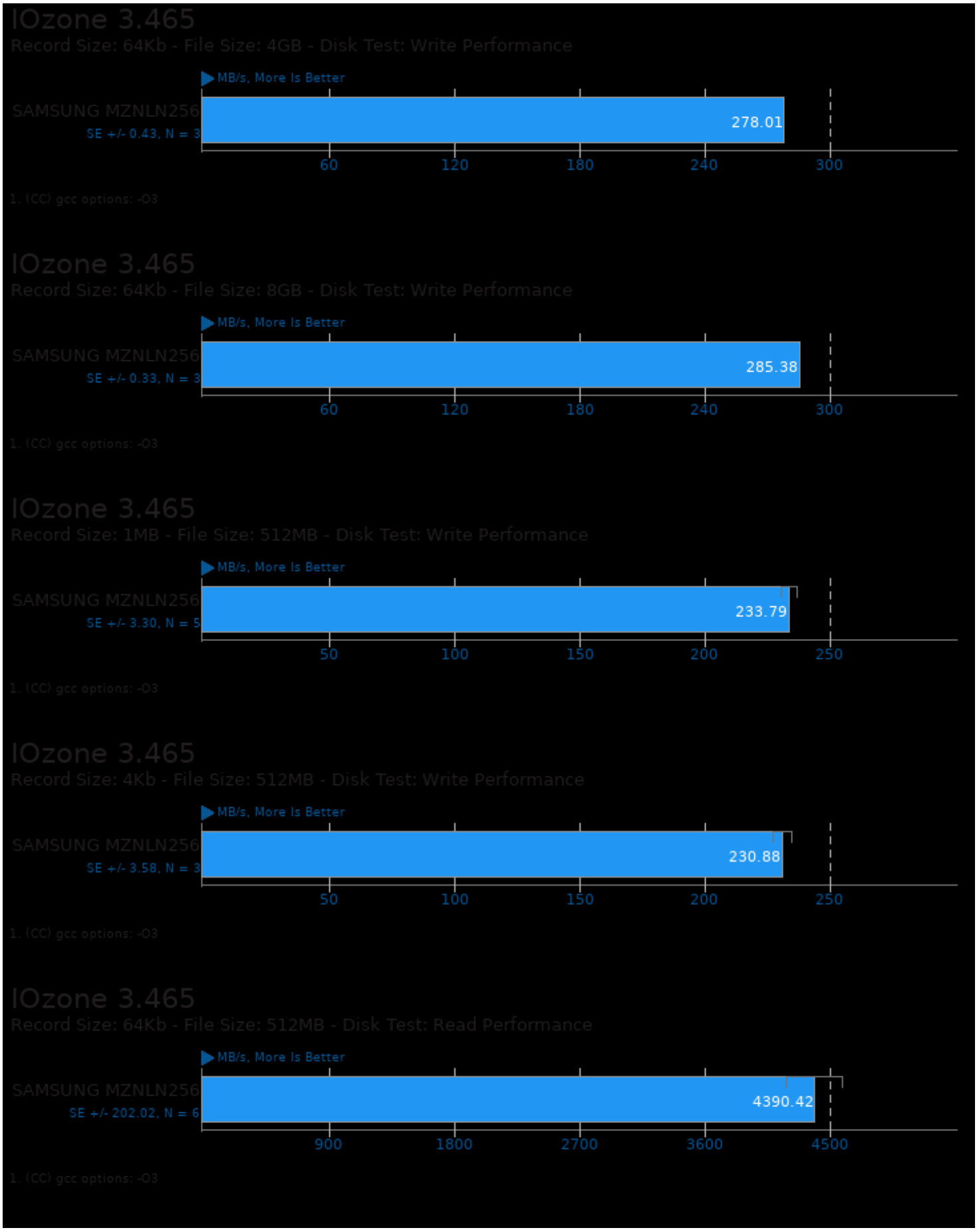
IOzone 3.465

Record Size: 64Kb - File Size: 2GB - Disk Test: Read Performance



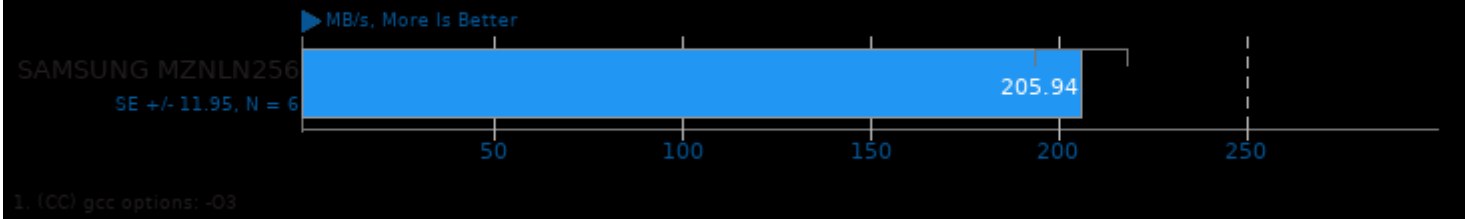
1. (CC) gcc options: -O3


IOzone 3.465
Record Size: 64Kb - File Size: 4GB - Disk Test: Read Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 102.17, N = 4
6527.39
1400
2800
4200
5600
7000
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 64Kb - File Size: 8GB - Disk Test: Read Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 53.00, N = 3
7201.02
1500
3000
4500
6000
7500
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 1MB - File Size: 512MB - Disk Test: Read Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 52.53, N = 3
4076.12
900
1800
2700
3600
4500
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 4Kb - File Size: 512MB - Disk Test: Read Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 9.00, N = 3
2801.75
600
1200
1800
2400
3000
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 64Kb - File Size: 2GB - Disk Test: Write Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 4.51, N = 4
261.09
60
120
180
240
300
1. (CC) gcc options: -O3


IOzone 3.465
Record Size: 64Kb - File Size: 4GB - Disk Test: Write Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 0.43, N = 3
278.01
60
120
180
240
300
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 64Kb - File Size: 8GB - Disk Test: Write Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 0.33, N = 3
285.38
60
120
180
240
300
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 1MB - File Size: 512MB - Disk Test: Write Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 3.30, N = 5
233.79
50
100
150
200
250
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 4Kb - File Size: 512MB - Disk Test: Write Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 3.58, N = 3
230.88
50
100
150
200
250
1. (CC) gcc options: -O3
IOzone 3.465
Record Size: 64Kb - File Size: 512MB - Disk Test: Read Performance
MB/s, More Is Better
SAMSUNG MZNLN256
SE +/- 202.02, N = 6
4390.42
900
1800
2700
3600
4500
1. (CC) gcc options: -O3

IOzone 3.465

Record Size: 64Kb - File Size: 512MB - Disk Test: Write Performance



1. (CC) gcc options: -O3

Java 2D Microbenchmark 1.0

Rendering Test: Text Rendering



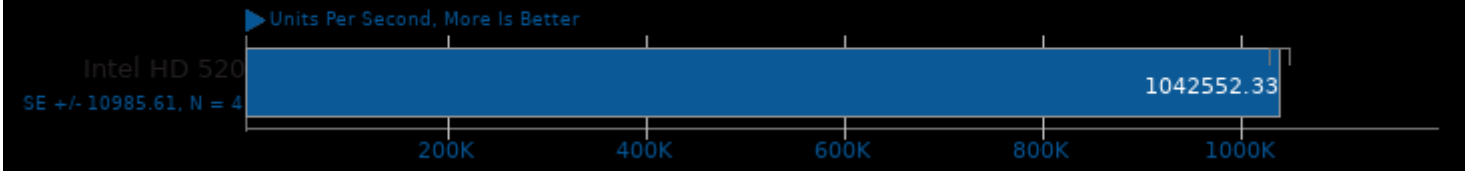
Java 2D Microbenchmark 1.0

Rendering Test: Image Rendering



Java 2D Microbenchmark 1.0

Rendering Test: All Rendering Tests



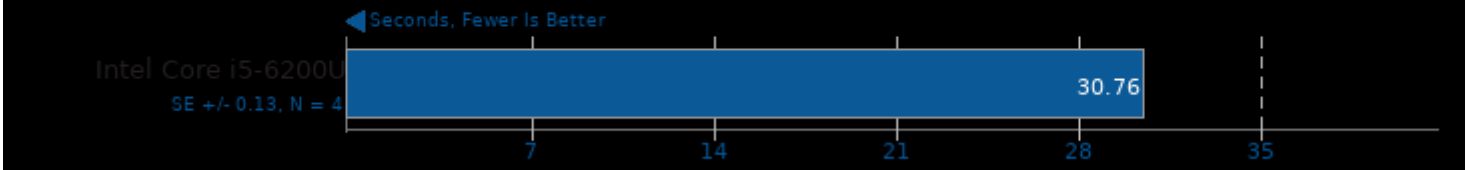
Java 2D Microbenchmark 1.0

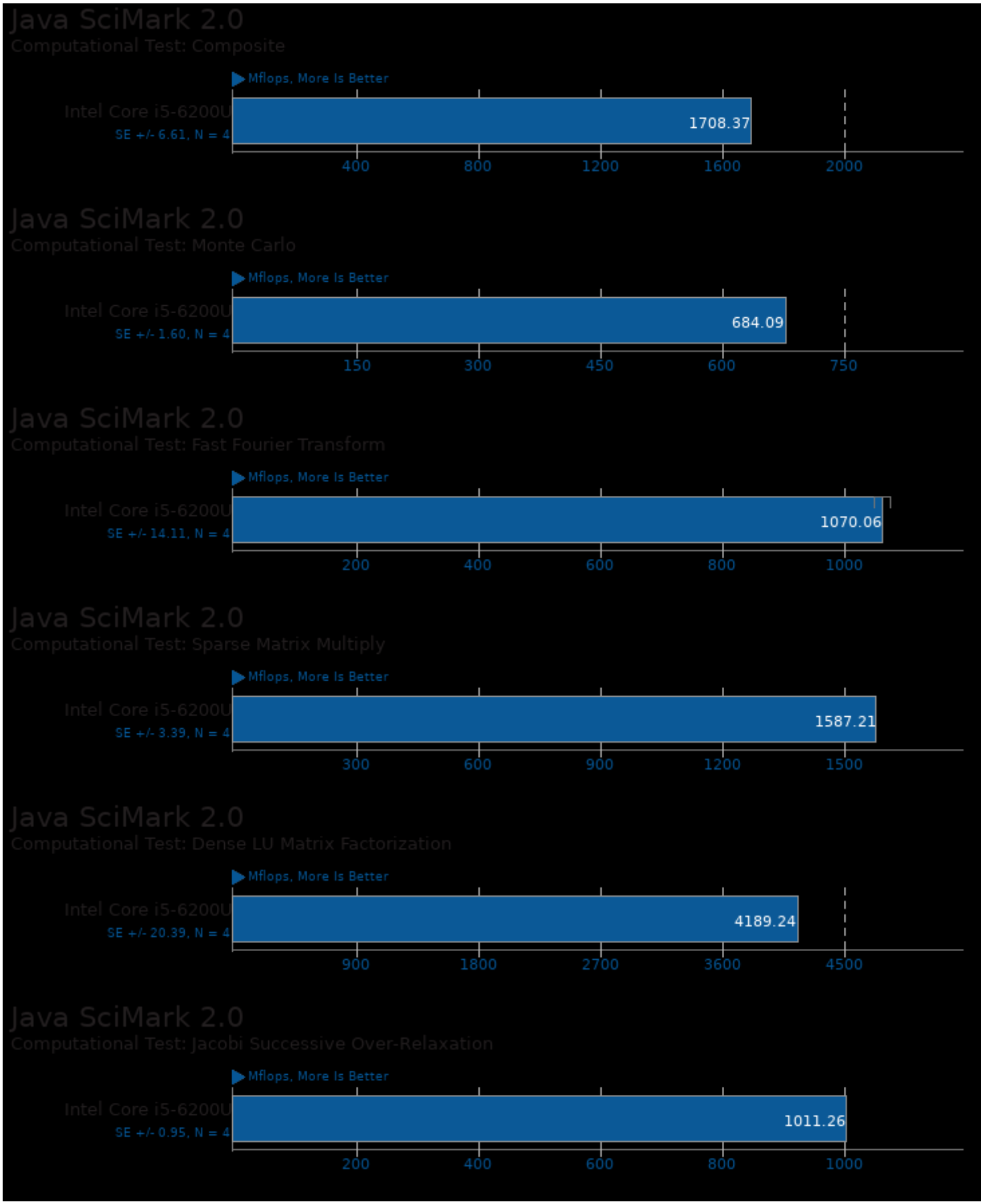
Rendering Test: Vector Graphics Rendering



Java Gradle Build 1.0

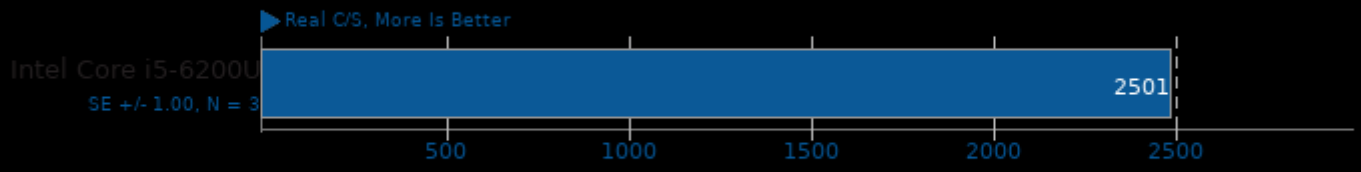
Gradle Build: Reactor




Java SciMark 2.0
Computational Test: Composite
Mflops, More Is Better
Intel Core i5-6200U
SE +/- 6.61, N = 4
1708.37
400
800
1200
1600
2000
Java SciMark 2.0
Computational Test: Monte Carlo
Mflops, More Is Better
Intel Core i5-6200U
SE +/- 1.60, N = 4
684.09
150
300
450
600
750
Java SciMark 2.0
Computational Test: Fast Fourier Transform
Mflops, More Is Better
Intel Core i5-6200U
SE +/- 14.11, N = 4
1070.06
200
400
600
800
1000
Java SciMark 2.0
Computational Test: Sparse Matrix Multiply
Mflops, More Is Better
Intel Core i5-6200U
SE +/- 3.39, N = 4
1587.21
300
600
900
1200
1500
Java SciMark 2.0
Computational Test: Dense LU Matrix Factorization
Mflops, More Is Better
Intel Core i5-6200U
SE +/- 20.39, N = 4
4189.24
900
1800
2700
3600
4500
Java SciMark 2.0
Computational Test: Jacobi Successive Over-Relaxation
Mflops, More Is Better
Intel Core i5-6200U
SE +/- 0.95, N = 4
1011.26
200
400
600
800
1000

John The Ripper 1.8.0-jumbo-1

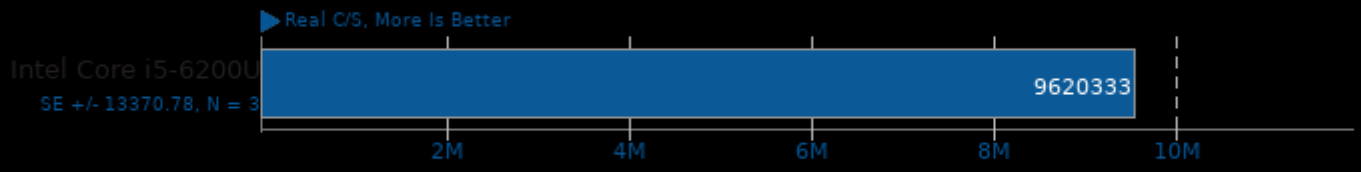
Test: Blowfish



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

John The Ripper 1.8.0-jumbo-1

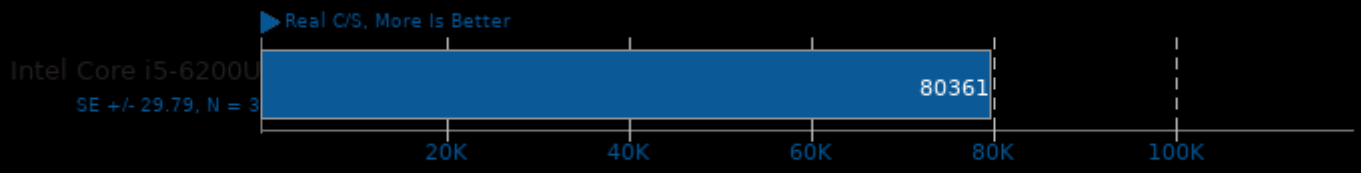
Test: Traditional DES



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

John The Ripper 1.8.0-jumbo-1

Test: MD5



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

JuliaGPU 1.2pts1

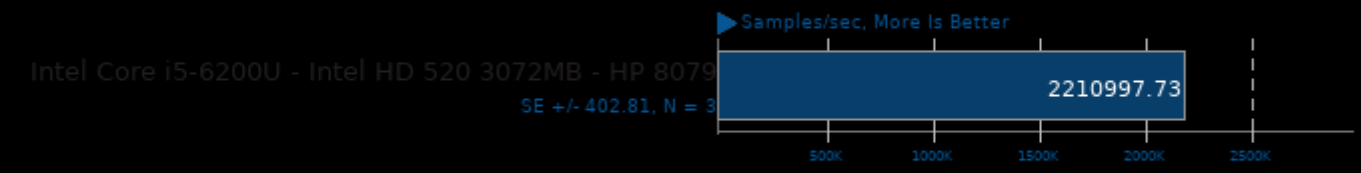
OpenCL Device: CPU



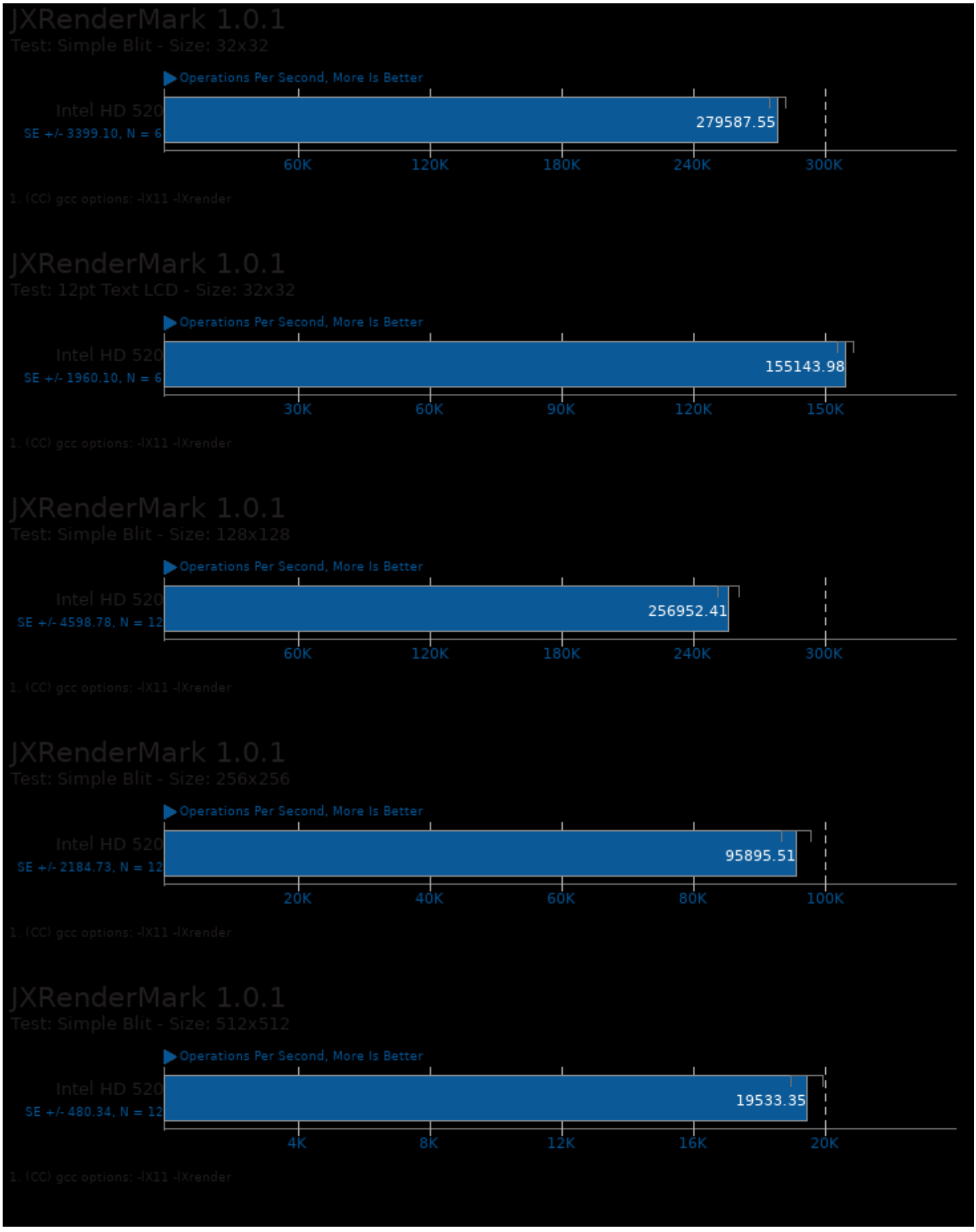
1. (CC) gcc options: -O3 -march=native -ftree-vectorize -funroll-loops -lglut -lOpenCL -lGL -lm

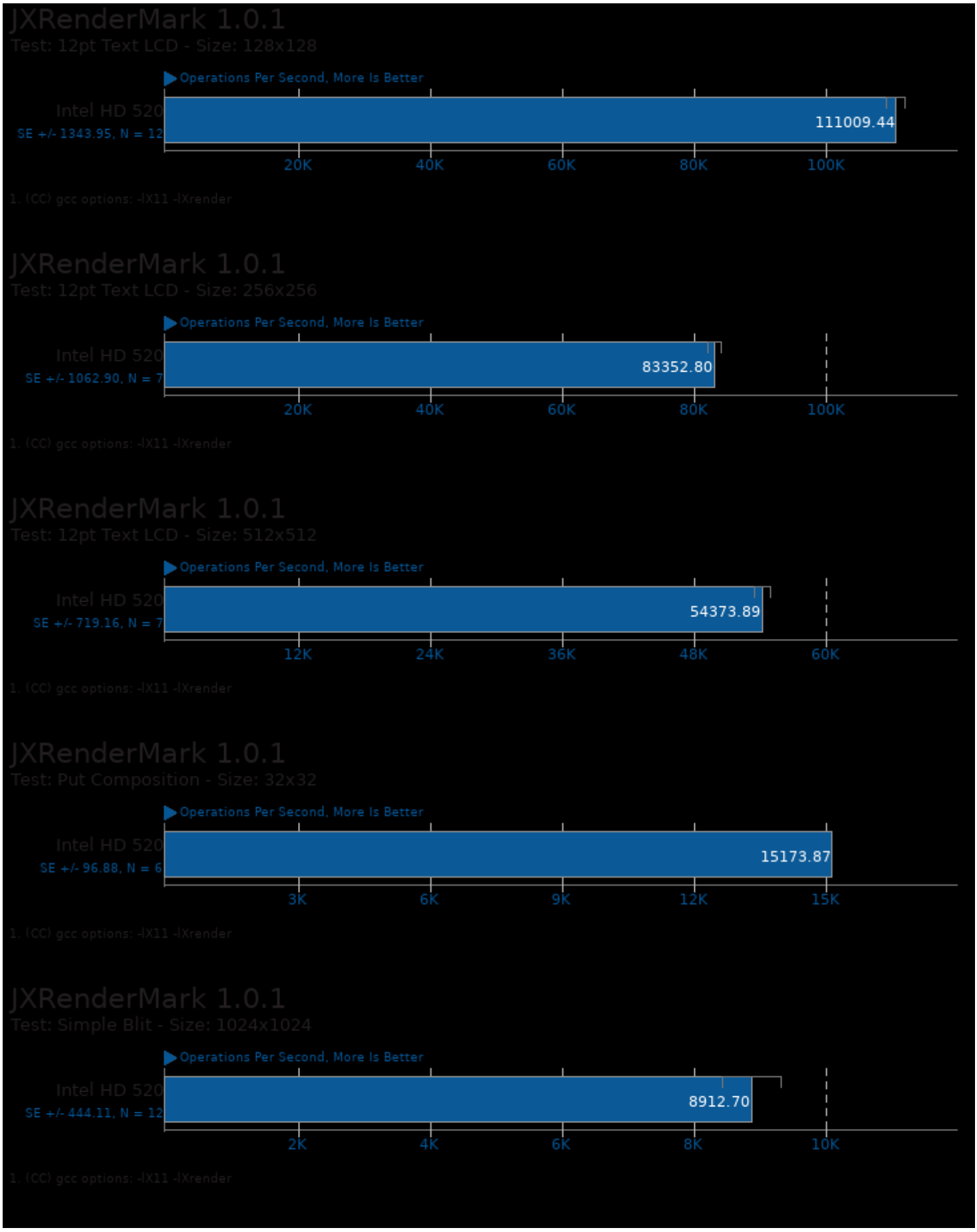
JuliaGPU 1.2pts1

OpenCL Device: CPU+GPU



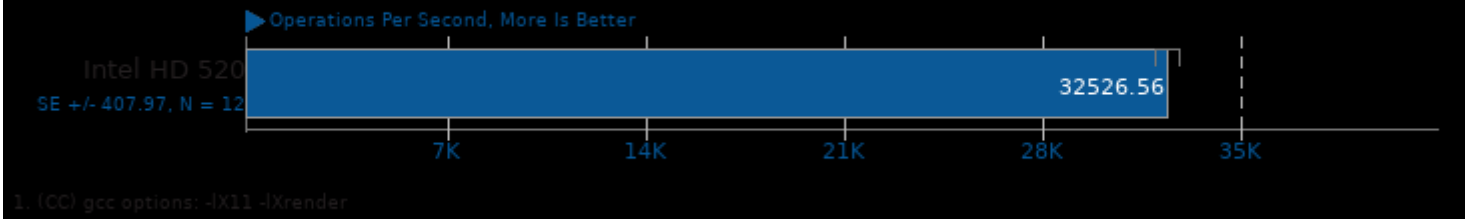
1. (CC) gcc options: -O3 -march=native -ftree-vectorize -funroll-loops -lglut -lOpenCL -lGL -lm


JXRenderMark 1.0.1
Test: Simple Blit - Size: 32x32
Operations Per Second, More Is Better
Intel HD 520
SE +/- 3399.10, N = 6
279587.55
60K
120K
180K
240K
300K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: 12pt Text LCD - Size: 32x32
Operations Per Second, More Is Better
Intel HD 520
SE +/- 1960.10, N = 6
155143.98
30K
60K
90K
120K
150K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Simple Blit - Size: 128x128
Operations Per Second, More Is Better
Intel HD 520
SE +/- 4598.78, N = 12
256952.41
60K
120K
180K
240K
300K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Simple Blit - Size: 256x256
Operations Per Second, More Is Better
Intel HD 520
SE +/- 2184.73, N = 12
95895.51
20K
40K
60K
80K
100K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Simple Blit - Size: 512x512
Operations Per Second, More Is Better
Intel HD 520
SE +/- 480.34, N = 12
19533.35
4K
8K
12K
16K
20K
1. (CC) gcc options: -lX11 -lXrender


JXRenderMark 1.0.1
Test: 12pt Text LCD - Size: 128x128
Operations Per Second, More Is Better
Intel HD 520
SE +/- 1343.95, N = 12
111009.44
20K
40K
60K
80K
100K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: 12pt Text LCD - Size: 256x256
Operations Per Second, More Is Better
Intel HD 520
SE +/- 1062.90, N = 7
83352.80
20K
40K
60K
80K
100K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: 12pt Text LCD - Size: 512x512
Operations Per Second, More Is Better
Intel HD 520
SE +/- 719.16, N = 7
54373.89
12K
24K
36K
48K
60K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Put Composition - Size: 32x32
Operations Per Second, More Is Better
Intel HD 520
SE +/- 96.88, N = 6
15173.87
3K
6K
9K
12K
15K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Simple Blit - Size: 1024x1024
Operations Per Second, More Is Better
Intel HD 520
SE +/- 444.11, N = 12
8912.70
2K
4K
6K
8K
10K
1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

Test: 12pt Text LCD - Size: 1024x1024



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

Test: Put Composition - Size: 128x128



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

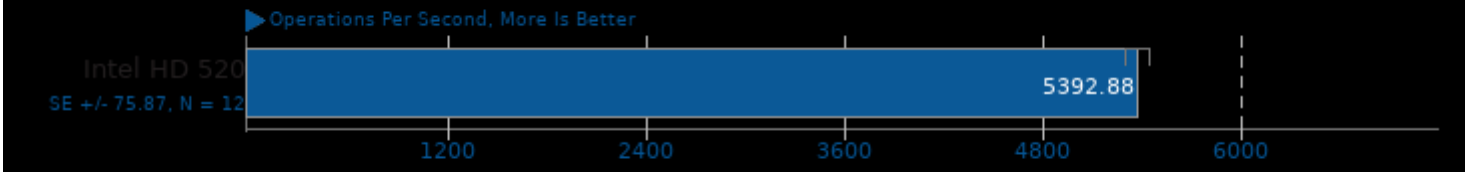
Test: Put Composition - Size: 256x256



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

Test: Put Composition - Size: 512x512



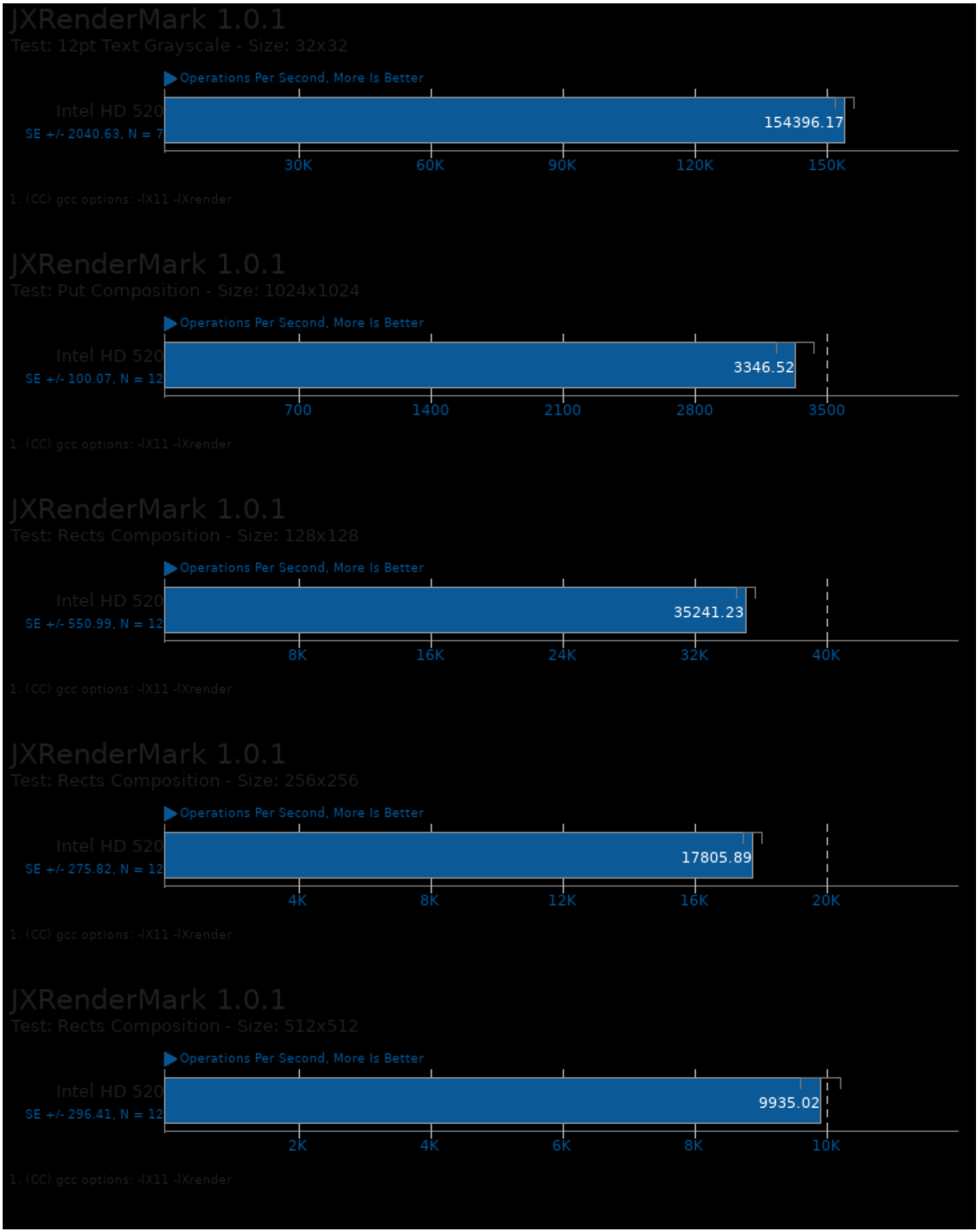
1. (CC) gcc options: -lX11 -lXrender

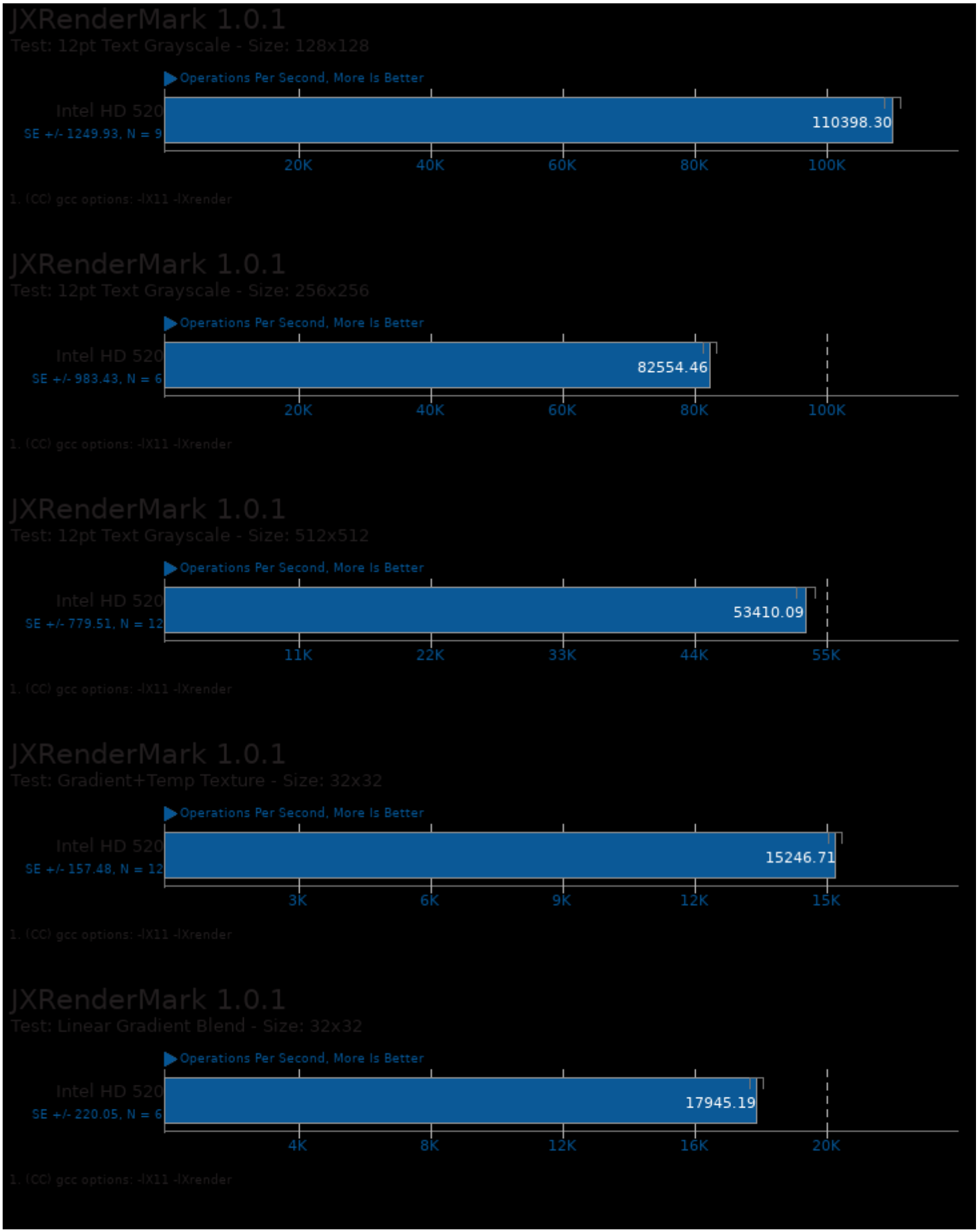
JXRenderMark 1.0.1

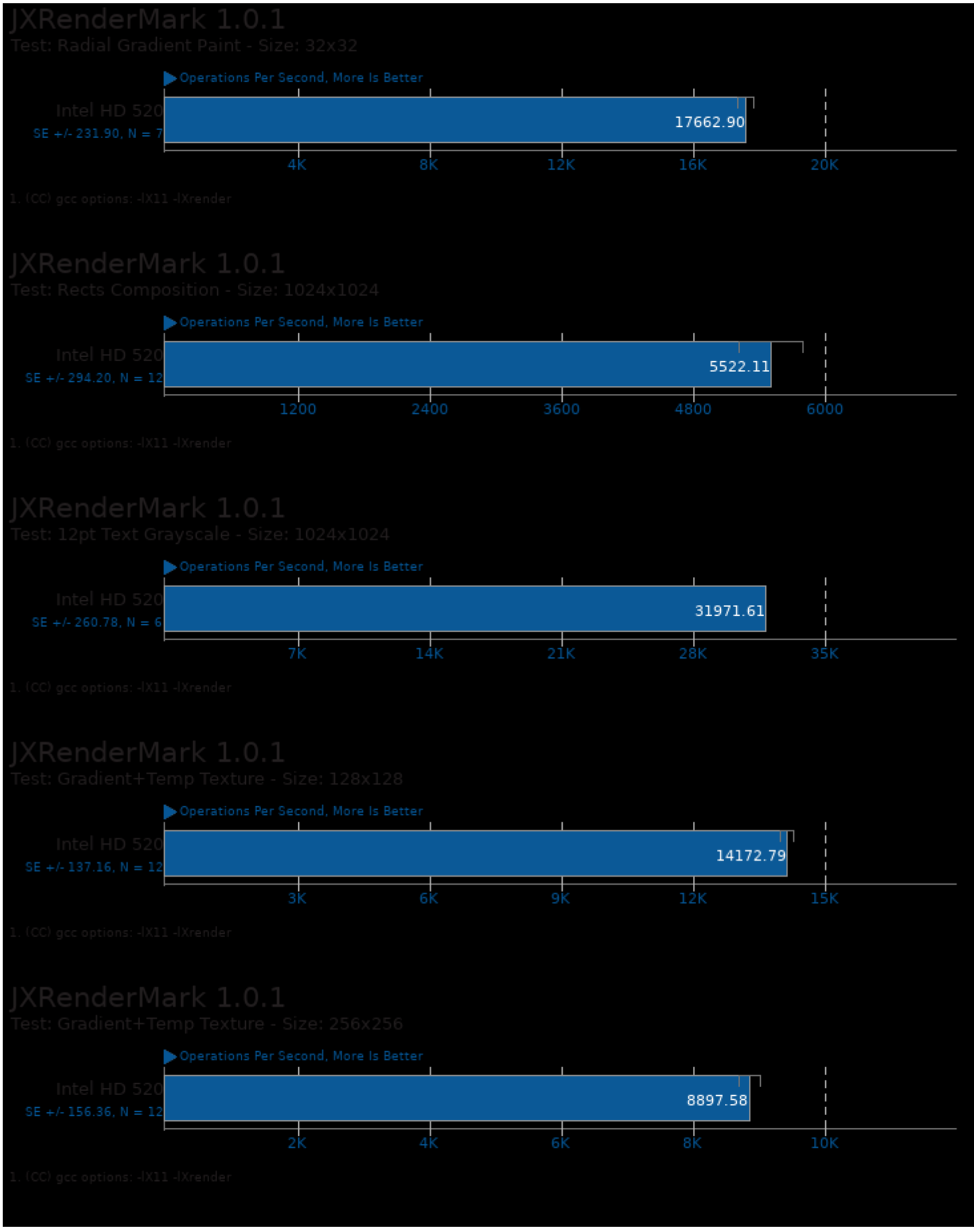
Test: Rects Composition - Size: 32x32



1. (CC) gcc options: -lX11 -lXrender

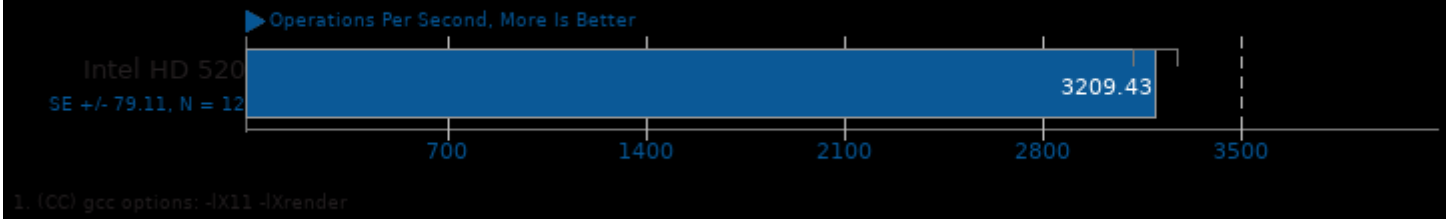

JXRenderMark 1.0.1
Test: 12pt Text Grayscale - Size: 32x32
Operations Per Second, More Is Better
Intel HD 520
SE +/- 2040.63, N = 7
154396.17
30K
60K
90K
120K
150K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Put Composition - Size: 1024x1024
Operations Per Second, More Is Better
Intel HD 520
SE +/- 100.07, N = 12
3346.52
700
1400
2100
2800
3500
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Rects Composition - Size: 128x128
Operations Per Second, More Is Better
Intel HD 520
SE +/- 550.99, N = 12
35241.23
8K
16K
24K
32K
40K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Rects Composition - Size: 256x256
Operations Per Second, More Is Better
Intel HD 520
SE +/- 275.82, N = 12
17805.89
4K
8K
12K
16K
20K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Rects Composition - Size: 512x512
Operations Per Second, More Is Better
Intel HD 520
SE +/- 296.41, N = 12
9935.02
2K
4K
6K
8K
10K
1. (CC) gcc options: -lX11 -lXrender


JXRenderMark 1.0.1
Test: 12pt Text Grayscale - Size: 128x128
Operations Per Second, More Is Better
Intel HD 520
SE +/- 1249.93, N = 9
110398.30
20K
40K
60K
80K
100K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: 12pt Text Grayscale - Size: 256x256
Operations Per Second, More Is Better
Intel HD 520
SE +/- 983.43, N = 6
82554.46
20K
40K
60K
80K
100K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: 12pt Text Grayscale - Size: 512x512
Operations Per Second, More Is Better
Intel HD 520
SE +/- 779.51, N = 12
53410.09
11K
22K
33K
44K
55K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Gradient+Temp Texture - Size: 32x32
Operations Per Second, More Is Better
Intel HD 520
SE +/- 157.48, N = 12
15246.71
3K
6K
9K
12K
15K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Linear Gradient Blend - Size: 32x32
Operations Per Second, More Is Better
Intel HD 520
SE +/- 220.05, N = 6
17945.19
4K
8K
12K
16K
20K
1. (CC) gcc options: -lX11 -lXrender


JXRenderMark 1.0.1
Test: Radial Gradient Paint - Size: 32x32
Operations Per Second, More Is Better
Intel HD 520
SE +/- 231.90, N = 7
17662.90
4K
8K
12K
16K
20K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Rects Composition - Size: 1024x1024
Operations Per Second, More Is Better
Intel HD 520
SE +/- 294.20, N = 12
5522.11
1200
2400
3600
4800
6000
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: 12pt Text Grayscale - Size: 1024x1024
Operations Per Second, More Is Better
Intel HD 520
SE +/- 260.78, N = 6
31971.61
7K
14K
21K
28K
35K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Gradient+Temp Texture - Size: 128x128
Operations Per Second, More Is Better
Intel HD 520
SE +/- 137.16, N = 12
14172.79
3K
6K
9K
12K
15K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Gradient+Temp Texture - Size: 256x256
Operations Per Second, More Is Better
Intel HD 520
SE +/- 156.36, N = 12
8897.58
2K
4K
6K
8K
10K
1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

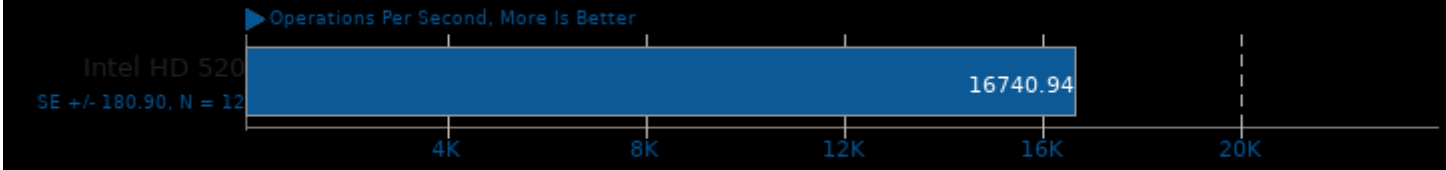
Test: Gradient+Temp Texture - Size: 512x512



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

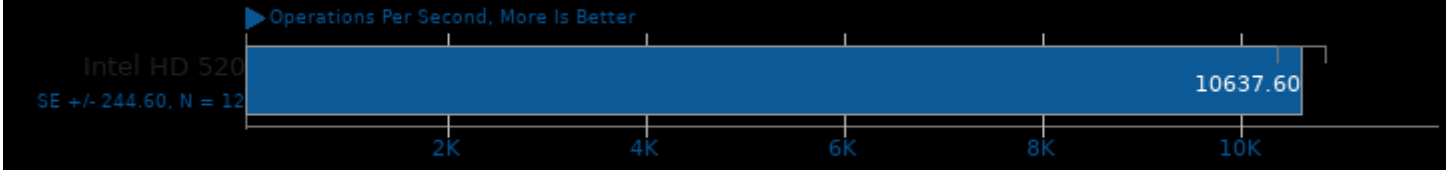
Test: Linear Gradient Blend - Size: 128x128



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

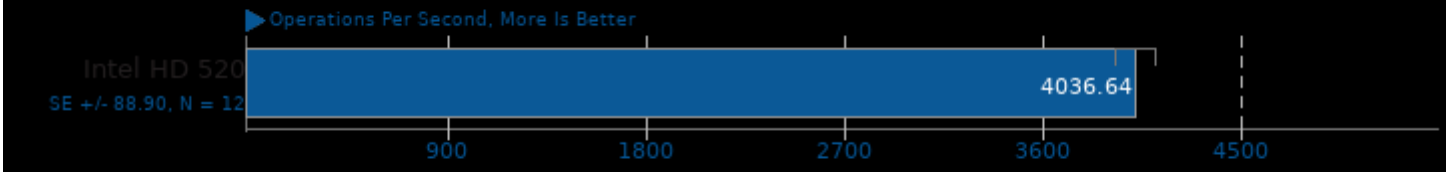
Test: Linear Gradient Blend - Size: 256x256



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

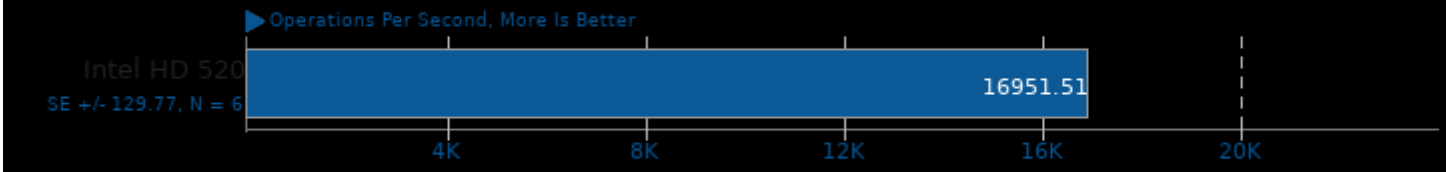
Test: Linear Gradient Blend - Size: 512x512



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

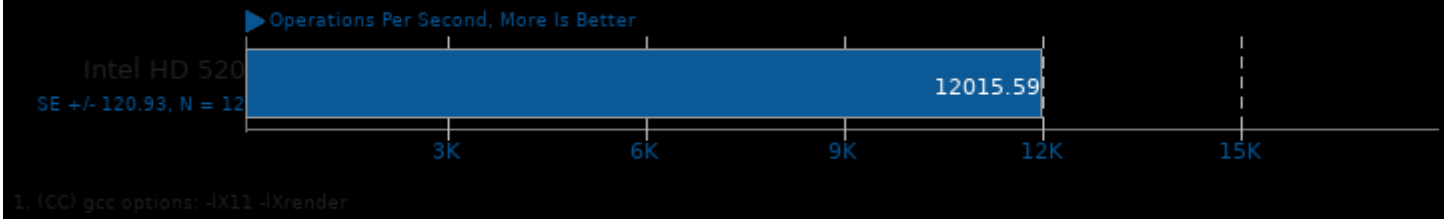
Test: Radial Gradient Paint - Size: 128x128



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

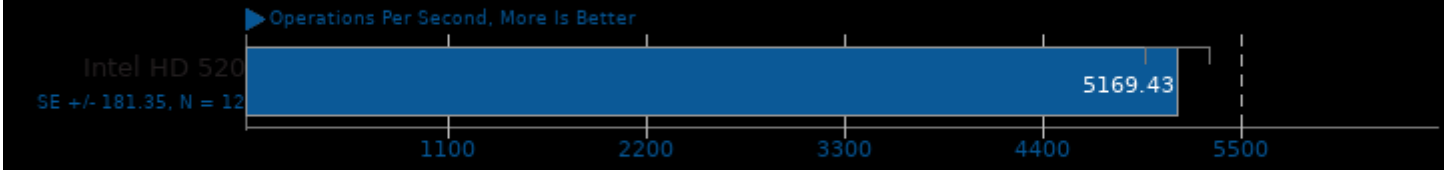
Test: Radial Gradient Paint - Size: 256x256



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

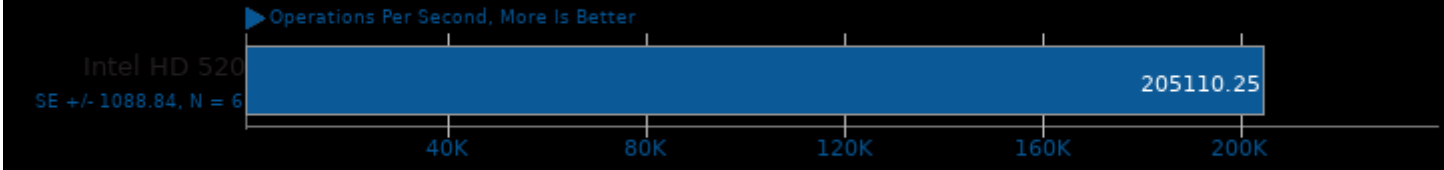
Test: Radial Gradient Paint - Size: 512x512



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

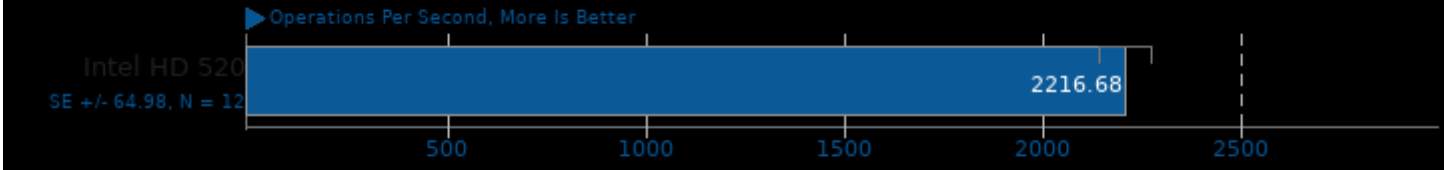
Test: Transformed Blit Linear - Size: 32x32



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

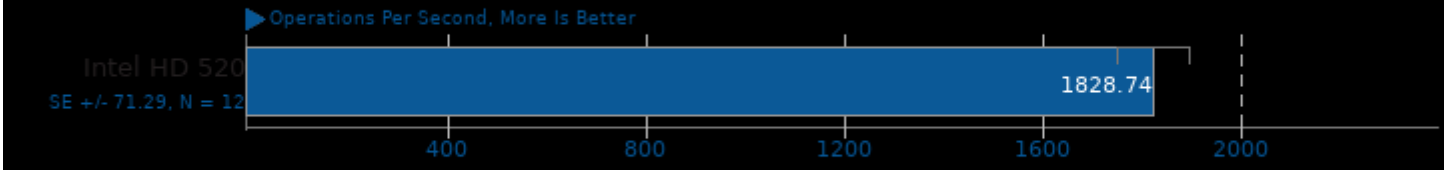
Test: Gradient+Temp Texture - Size: 1024x1024



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

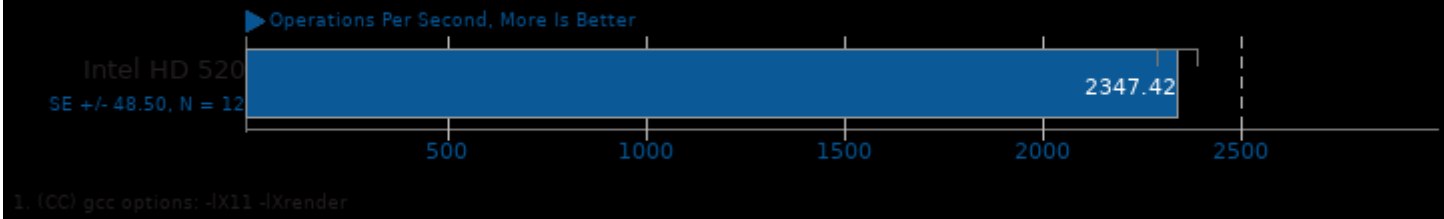
Test: Linear Gradient Blend - Size: 1024x1024



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

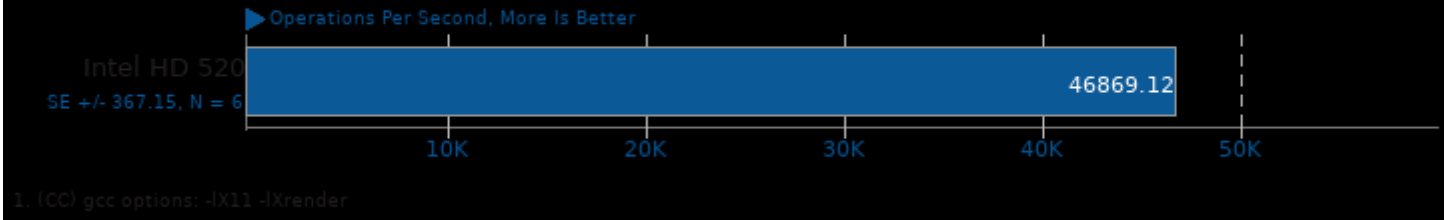
Test: Radial Gradient Paint - Size: 1024x1024



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

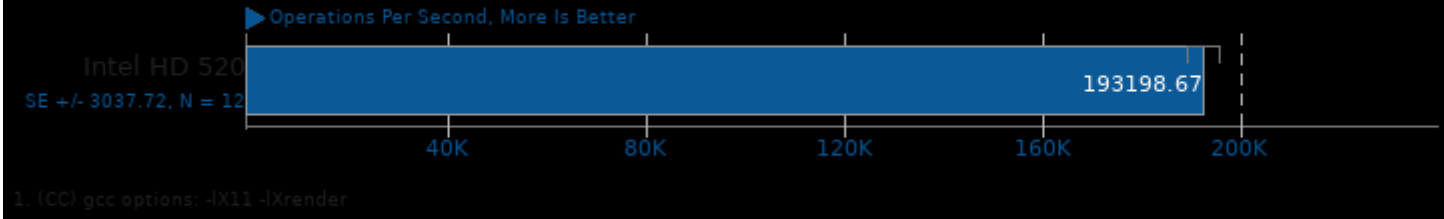
Test: Transformed Blit Bilinear - Size: 32x32



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

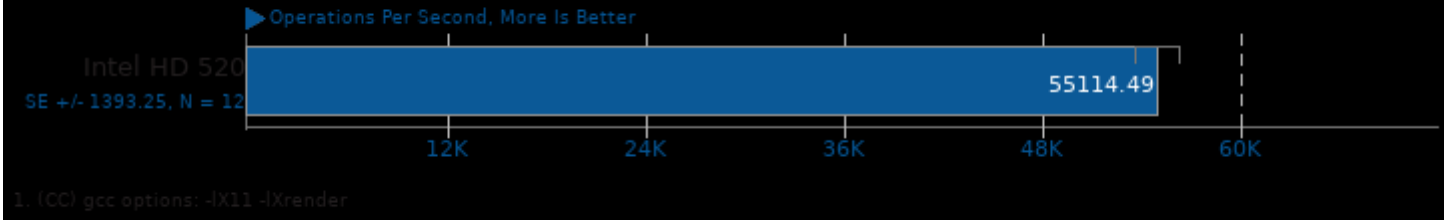
Test: Transformed Blit Linear - Size: 128x128



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

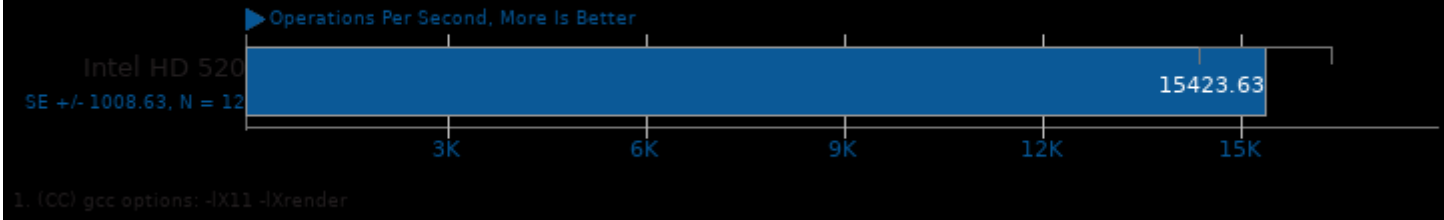
Test: Transformed Blit Linear - Size: 256x256



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

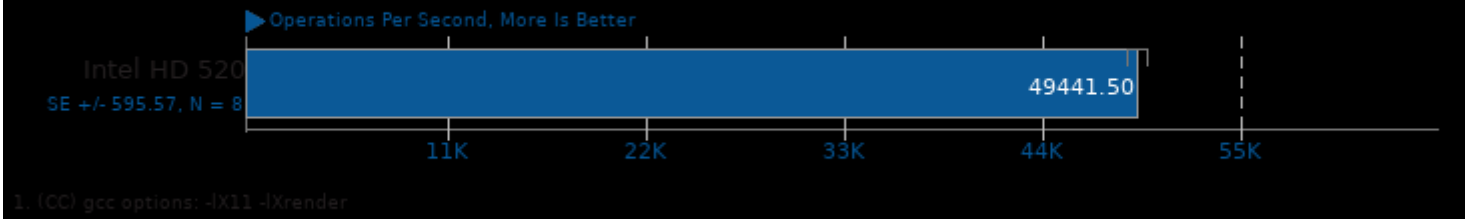
Test: Transformed Blit Linear - Size: 512x512



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

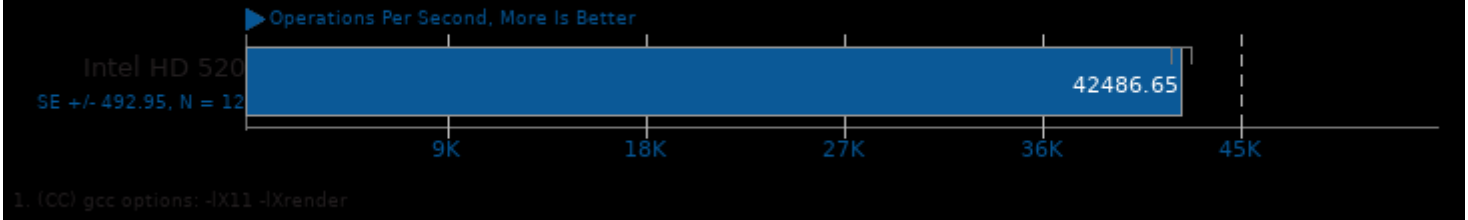
Test: Transformed Texture Paint - Size: 32x32



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

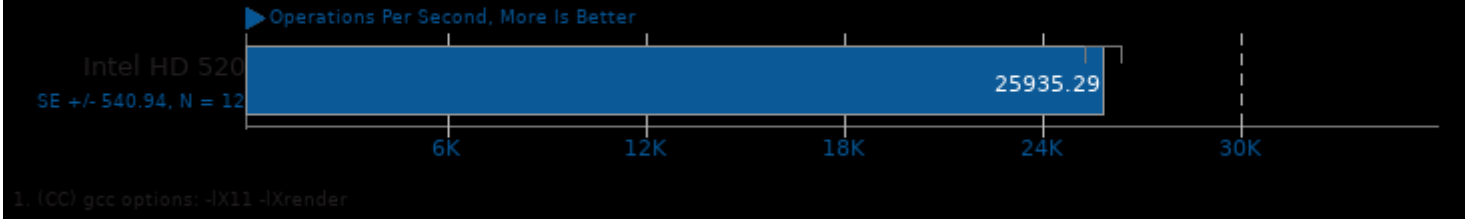
Test: Transformed Blit Bilinear - Size: 128x128



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

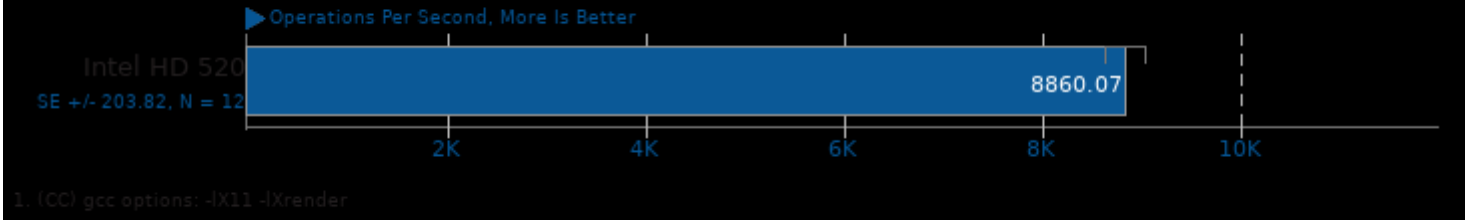
Test: Transformed Blit Bilinear - Size: 256x256



1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

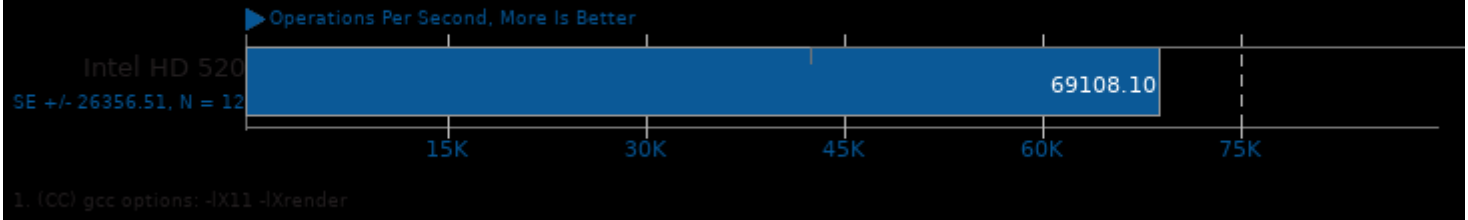
Test: Transformed Blit Bilinear - Size: 512x512



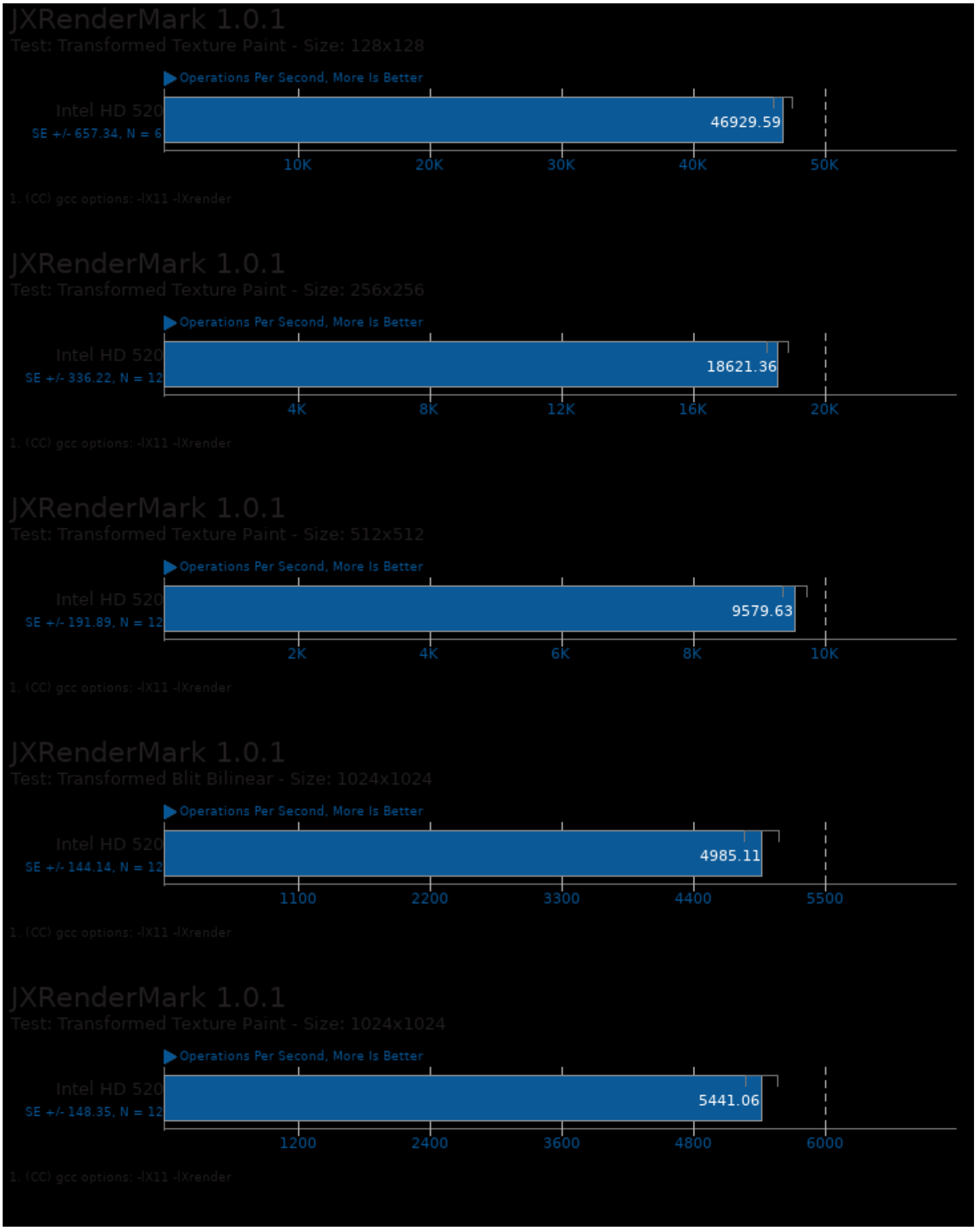
1. (CC) gcc options: -lX11 -lXrender

JXRenderMark 1.0.1

Test: Transformed Blit Linear - Size: 1024x1024

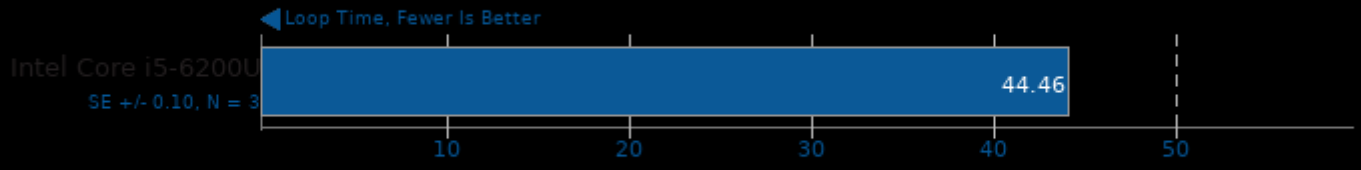


1. (CC) gcc options: -lX11 -lXrender


JXRenderMark 1.0.1
Test: Transformed Texture Paint - Size: 128x128
Operations Per Second, More Is Better
Intel HD 520
SE +/- 657.34, N = 6
46929.59
10K
20K
30K
40K
50K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Transformed Texture Paint - Size: 256x256
Operations Per Second, More Is Better
Intel HD 520
SE +/- 336.22, N = 12
18621.36
4K
8K
12K
16K
20K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Transformed Texture Paint - Size: 512x512
Operations Per Second, More Is Better
Intel HD 520
SE +/- 191.89, N = 12
9579.63
2K
4K
6K
8K
10K
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Transformed Blit Bilinear - Size: 1024x1024
Operations Per Second, More Is Better
Intel HD 520
SE +/- 144.14, N = 12
4985.11
1100
2200
3300
4400
5500
1. (CC) gcc options: -lX11 -lXrender
JXRenderMark 1.0.1
Test: Transformed Texture Paint - Size: 1024x1024
Operations Per Second, More Is Better
Intel HD 520
SE +/- 148.35, N = 12
5441.06
1200
2400
3600
4800
6000
1. (CC) gcc options: -lX11 -lXrender

LAMMPS Molecular Dynamics Simulator 1.0

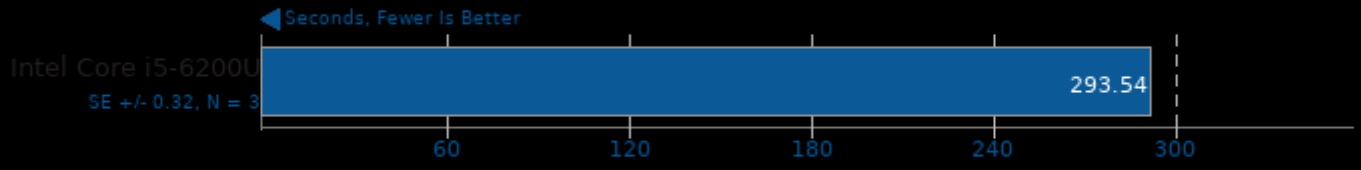
Test: Rhodopsin Protein



1. (CXX) g++ options: -lfftw -lmpich

LLVM Test Suite 6.0.0

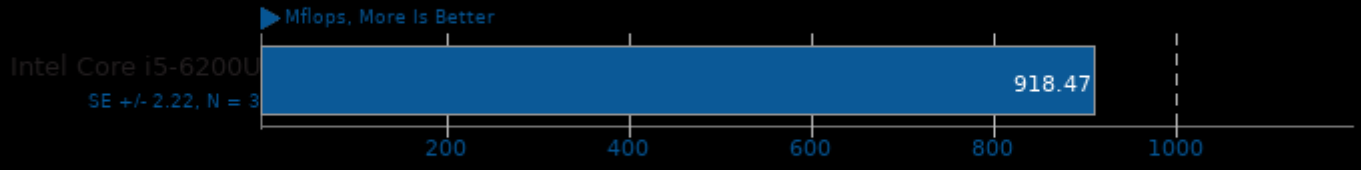
Time To Run



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

LuaJIT 2.1-git

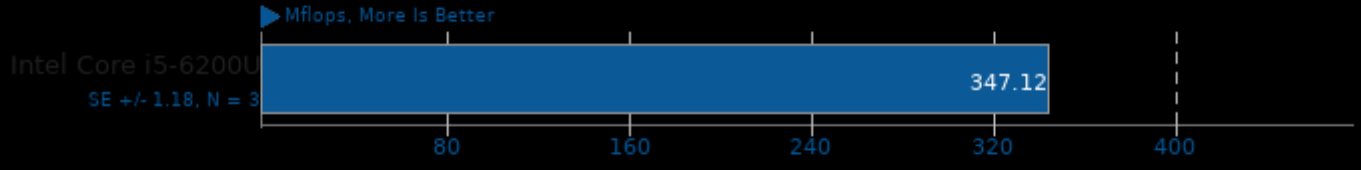
Test: Composite



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

LuaJIT 2.1-git

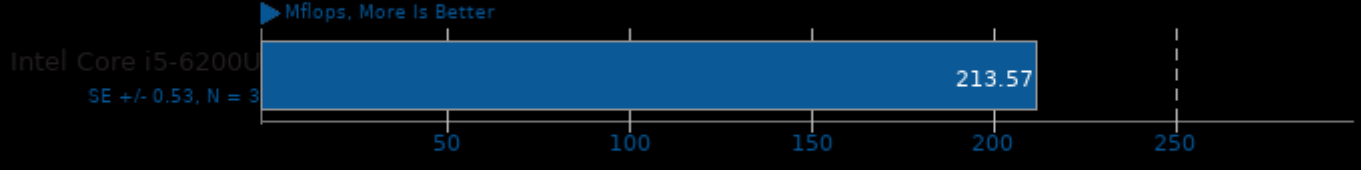
Test: Monte Carlo



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

LuaJIT 2.1-git

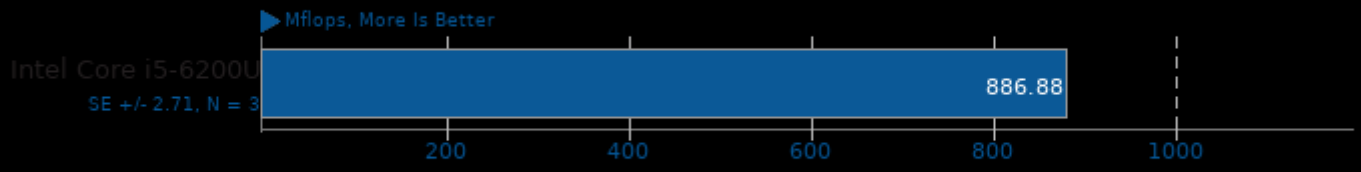
Test: Fast Fourier Transform



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

LuaJIT 2.1-git

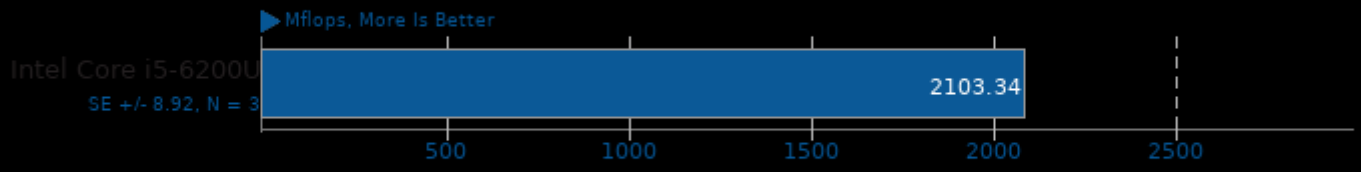
Test: Sparse Matrix Multiply



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

LuaJIT 2.1-git

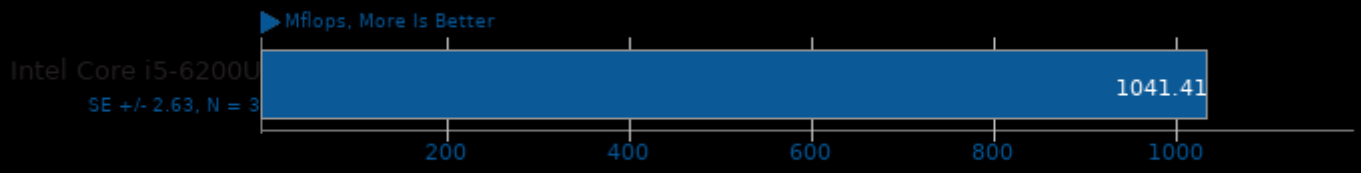
Test: Dense LU Matrix Factorization



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

LuaJIT 2.1-git

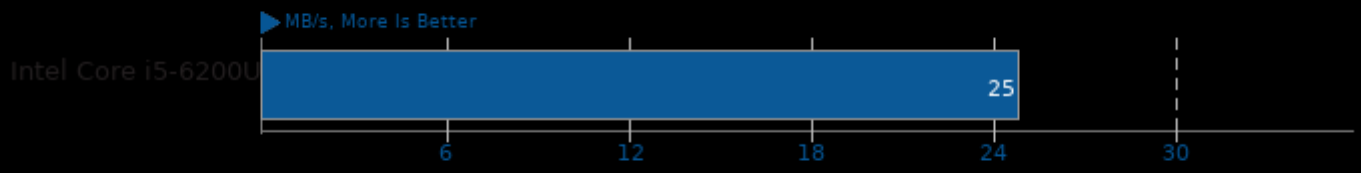
Test: Jacobi Successive Over-Relaxation



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

lzbench 2017-08-08

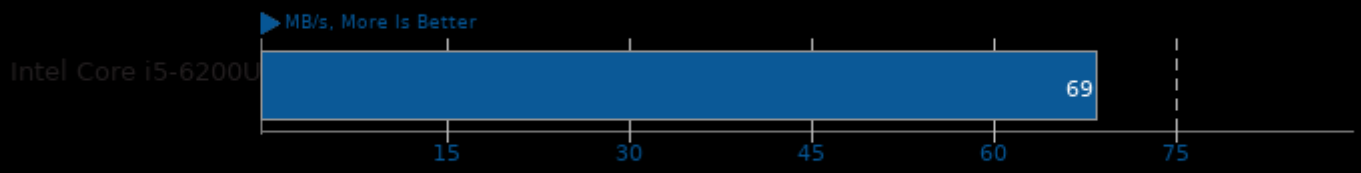
Test: XZ 0 - Process: Compression



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

lzbench 2017-08-08

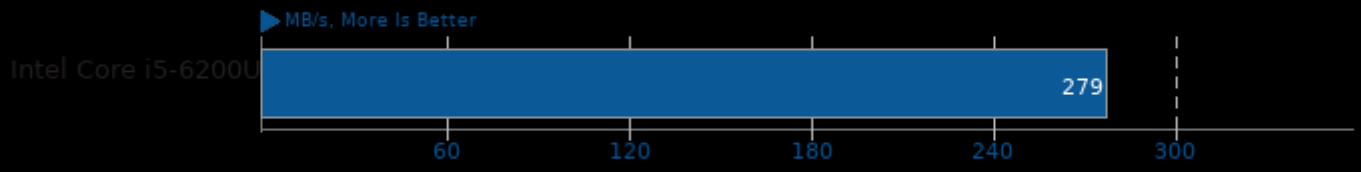
Test: XZ 0 - Process: Decompression



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

lzbench 2017-08-08

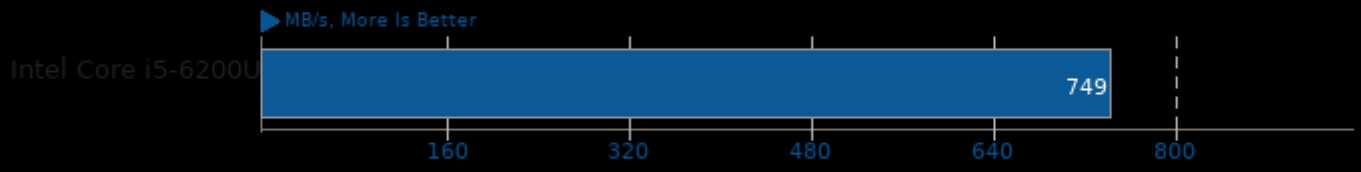
Test: Zstd 1 - Process: Compression



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

lzbench 2017-08-08

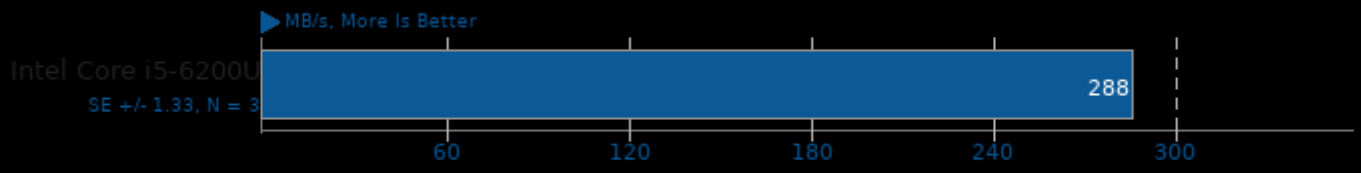
Test: Zstd 1 - Process: Decompression



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

lzbench 2017-08-08

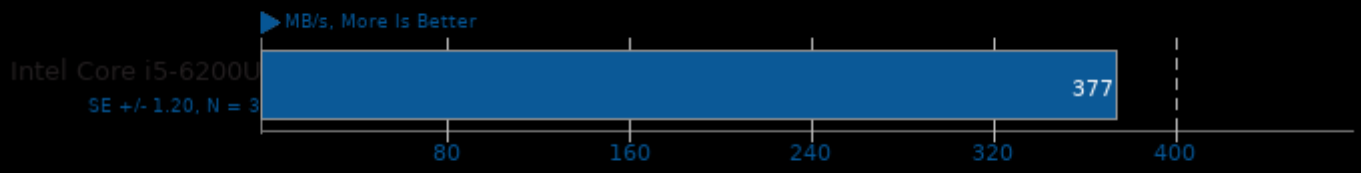
Test: Brotli 0 - Process: Compression



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

lzbench 2017-08-08

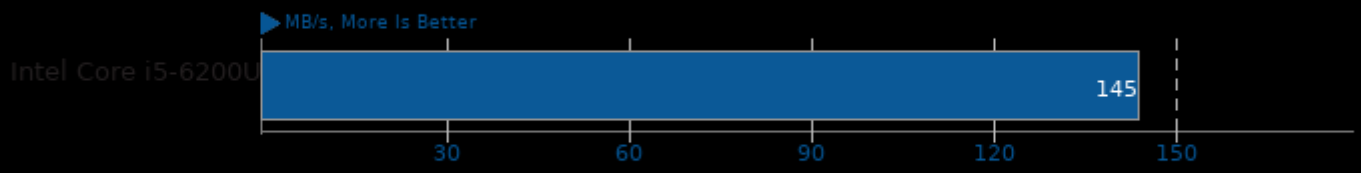
Test: Brotli 0 - Process: Decompression



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

lzbench 2017-08-08

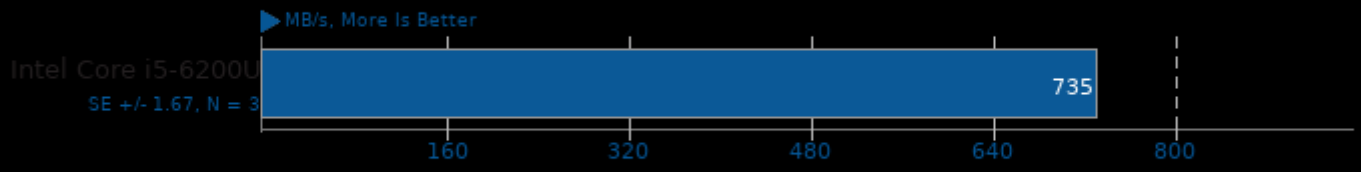
Test: Libdeflate 1 - Process: Compression



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

lzbench 2017-08-08

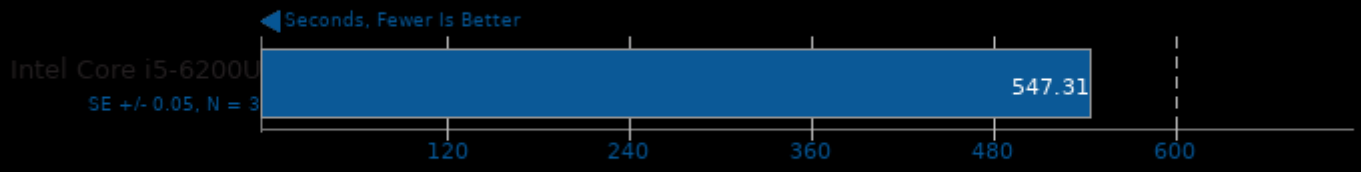
Test: Libdeflate 1 - Process: Decompression



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

m-queens 1.2

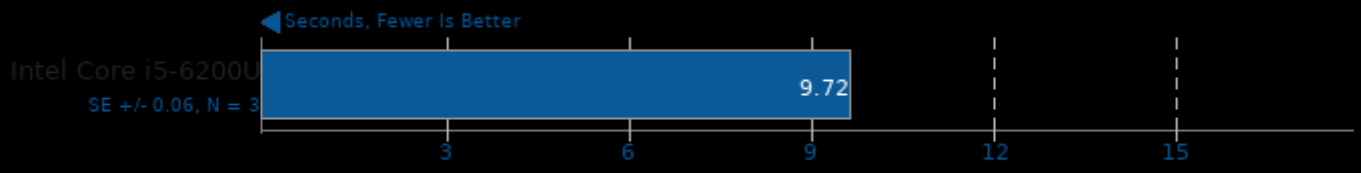
Time To Solve



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

Timed MAFFT Alignment 7.392

Multiple Sequence Alignment



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

MandelbulbGPU 1.0pts1

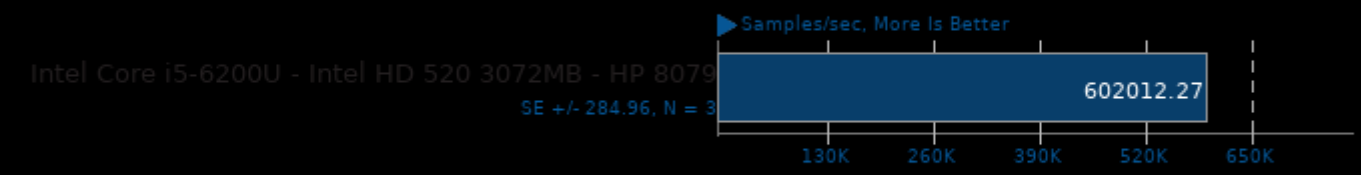
OpenCL Device: CPU



1. (CC) gcc options: -O3 -lm -ftree-vectorize -funroll-loops -lglut -lOpenCL -lGL

MandelbulbGPU 1.0pts1

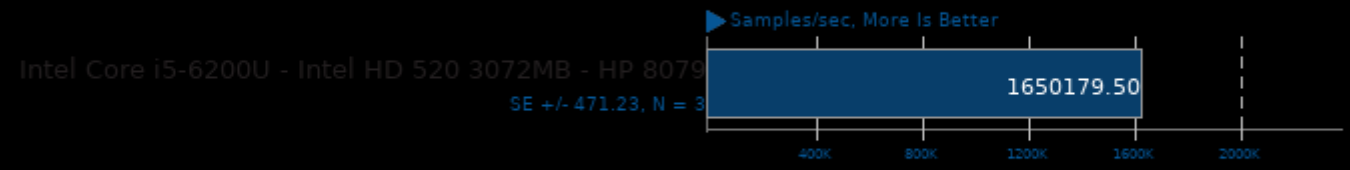
OpenCL Device: CPU+GPU



1. (CC) gcc options: -O3 -lm -ftree-vectorize -funroll-loops -lglut -lOpenCL -lGL

MandelGPU 1.3pts1

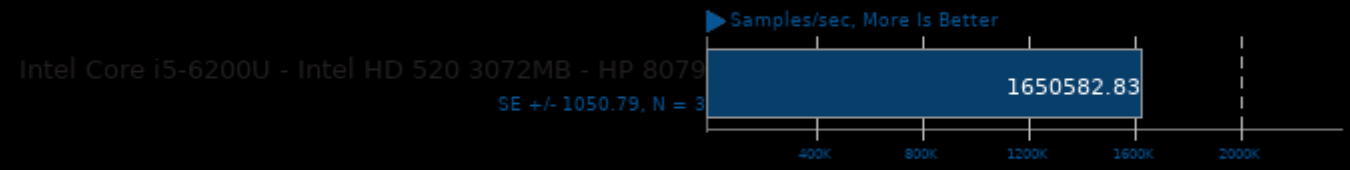
OpenCL Device: CPU



1. (CC) gcc options: -O3 -lm -ftree-vectorize -funroll-loops -lglut -lOpenCL -lGL

MandelGPU 1.3pts1

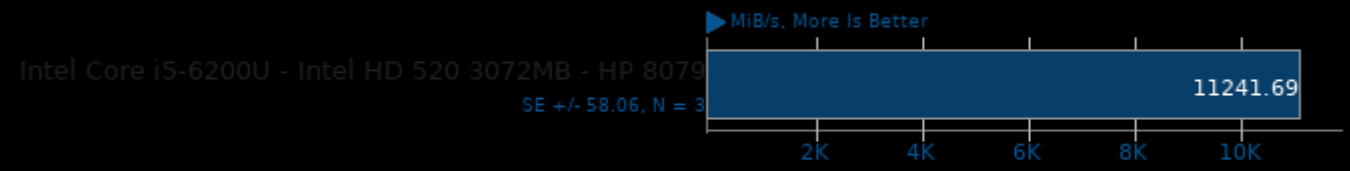
OpenCL Device: CPU+GPU



1. (CC) gcc options: -O3 -lm -ftree-vectorize -funroll-loops -lglut -lOpenCL -lGL

MBW 2018-09-08

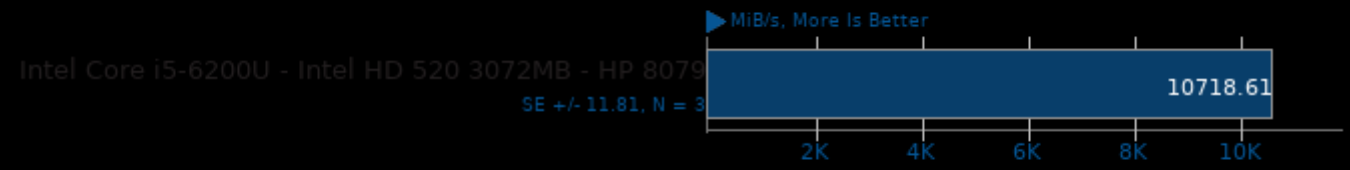
Test: Memory Copy - Array Size: 128 MiB



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

MBW 2018-09-08

Test: Memory Copy - Array Size: 512 MiB



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

MBW 2018-09-08

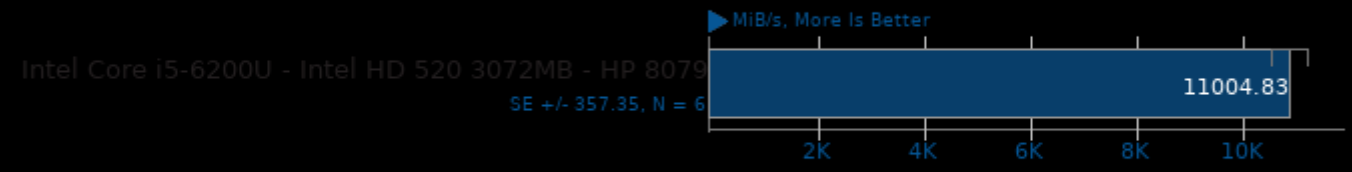
Test: Memory Copy - Array Size: 1024 MiB



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

MBW 2018-09-08

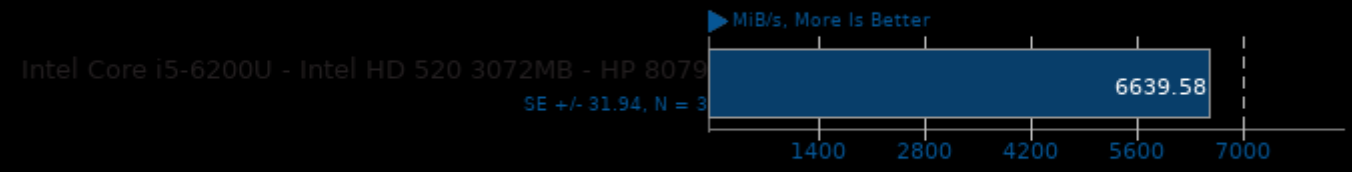
Test: Memory Copy - Array Size: 4096 MiB



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

MBW 2018-09-08

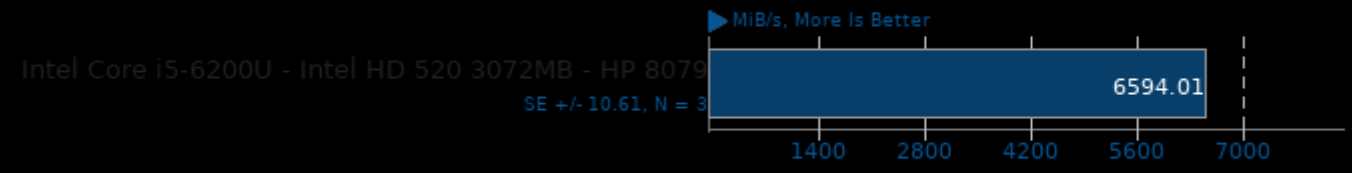
Test: Memory Copy, Fixed Block Size - Array Size: 128 MiB



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

MBW 2018-09-08

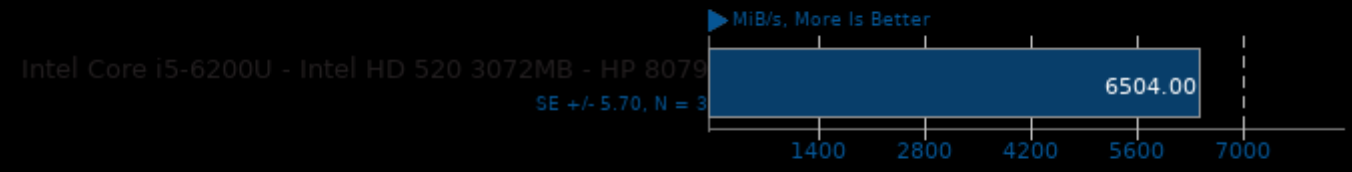
Test: Memory Copy, Fixed Block Size - Array Size: 512 MiB



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

MBW 2018-09-08

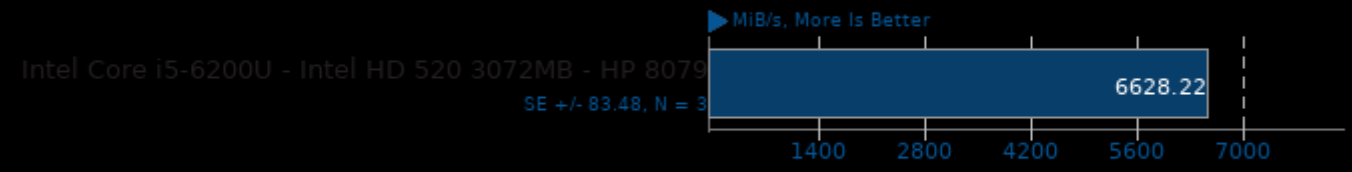
Test: Memory Copy, Fixed Block Size - Array Size: 1024 MiB



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

MBW 2018-09-08

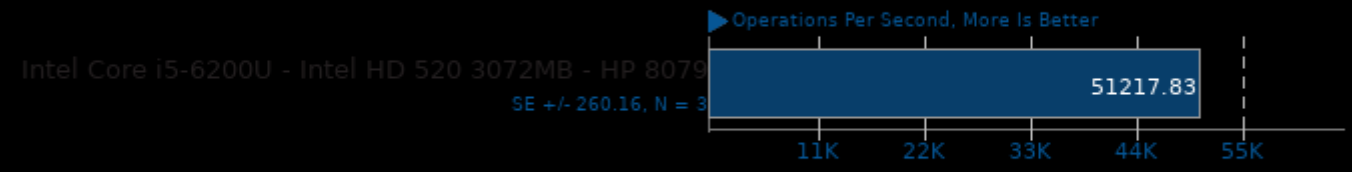
Test: Memory Copy, Fixed Block Size - Array Size: 4096 MiB



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

Memcached mcperf 1.5.10

Method: Add



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

Memcached mcperf 1.5.10

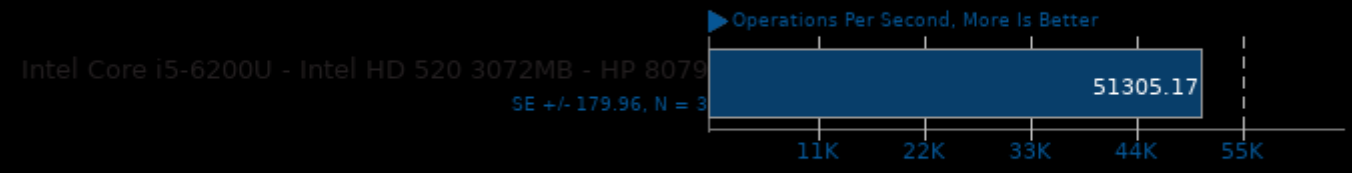
Method: Get



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

Memcached mcperf 1.5.10

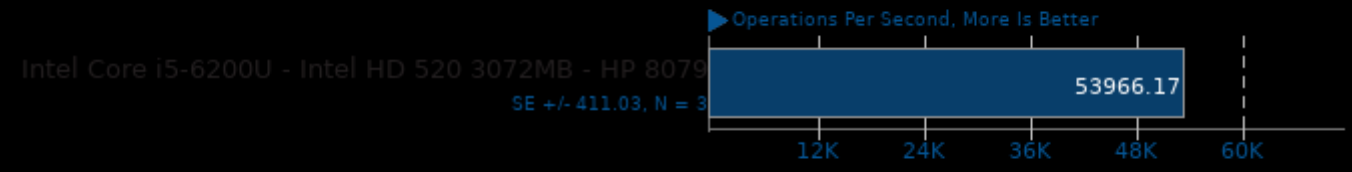
Method: Set



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

Memcached mcperf 1.5.10

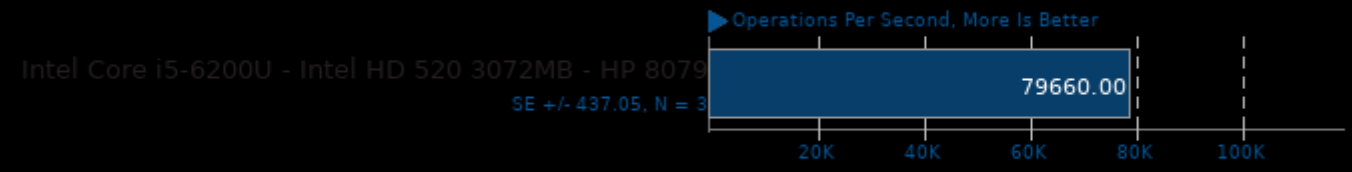
Method: Append



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

Memcached mcperf 1.5.10

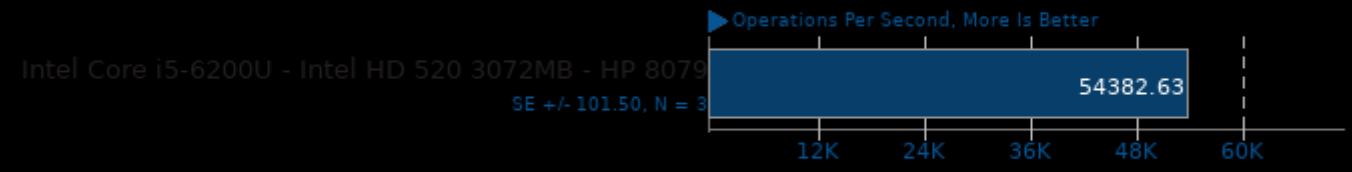
Method: Delete



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

Memcached mcperf 1.5.10

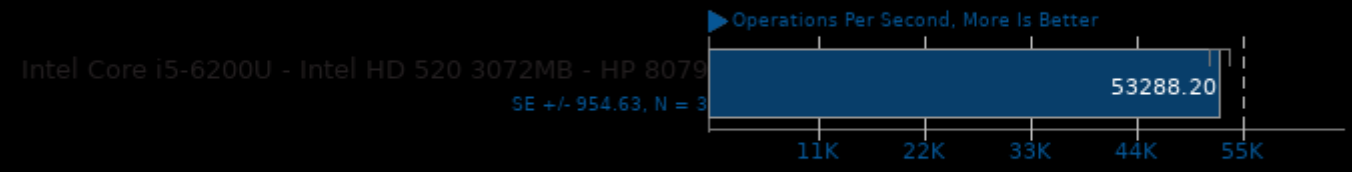
Method: Prepend



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

Memcached mcperf 1.5.10

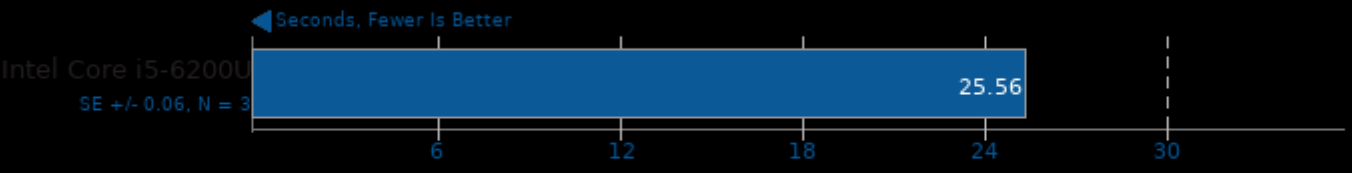
Method: Replace



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

Mencoder 1.3.0

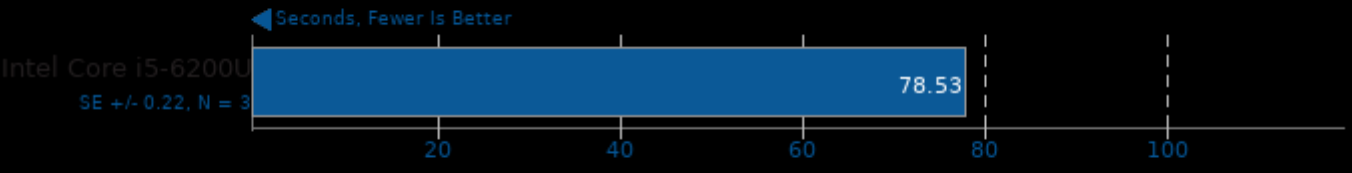
AVI To LAVC



1. (CC) gcc options: -ffast-math -fpie -pie -lrt -lpng -lz -ljpeg -lasound -ldl -lpthread -lsndio -lfreetype -lfontconfig -lbz2 -lmad -lvorbisenc -lvorbis -logg -lt

Minion 1.8

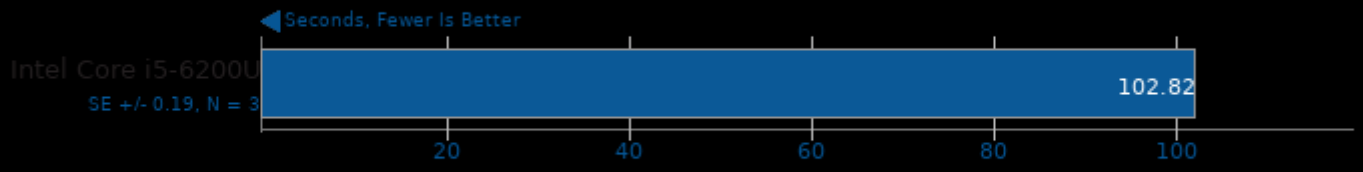
Benchmark: Graceful



1. (CXX) g++ options: -std=gnu++11 -O3 -fomit-frame-pointer -rdynamic

Minion 1.8

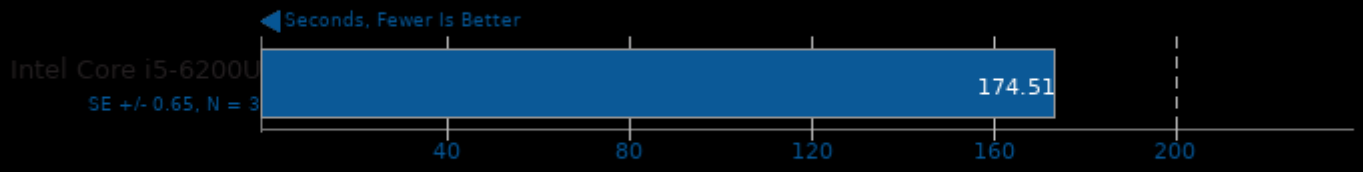
Benchmark: Solitaire



1. (CXX) g++ options: -std=gnu++11 -O3 -fomit-frame-pointer -rdynamic

Minion 1.8

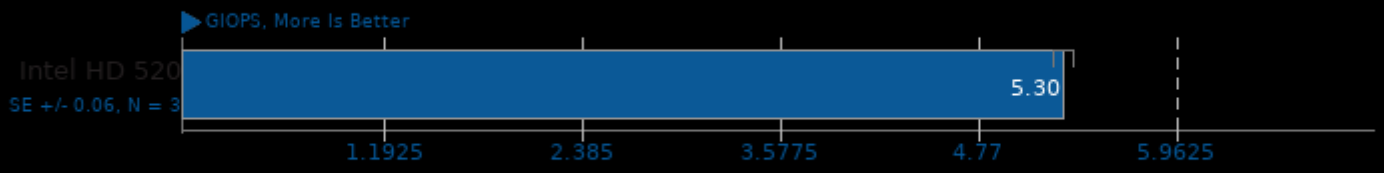
Benchmark: Quasigroup



1. (CXX) g++ options: -std=gnu++11 -O3 -fomit-frame-pointer -rdynamic

Mixbench 2016-06-06

Benchmark: Integer



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

Mixbench 2016-06-06

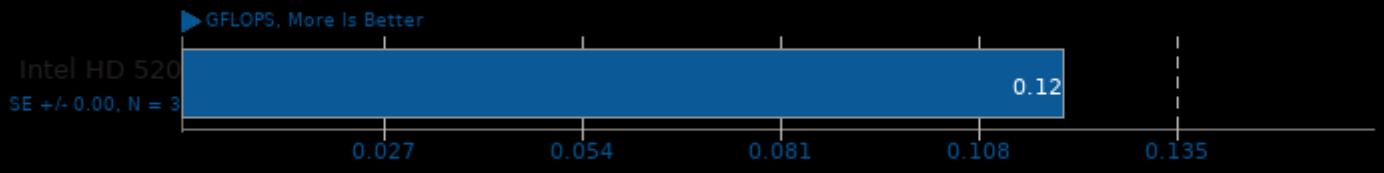
Benchmark: Double Precision



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

Mixbench 2016-06-06

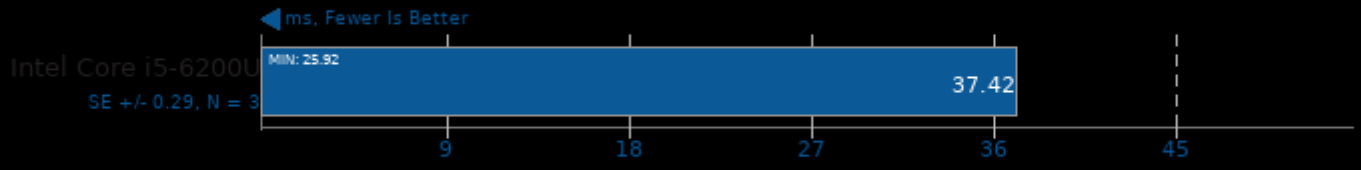
Benchmark: Single Precision



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

MKL-DNN 2019-04-16

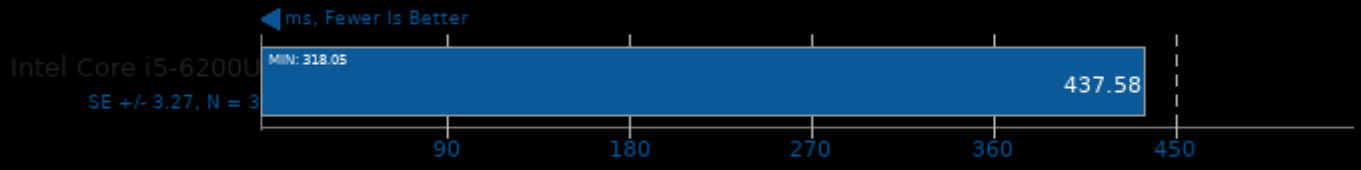
Harness: IP Batch 1D - Data Type: f32



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

MKL-DNN 2019-04-16

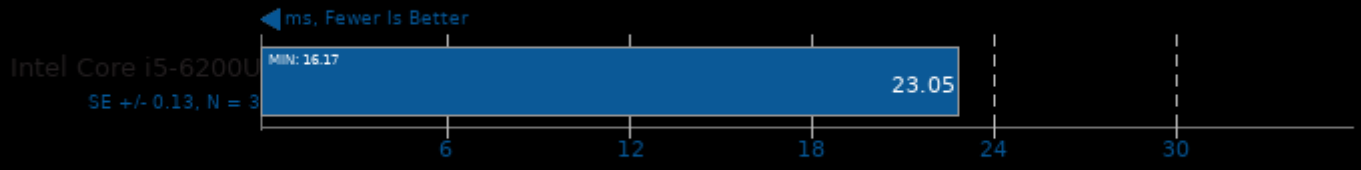
Harness: IP Batch All - Data Type: f32



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

MKL-DNN 2019-04-16

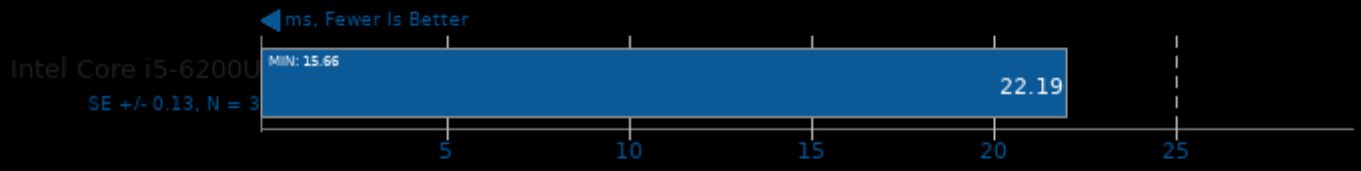
Harness: IP Batch 1D - Data Type: u8s8u8s32



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

MKL-DNN 2019-04-16

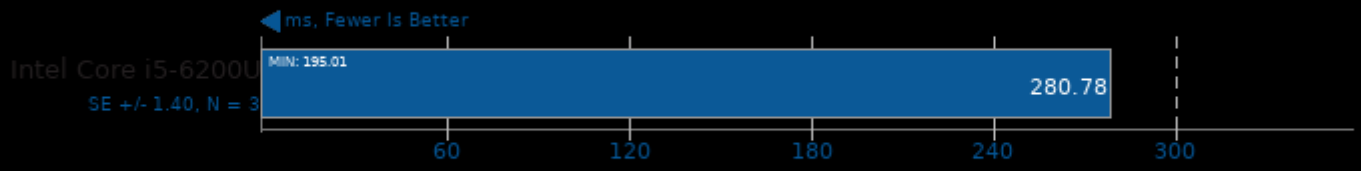
Harness: IP Batch 1D - Data Type: u8s8f32s32



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

MKL-DNN 2019-04-16

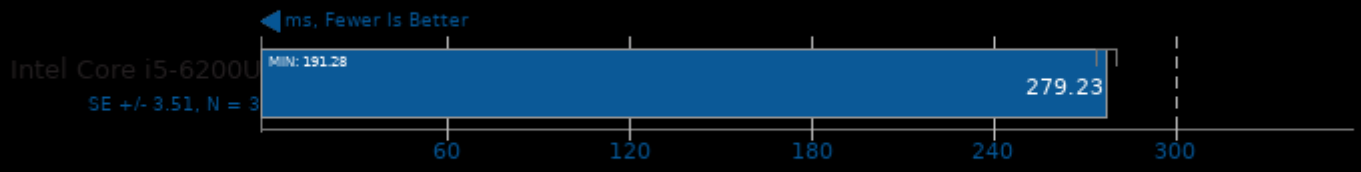
Harness: IP Batch All - Data Type: u8s8u8s32



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

MKL-DNN 2019-04-16

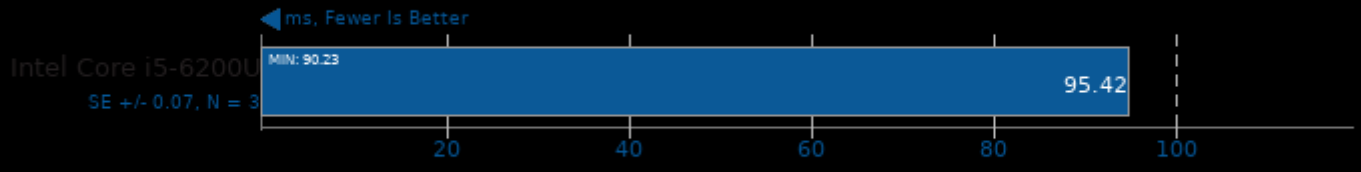
Harness: IP Batch All - Data Type: u8s8f32s32



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

MKL-DNN 2019-04-16

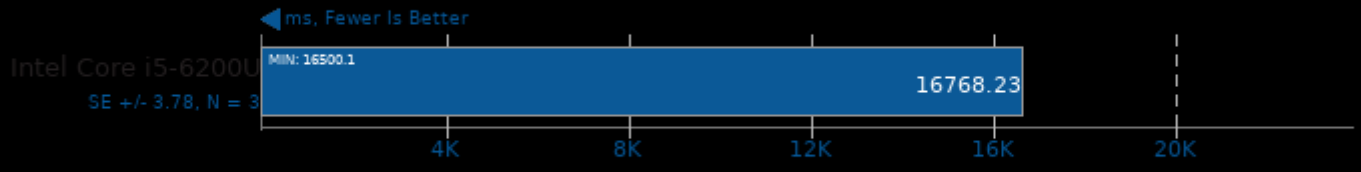
Harness: Convolution Batch conv_3d - Data Type: f32



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

MKL-DNN 2019-04-16

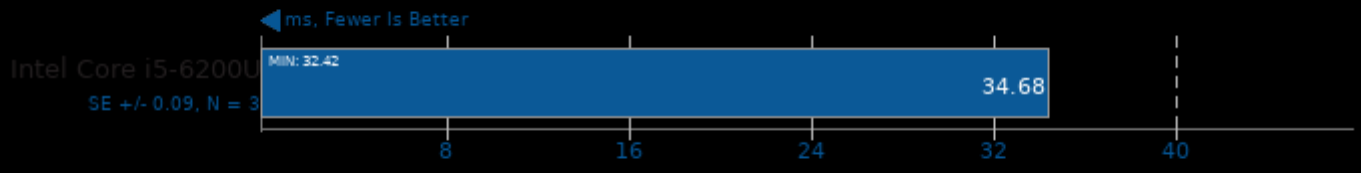
Harness: Convolution Batch conv_all - Data Type: f32



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

MKL-DNN 2019-04-16

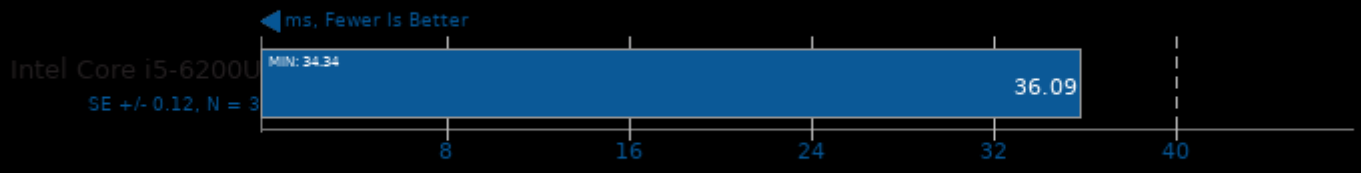
Harness: Deconvolution Batch deconv_1d - Data Type: f32



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

MKL-DNN 2019-04-16

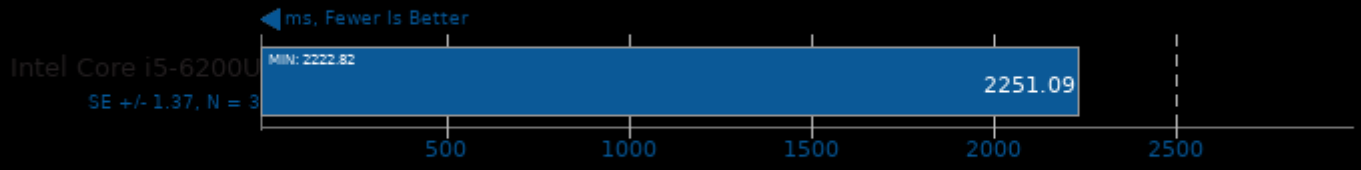
Harness: Deconvolution Batch deconv_3d - Data Type: f32



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

MKL-DNN 2019-04-16

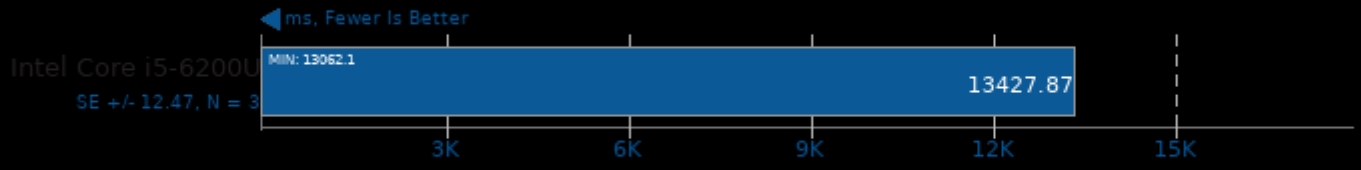
Harness: Convolution Batch conv_alexnet - Data Type: f32



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

MKL-DNN 2019-04-16

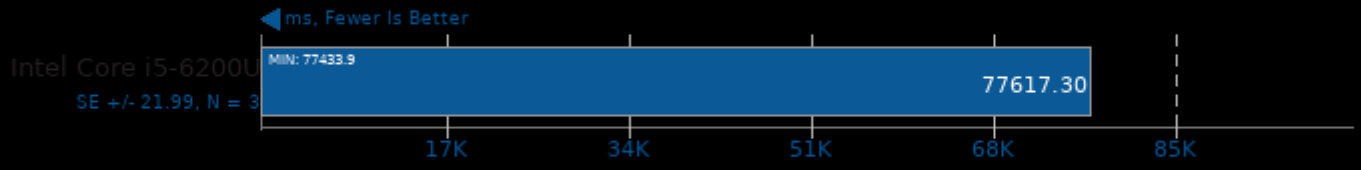
Harness: Deconvolution Batch deconv_all - Data Type: f32



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

MKL-DNN 2019-04-16

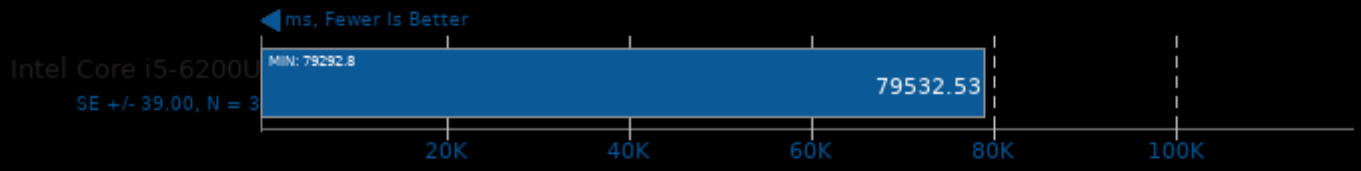
Harness: Convolution Batch conv_3d - Data Type: u8s8u8s32



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

MKL-DNN 2019-04-16

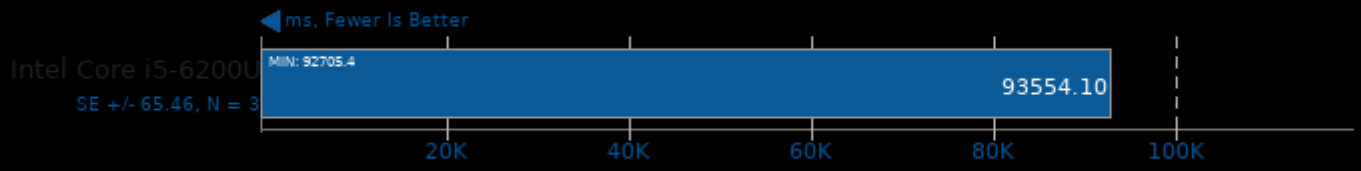
Harness: Convolution Batch conv_3d - Data Type: u8s8f32s32



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

MKL-DNN 2019-04-16

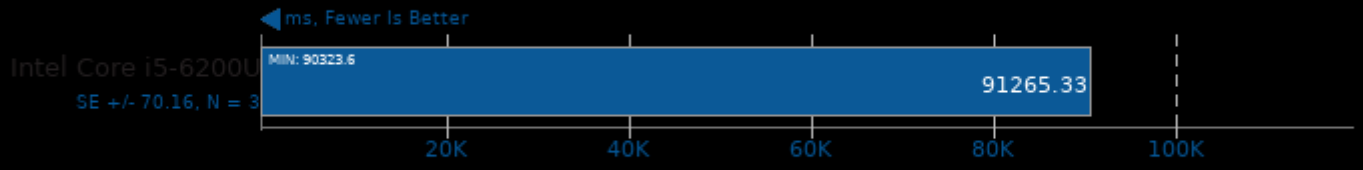
Harness: Convolution Batch conv_all - Data Type: u8s8u8s32



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

MKL-DNN 2019-04-16

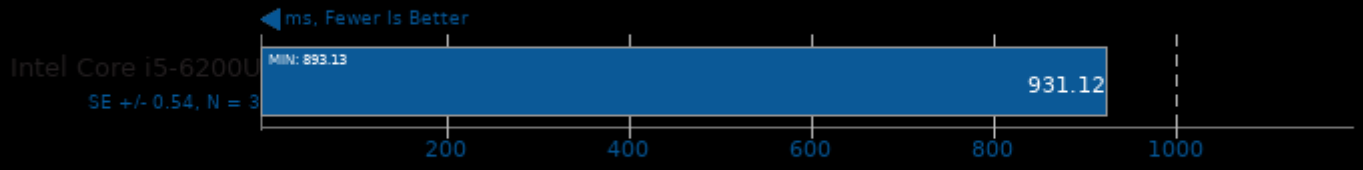
Harness: Convolution Batch conv_all - Data Type: u8s8f32s32



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

MKL-DNN 2019-04-16

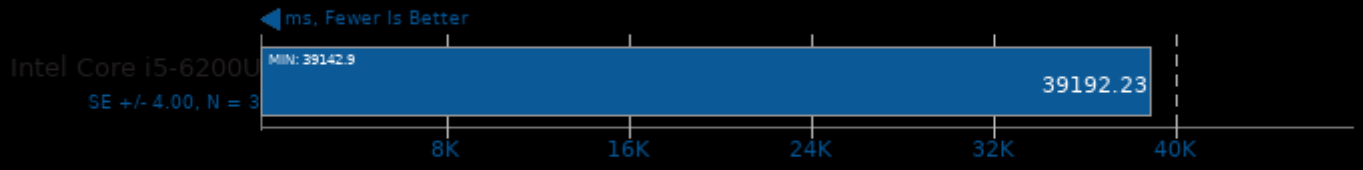
Harness: Convolution Batch conv_googlenet_v3 - Data Type: f32



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

MKL-DNN 2019-04-16

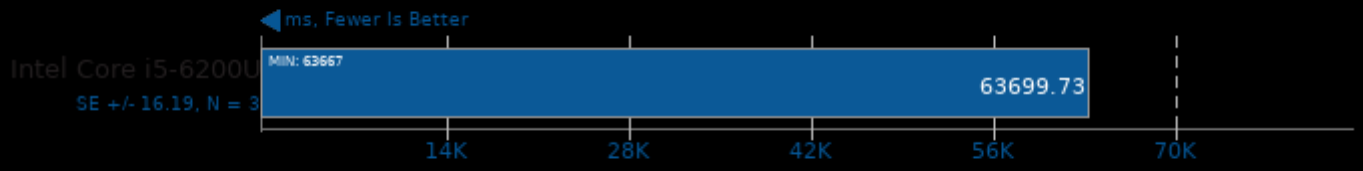
Harness: Deconvolution Batch deconv_1d - Data Type: u8s8u8s32



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

MKL-DNN 2019-04-16

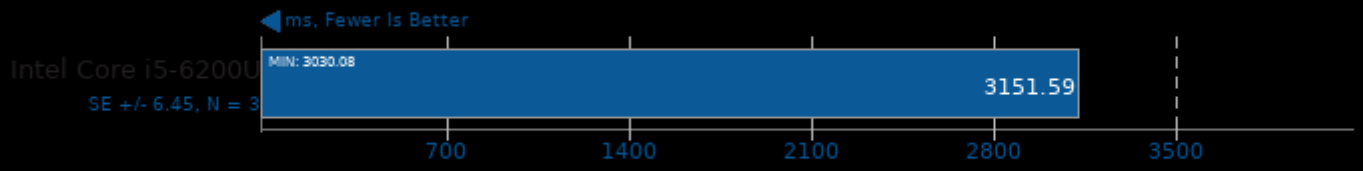
Harness: Deconvolution Batch deconv_3d - Data Type: u8s8u8s32



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

MKL-DNN 2019-04-16

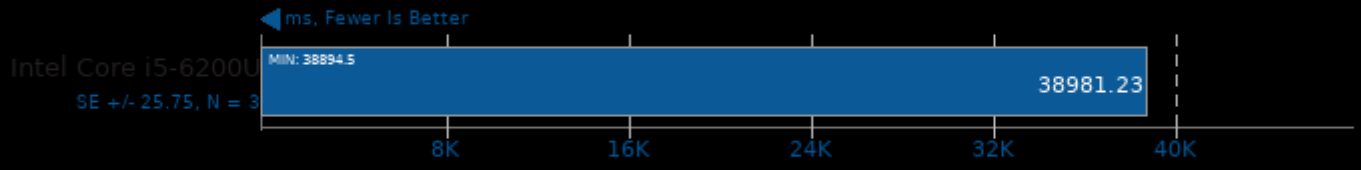
Harness: Convolution Batch conv_alexnet - Data Type: u8s8u8s32



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

MKL-DNN 2019-04-16

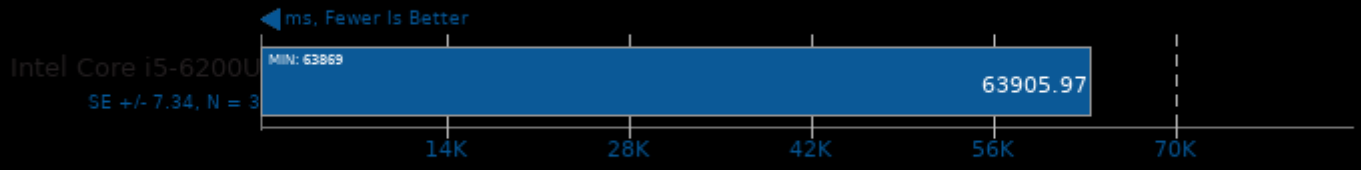
Harness: Deconvolution Batch deconv_1d - Data Type: u8s8f32s32



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

MKL-DNN 2019-04-16

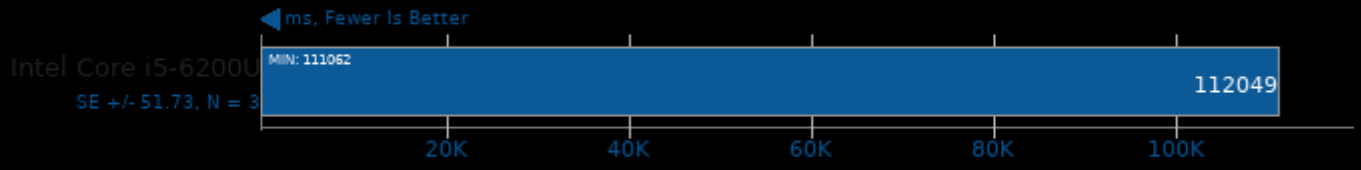
Harness: Deconvolution Batch deconv_3d - Data Type: u8s8f32s32



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

MKL-DNN 2019-04-16

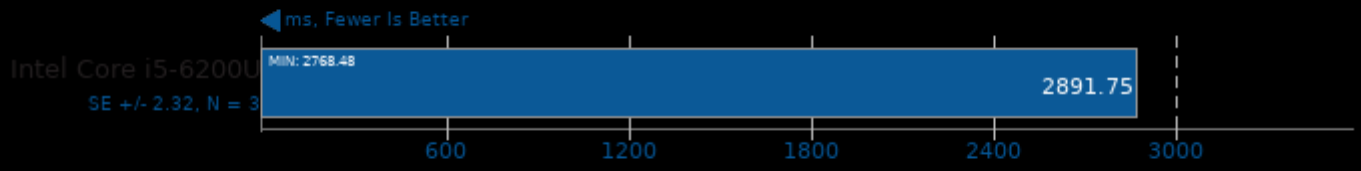
Harness: Deconvolution Batch deconv_all - Data Type: u8s8u8s32



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

MKL-DNN 2019-04-16

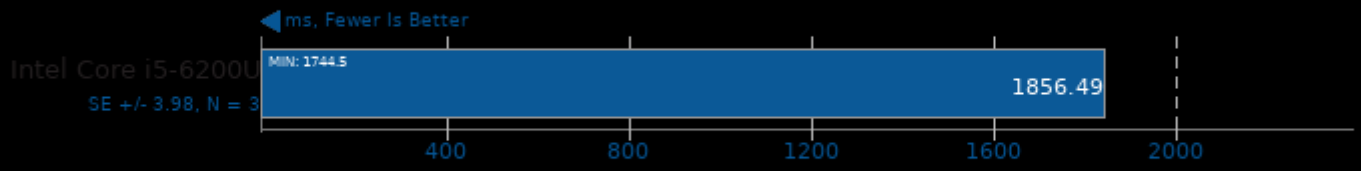
Harness: Convolution Batch conv_alexnet - Data Type: u8s8f32s32



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

MKL-DNN 2019-04-16

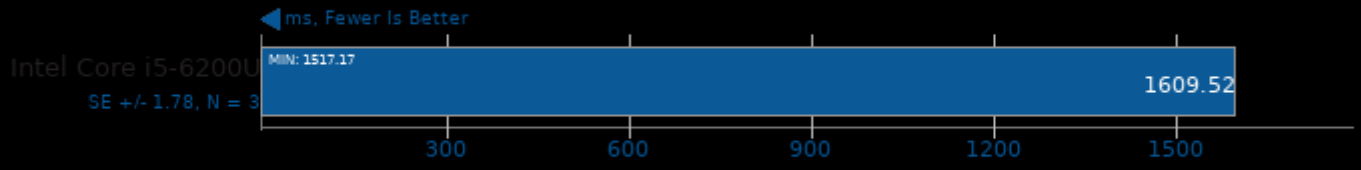
Harness: Convolution Batch conv_googlenet_v3 - Data Type: u8s8u8s32



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

MKL-DNN 2019-04-16

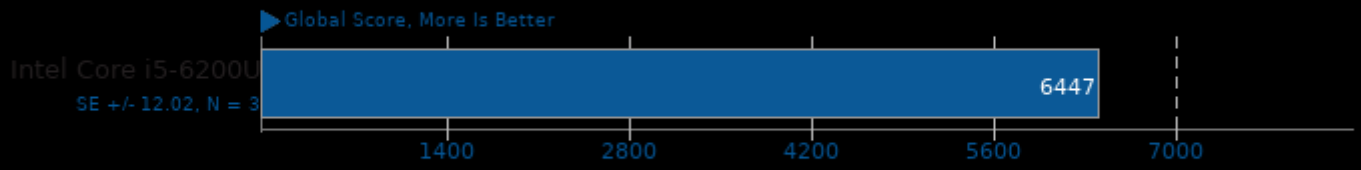
Harness: Convolution Batch conv_googlenet_v3 - Data Type: u8s8f32s32



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

GNU MPC 1.1.0

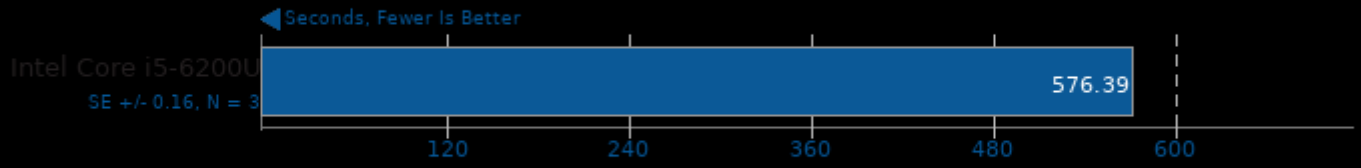
Multi-Precision Benchmark



1. (CC) gcc options: -lm -O2 -pedantic -fomit-frame-pointer -m64 -mtune=skylake -march=broadwell -MT -MD -MP -MF

Timed MrBayes Analysis 3.1.2

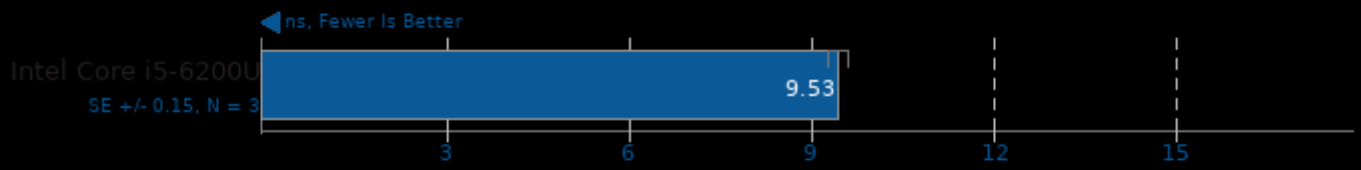
Primate Phylogeny Analysis



1. (CC) gcc options: -O3 -msse -mfpmath=sse -march=native -lm -pthread -lmpi

Multichase Pointer Chaser

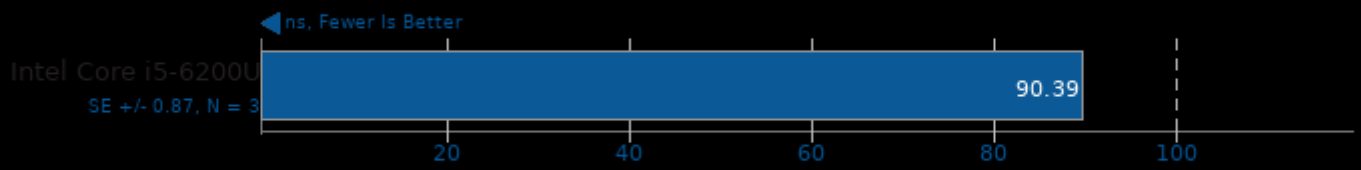
Test: 4MB Array, 64 Byte Stride



1. (CC) gcc options: -O2 -static -pthread -lrt

Multichase Pointer Chaser

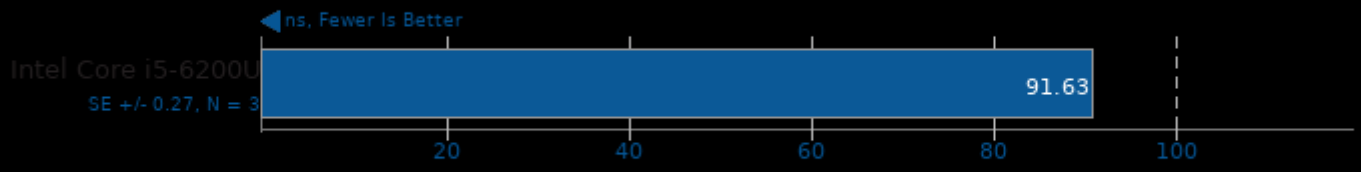
Test: 1GB Array, 256 Byte Stride



1. (CC) gcc options: -O2 -static -pthread -lrt

Multichase Pointer Chaser

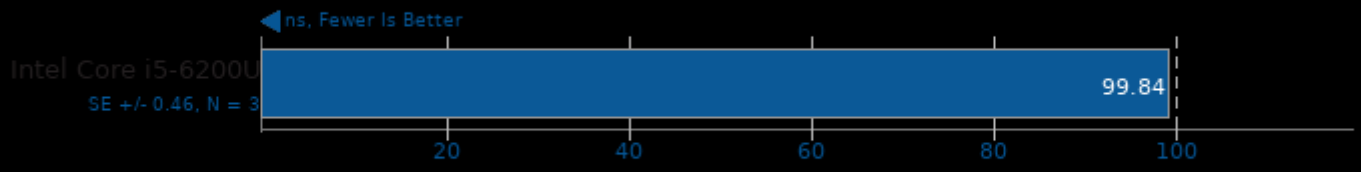
Test: 256MB Array, 256 Byte Stride



1. (CC) gcc options: -O2 -static -pthread -lrt

Multichase Pointer Chaser

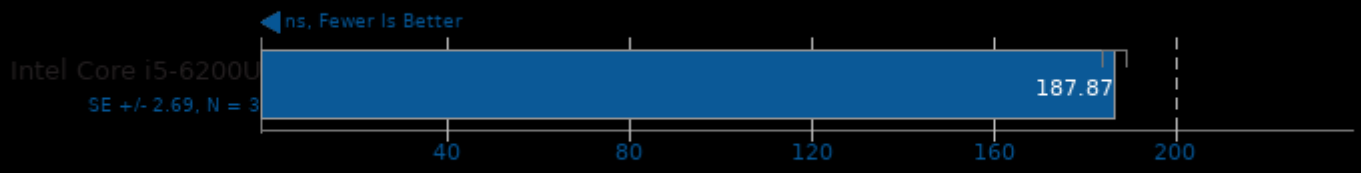
Test: 1GB Array, 256 Byte Stride, 2 Threads



1. (CC) gcc options: -O2 -static -pthread -lrt

Multichase Pointer Chaser

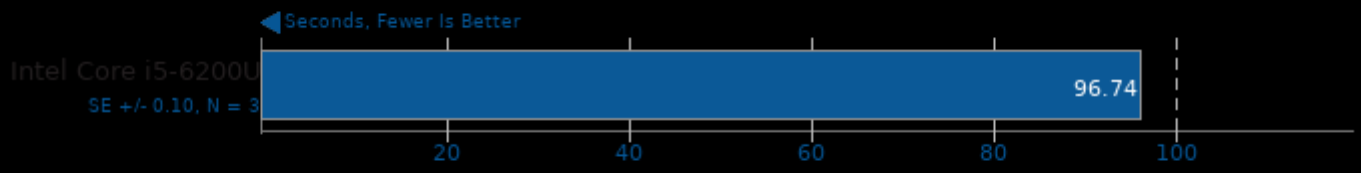
Test: 1GB Array, 256 Byte Stride, 4 Threads



1. (CC) gcc options: -O2 -static -pthread -lrt

N-Queens 1.0

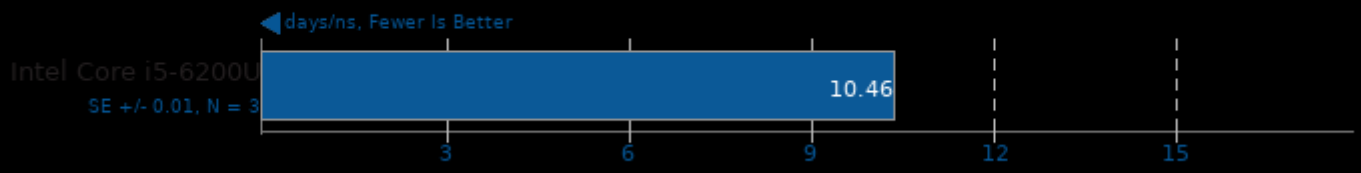
Elapsed Time



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

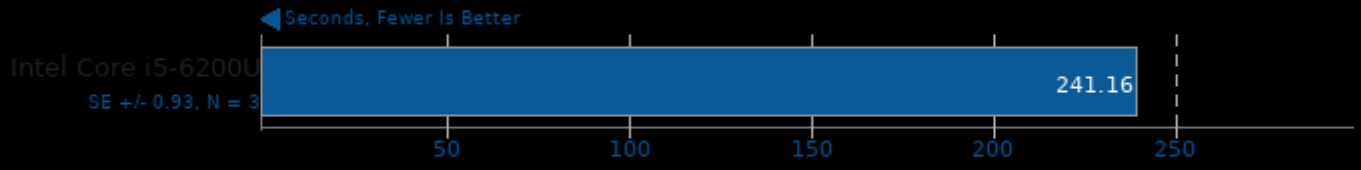
NAMD 2.13b1

ATPase Simulation - 327,506 Atoms



Open FMM Nero2D 2.0.2

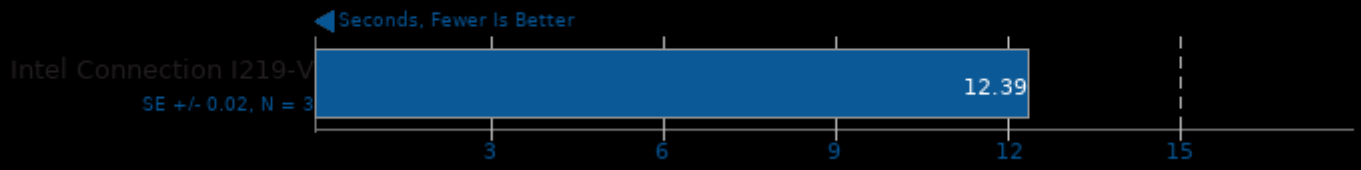
Total Time



1. (CXX) g++ options: -O2 -lfftw3 -llapack -lf77blas -latlas -lgfortran -lquadmath -lm -pthread -lmpi_cxx -lmpi

Loopback TCP Network Performance

Time To Transfer 10GB Via Loopback



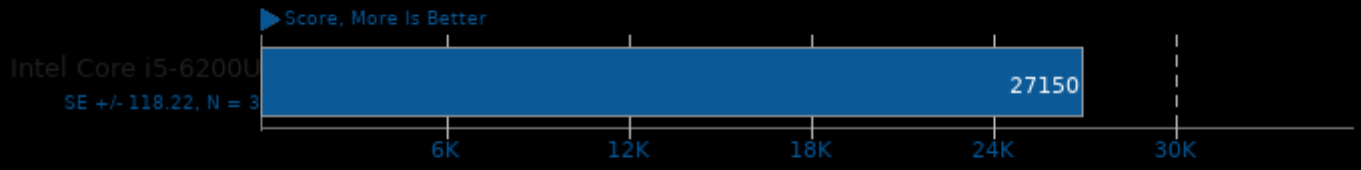
NGINX Benchmark 1.9.9

Static Web Page Serving



1. (CC) gcc options: -lpthread -lcrypt -lcrypto -lz -O3 -march=native

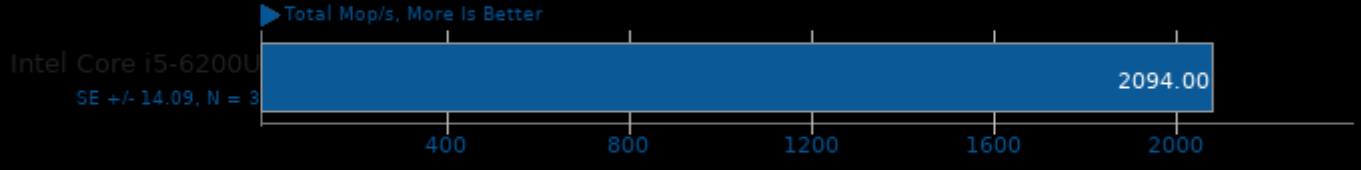
Node.js Octane Benchmark



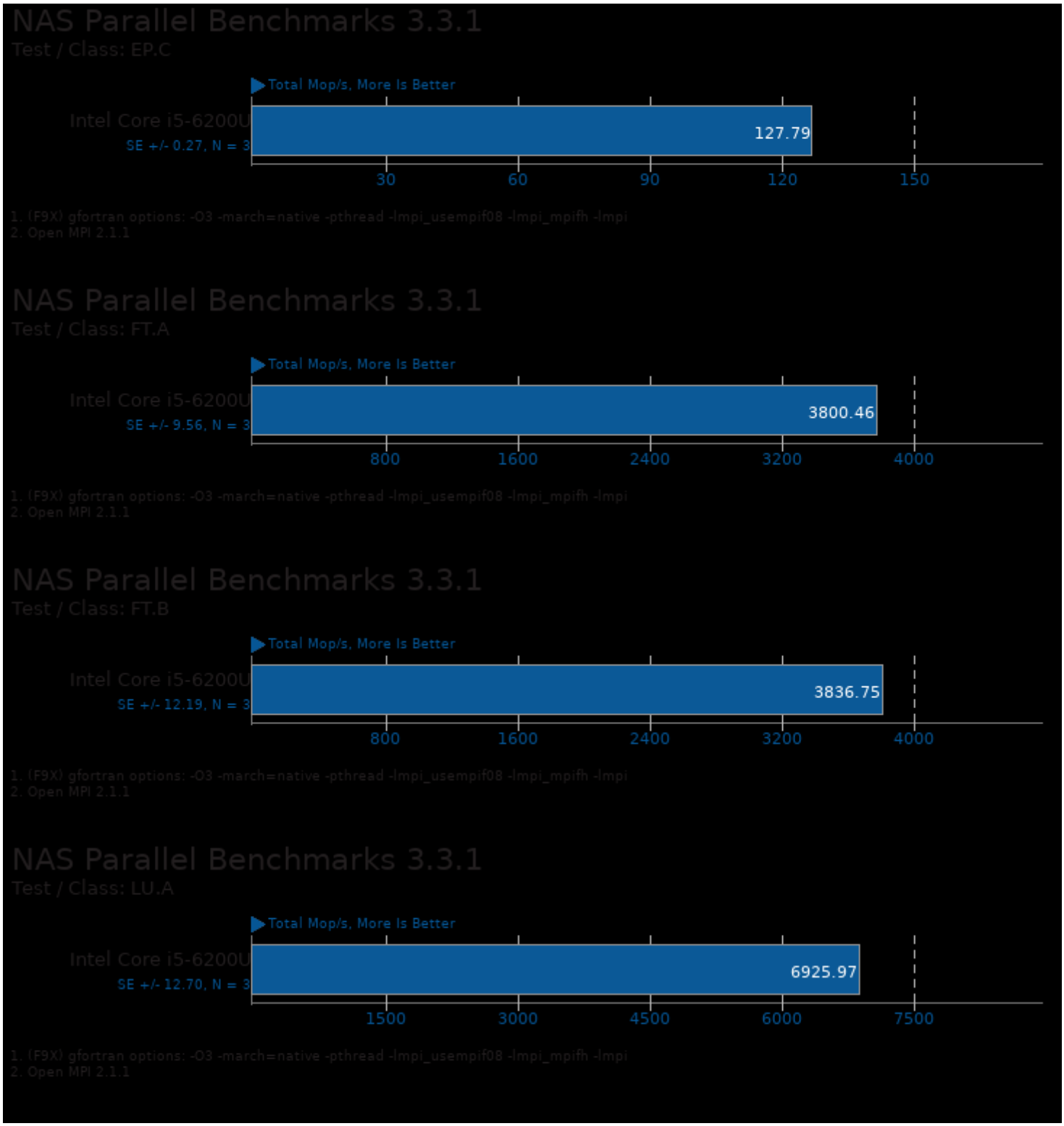
1. Nodejs
v8.10.0

NAS Parallel Benchmarks 3.3.1

Test / Class: BT.A

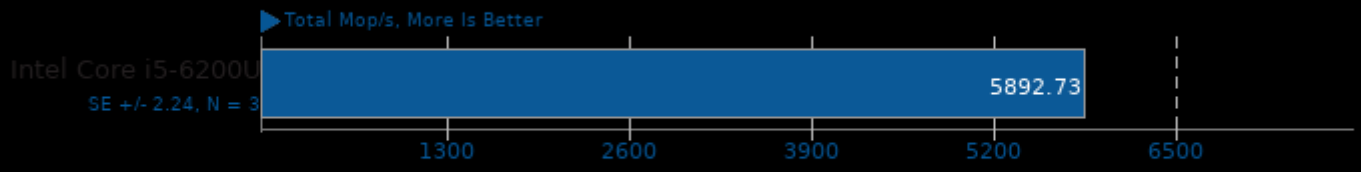


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Open MPI 2.1.1


NAS Parallel Benchmarks 3.3.1
Test / Class: EP.C
Total Mop/s, More Is Better
Intel Core i5-6200U
SE +/- 0.27, N = 3
127.79
30
60
90
120
150
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Open MPI 2.1.1
NAS Parallel Benchmarks 3.3.1
Test / Class: FT.A
Total Mop/s, More Is Better
Intel Core i5-6200U
SE +/- 9.56, N = 3
3800.46
800
1600
2400
3200
4000
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Open MPI 2.1.1
NAS Parallel Benchmarks 3.3.1
Test / Class: FT.B
Total Mop/s, More Is Better
Intel Core i5-6200U
SE +/- 12.19, N = 3
3836.75
800
1600
2400
3200
4000
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Open MPI 2.1.1
NAS Parallel Benchmarks 3.3.1
Test / Class: LU.A
Total Mop/s, More Is Better
Intel Core i5-6200U
SE +/- 12.70, N = 3
6925.97
1500
3000
4500
6000
7500
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Open MPI 2.1.1

NAS Parallel Benchmarks 3.3.1

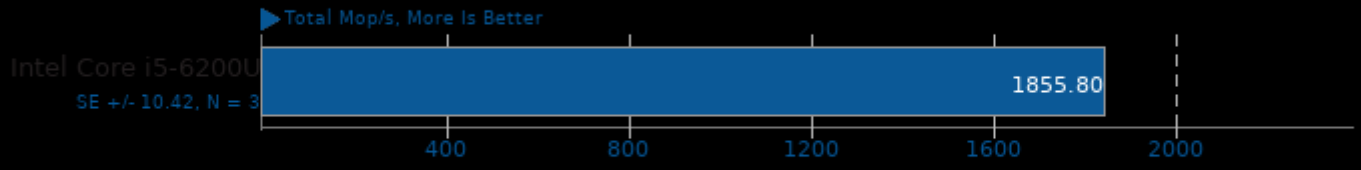
Test / Class: LU.C



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

NAS Parallel Benchmarks 3.3.1

Test / Class: SP.A



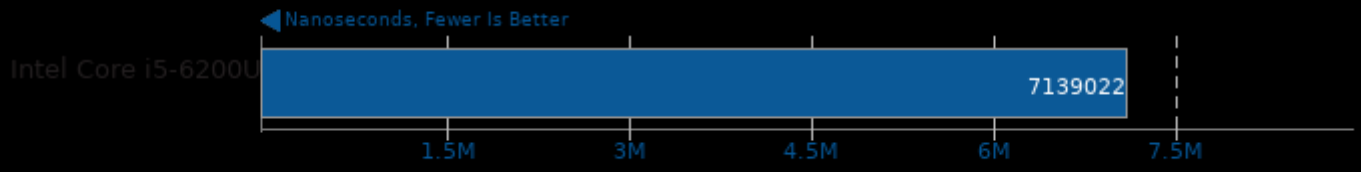
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Open MPI 2.1.1

Numenta Anomaly Benchmark 2018-11-09

Time To Completion

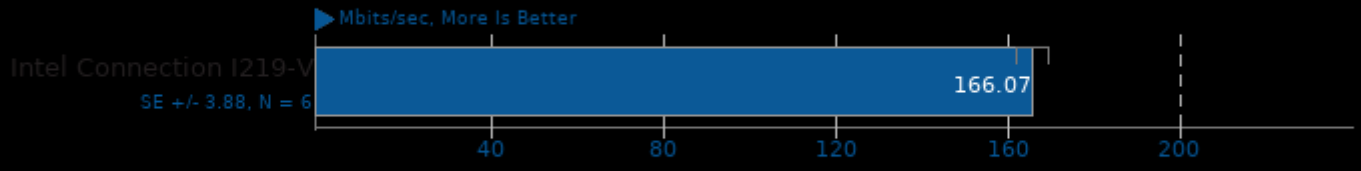


Numpy Benchmark



Nuttcp 8.1.4

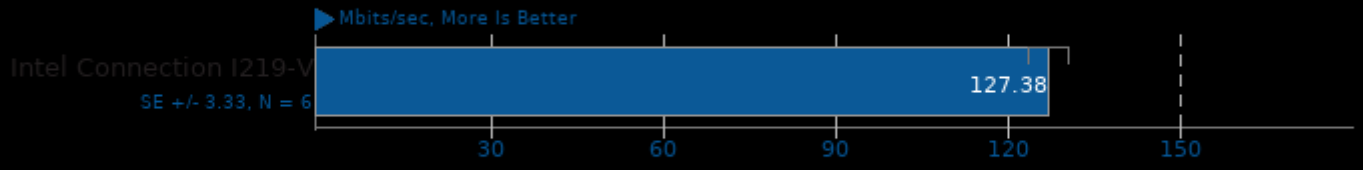
Test: 10G+ UDP - Server Address: 5.20.0.41



1. (CC) gcc options: -O3

Nuttcp 8.1.4

Test: TCP Transfer - Default - Server Address: 5.20.0.41



1. (CC) gcc options: -O3

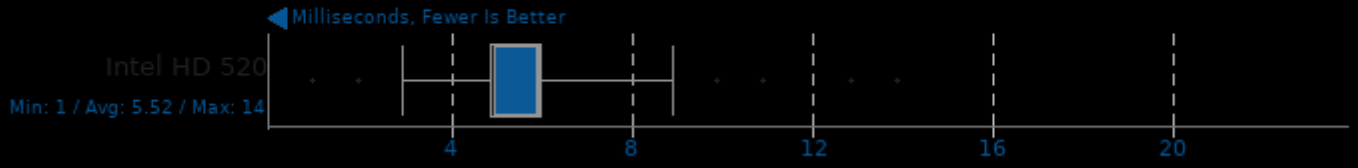
OpenArena 0.8.8

Resolution: 800 x 600



OpenArena 0.8.8

Resolution: 800 x 600 - Total Frame Time



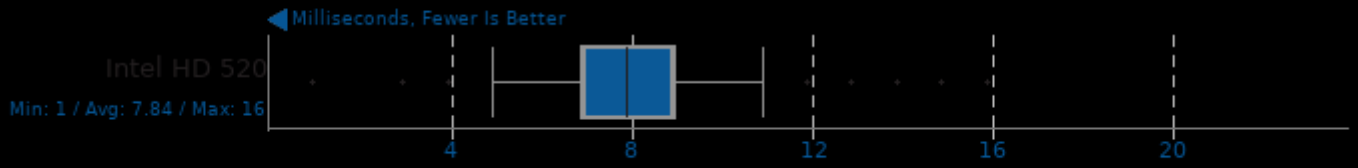
OpenArena 0.8.8

Resolution: 1024 x 768



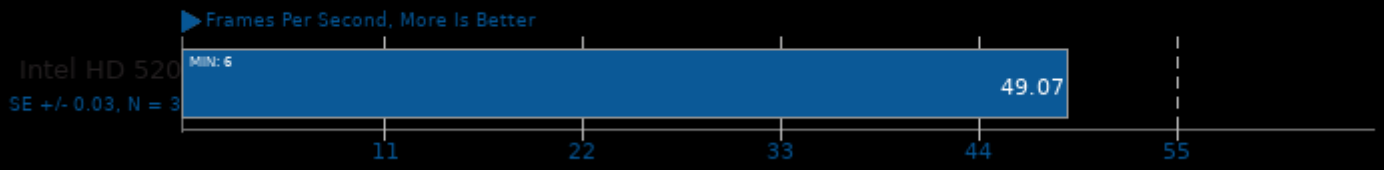
OpenArena 0.8.8

Resolution: 1024 x 768 - Total Frame Time



OpenArena 0.8.8

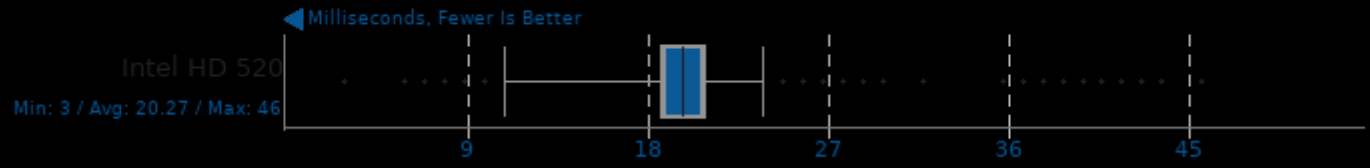
Resolution: 1920 x 1080



intel-core-i5-6200u-280ghz

OpenArena 0.8.8

Resolution: 1920 x 1080 - Total Frame Time



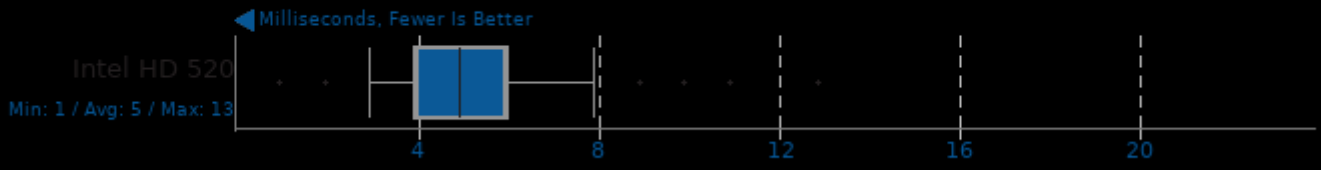
OpenArena 0.8.8

Resolution: 2560 x 1440



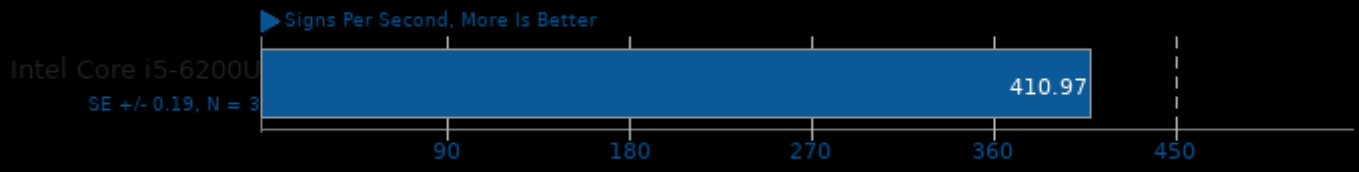
OpenArena 0.8.8

Resolution: 2560 x 1440 - Total Frame Time



OpenSSL 1.1.1

RSA 4096-bit Performance



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

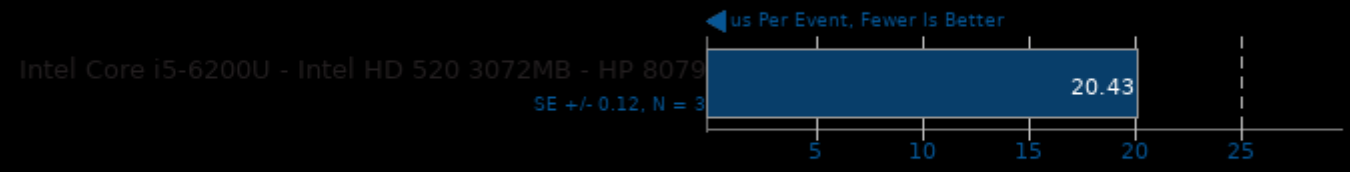
Optcarrot

Optimized Benchmark



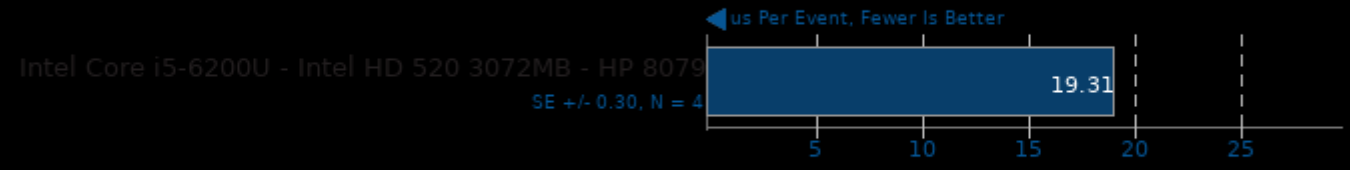
1. ruby 2.5.1p57 (2018-03-29 revision 63029) [x86_64-linux-gnu]

OSBench
Test: Create Files



1. (CC) gcc options: -lm

OSBench
Test: Create Threads



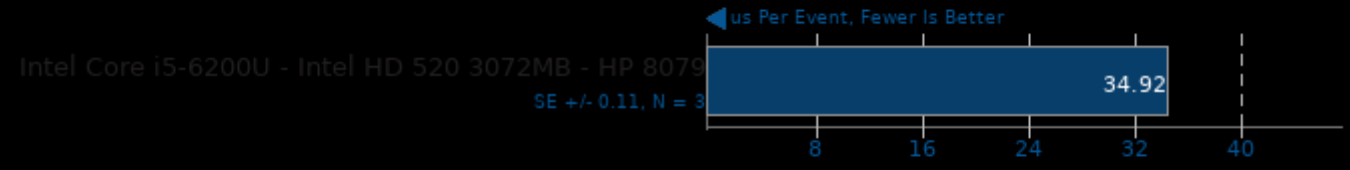
1. (CC) gcc options: -lm

OSBench
Test: Launch Programs



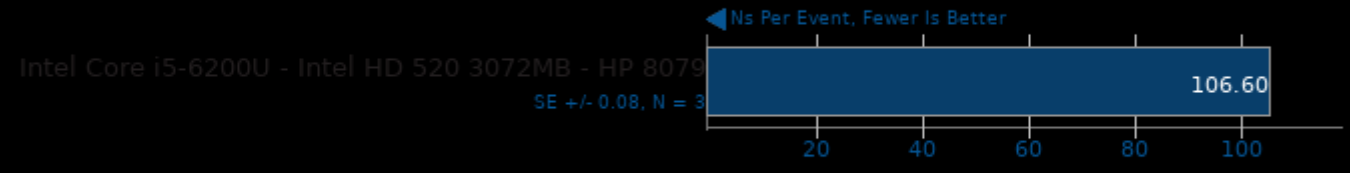
1. (CC) gcc options: -lm

OSBench
Test: Create Processes

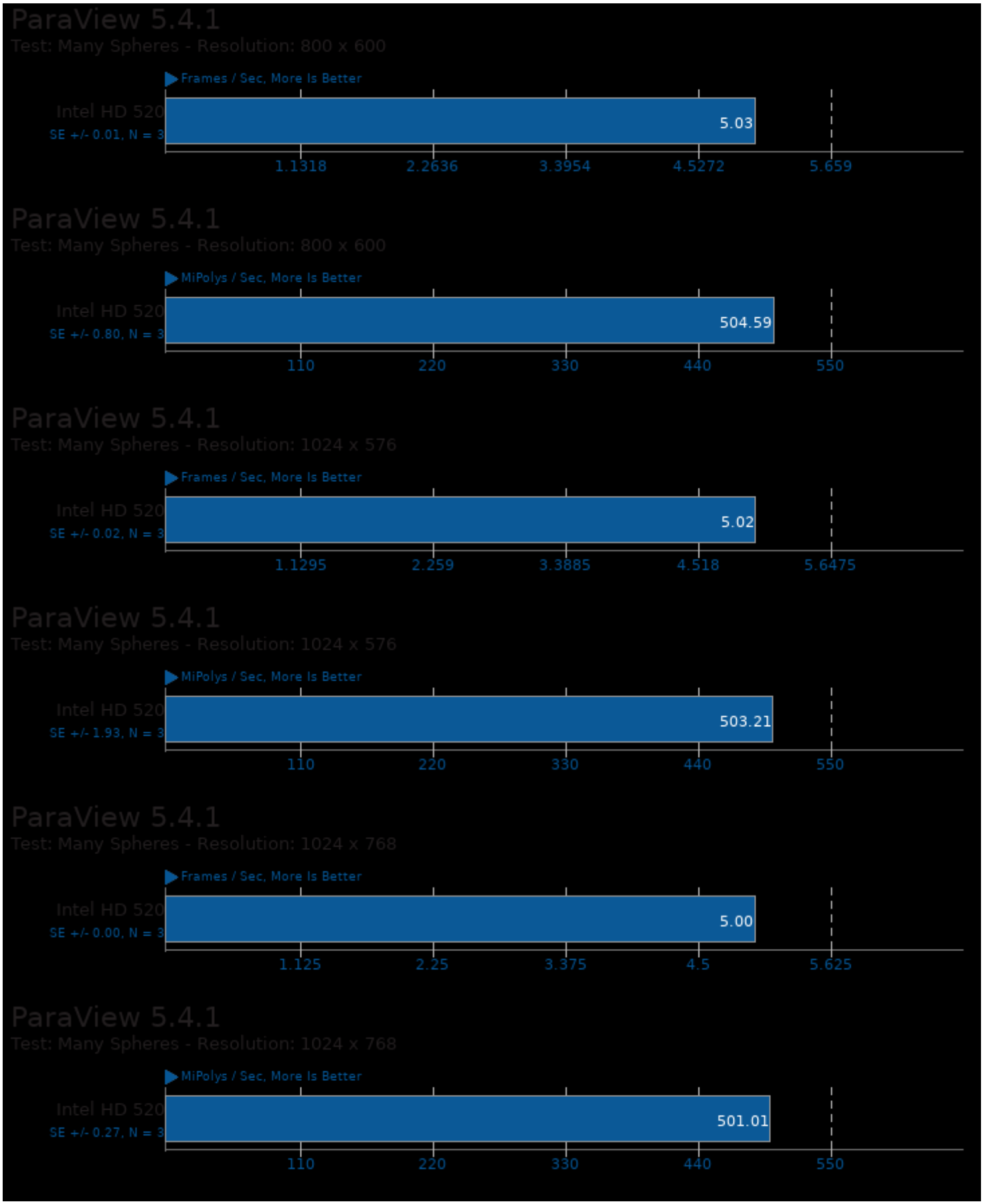


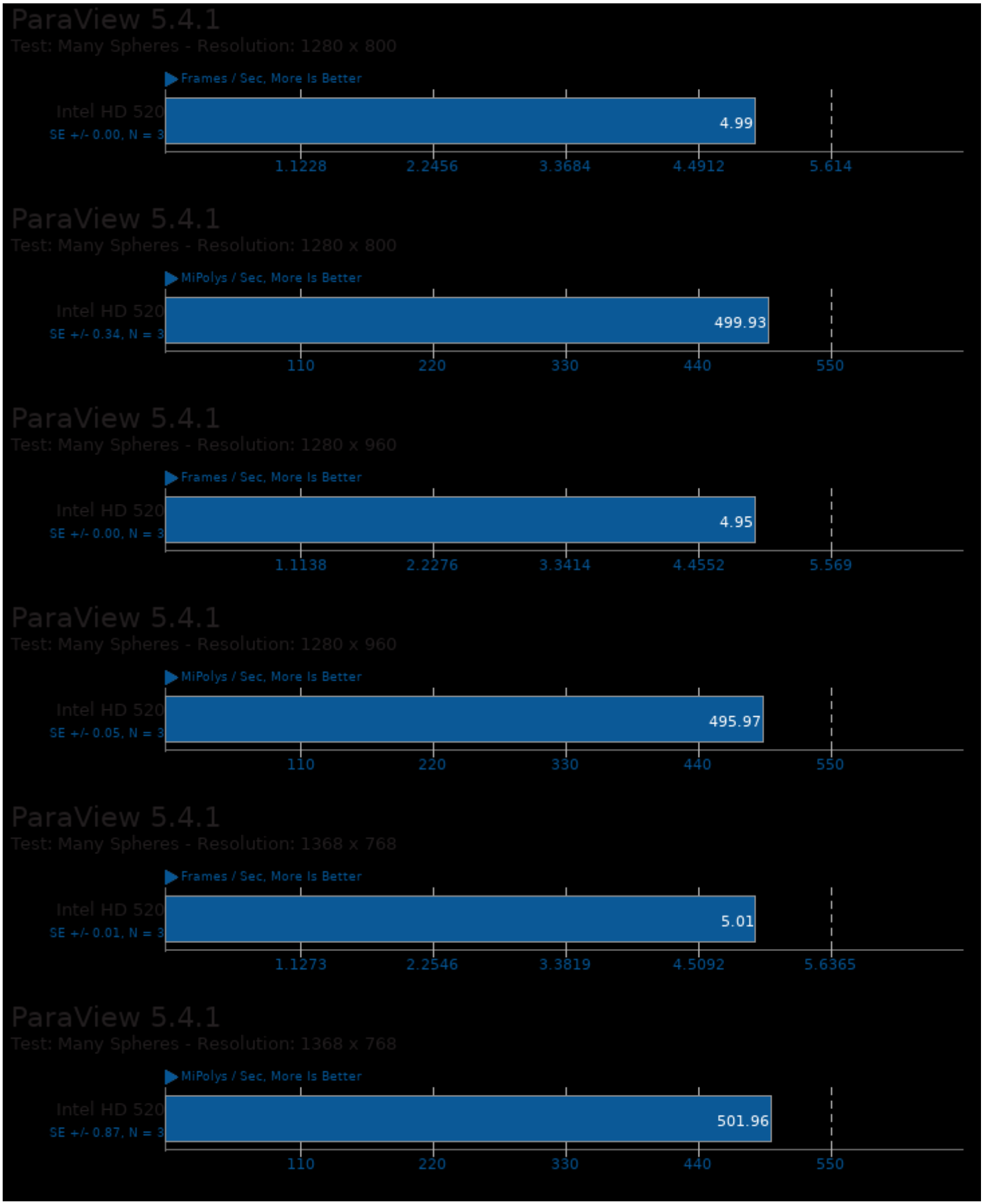
1. (CC) gcc options: -lm

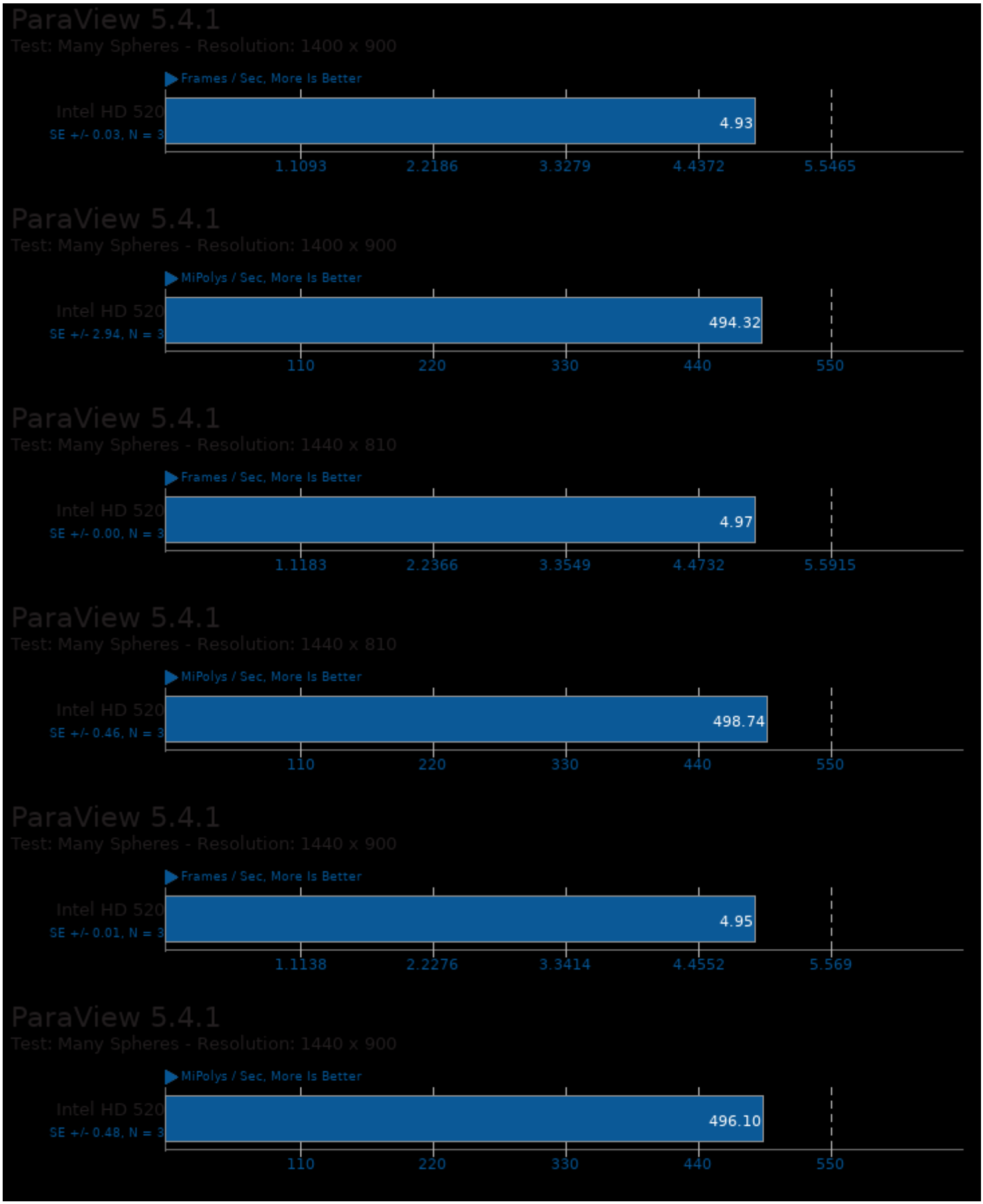
OSBench
Test: Memory Allocations

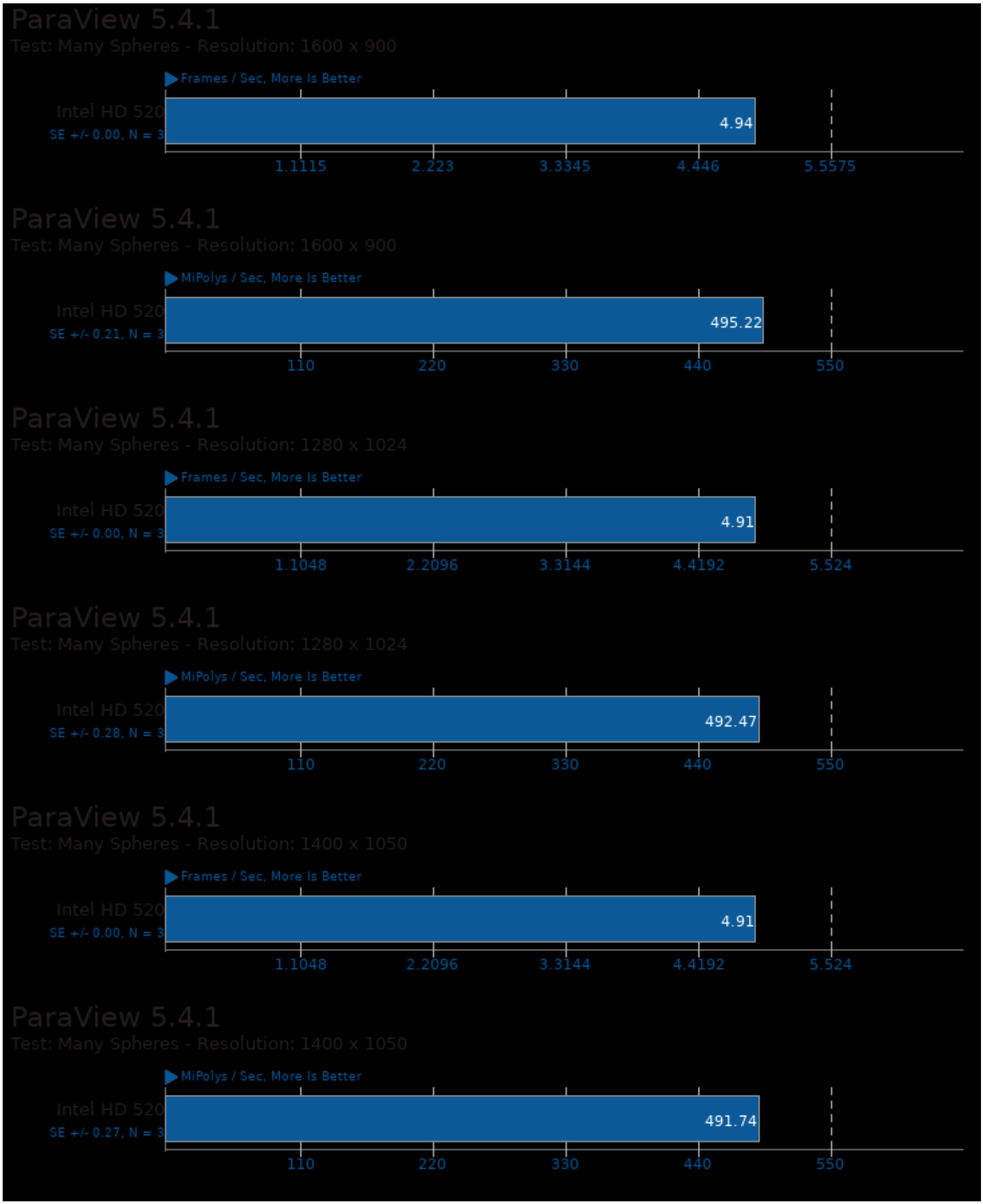


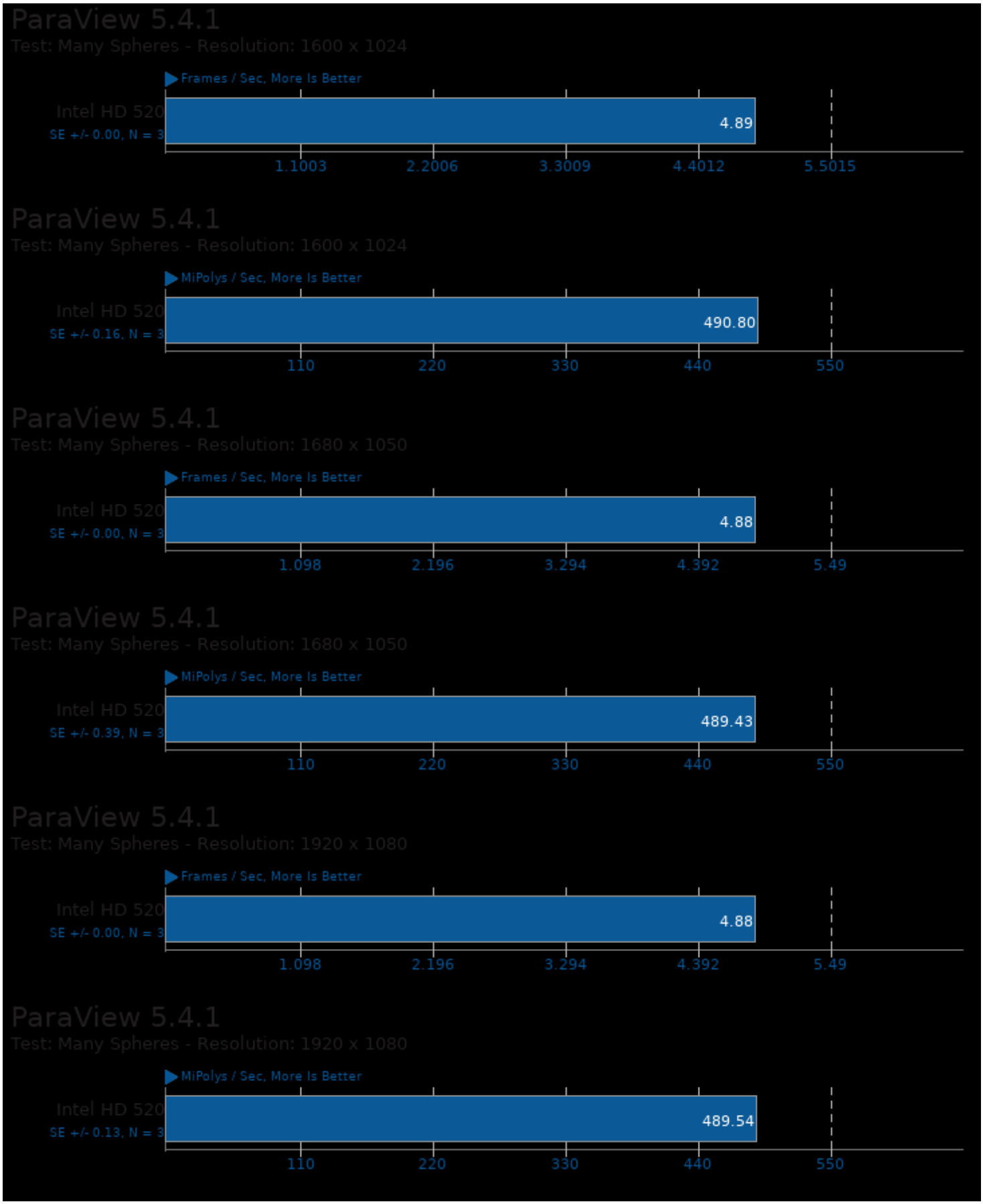
1. (CC) gcc options: -lm

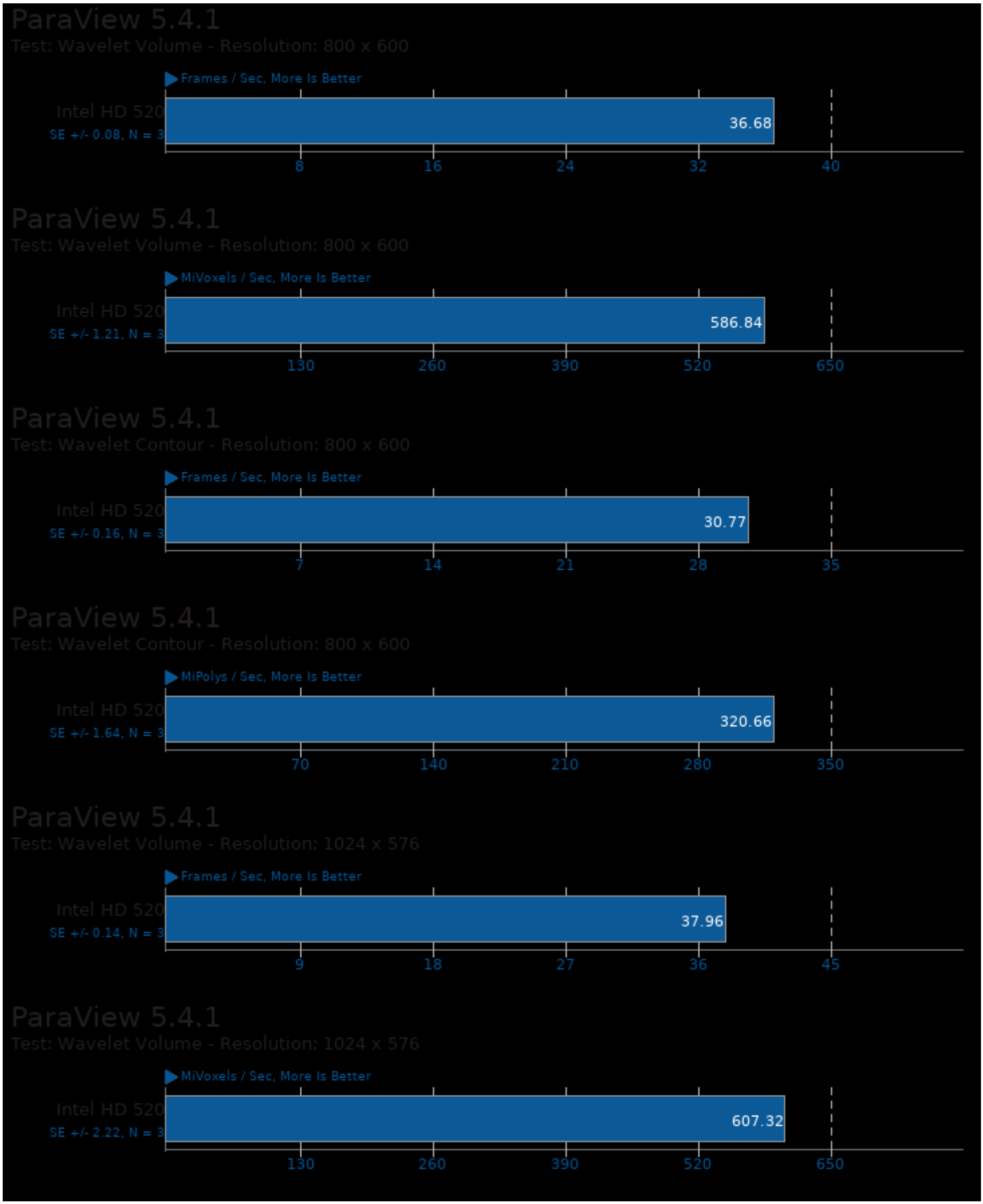

ParaView 5.4.1
Test: Many Spheres - Resolution: 800 x 600
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.01, N = 3
5.03
1.1318
2.2636
3.3954
4.5272
5.659
ParaView 5.4.1
Test: Many Spheres - Resolution: 800 x 600
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.80, N = 3
504.59
110
220
330
440
550
ParaView 5.4.1
Test: Many Spheres - Resolution: 1024 x 576
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.02, N = 3
5.02
1.1295
2.259
3.3885
4.518
5.6475
ParaView 5.4.1
Test: Many Spheres - Resolution: 1024 x 576
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 1.93, N = 3
503.21
110
220
330
440
550
ParaView 5.4.1
Test: Many Spheres - Resolution: 1024 x 768
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.00, N = 3
5.00
1.125
2.25
3.375
4.5
5.625
ParaView 5.4.1
Test: Many Spheres - Resolution: 1024 x 768
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.27, N = 3
501.01
110
220
330
440
550

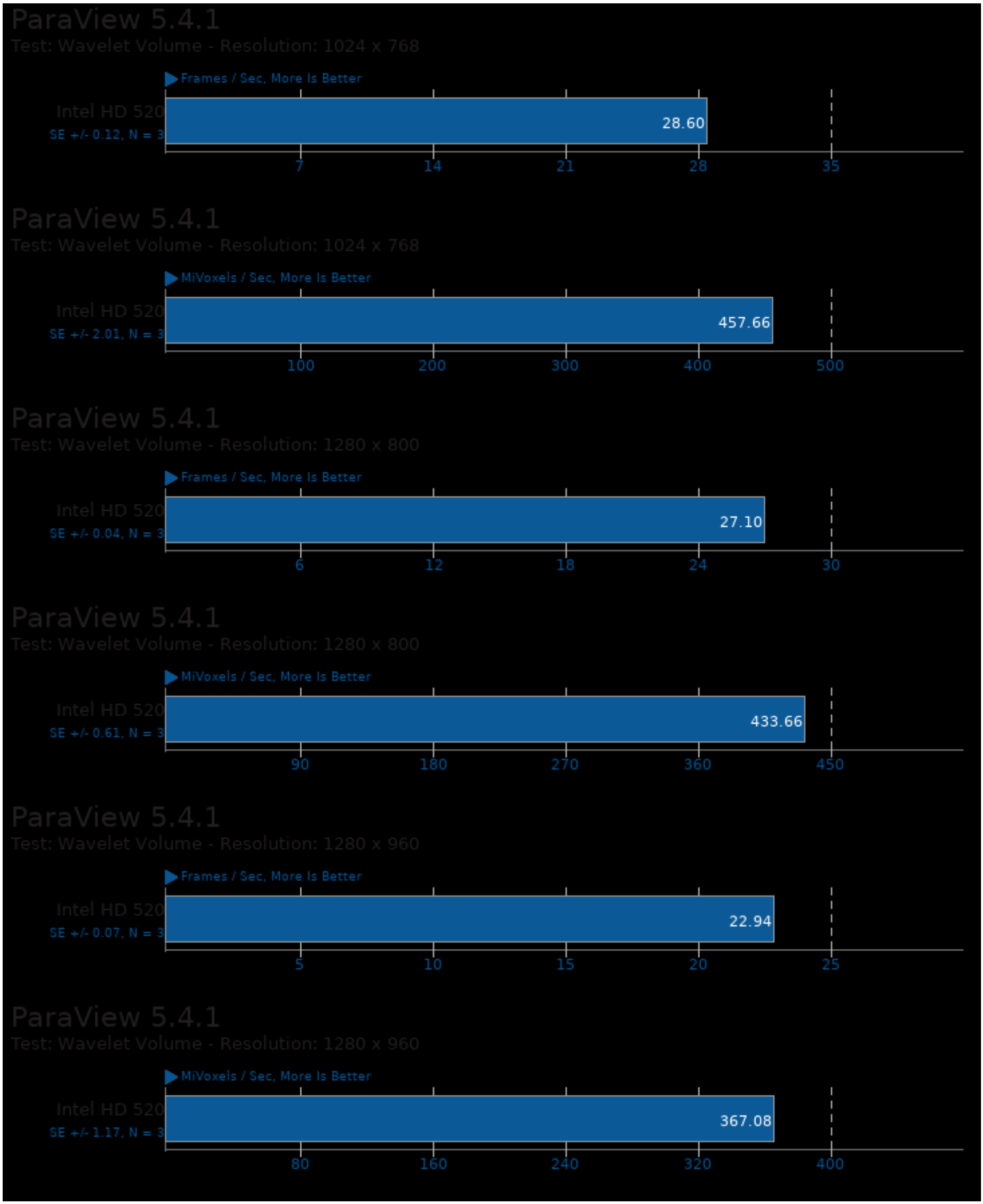

ParaView 5.4.1
Test: Many Spheres - Resolution: 1280 x 800
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.00, N = 3
4.99
1.1228
2.2456
3.3684
4.4912
5.614
ParaView 5.4.1
Test: Many Spheres - Resolution: 1280 x 800
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.34, N = 3
499.93
110
220
330
440
550
ParaView 5.4.1
Test: Many Spheres - Resolution: 1280 x 960
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.00, N = 3
4.95
1.1138
2.2276
3.3414
4.4552
5.569
ParaView 5.4.1
Test: Many Spheres - Resolution: 1280 x 960
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.05, N = 3
495.97
110
220
330
440
550
ParaView 5.4.1
Test: Many Spheres - Resolution: 1368 x 768
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.01, N = 3
5.01
1.1273
2.2546
3.3819
4.5092
5.6365
ParaView 5.4.1
Test: Many Spheres - Resolution: 1368 x 768
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.87, N = 3
501.96
110
220
330
440
550

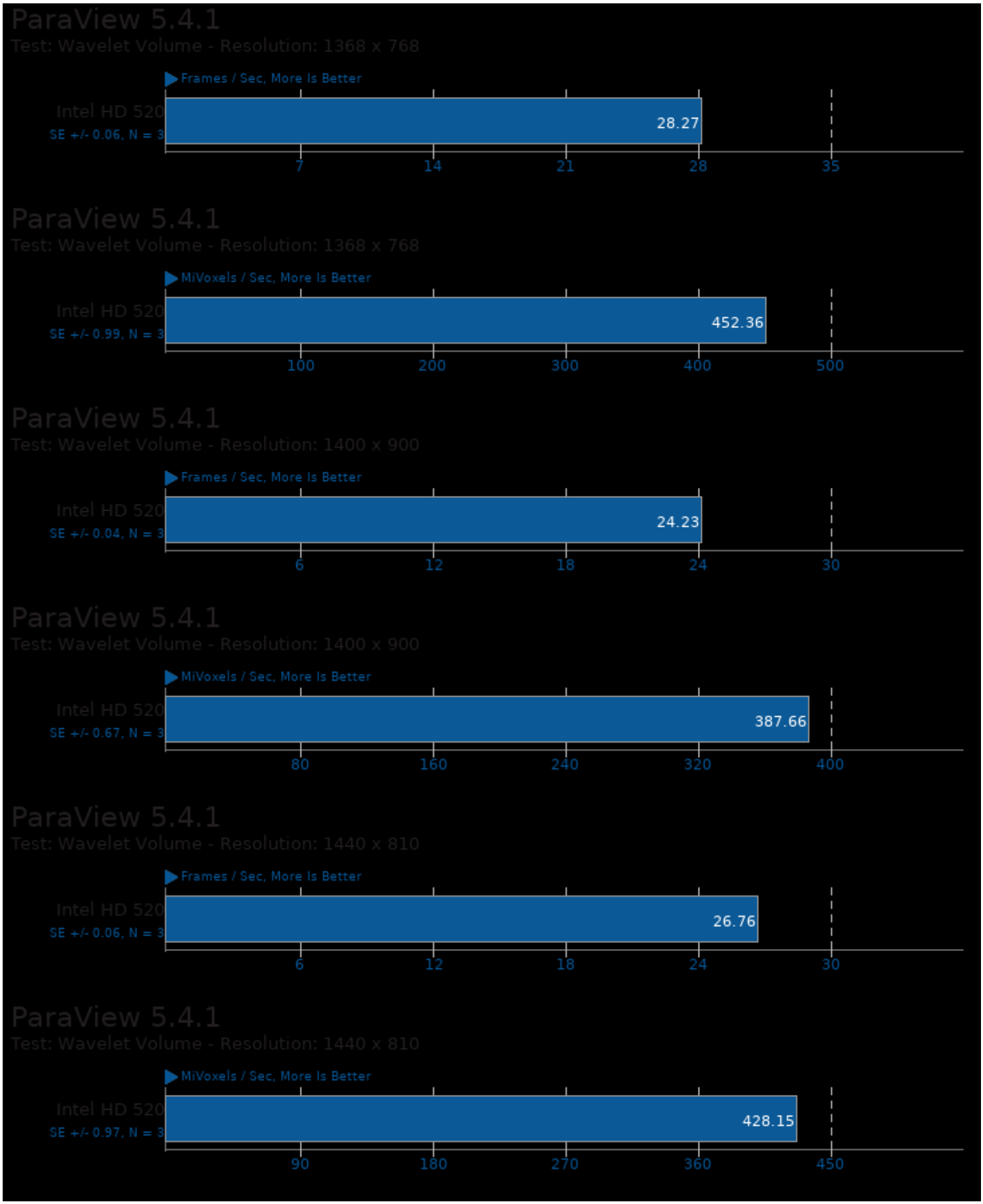

ParaView 5.4.1
Test: Many Spheres - Resolution: 1400 x 900
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.03, N = 3
4.93
1.1093
2.2186
3.3279
4.4372
5.5465
ParaView 5.4.1
Test: Many Spheres - Resolution: 1400 x 900
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 2.94, N = 3
494.32
110
220
330
440
550
ParaView 5.4.1
Test: Many Spheres - Resolution: 1440 x 810
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.00, N = 3
4.97
1.1183
2.2366
3.3549
4.4732
5.5915
ParaView 5.4.1
Test: Many Spheres - Resolution: 1440 x 810
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.46, N = 3
498.74
110
220
330
440
550
ParaView 5.4.1
Test: Many Spheres - Resolution: 1440 x 900
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.01, N = 3
4.95
1.1138
2.2276
3.3414
4.4552
5.569
ParaView 5.4.1
Test: Many Spheres - Resolution: 1440 x 900
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.48, N = 3
496.10
110
220
330
440
550

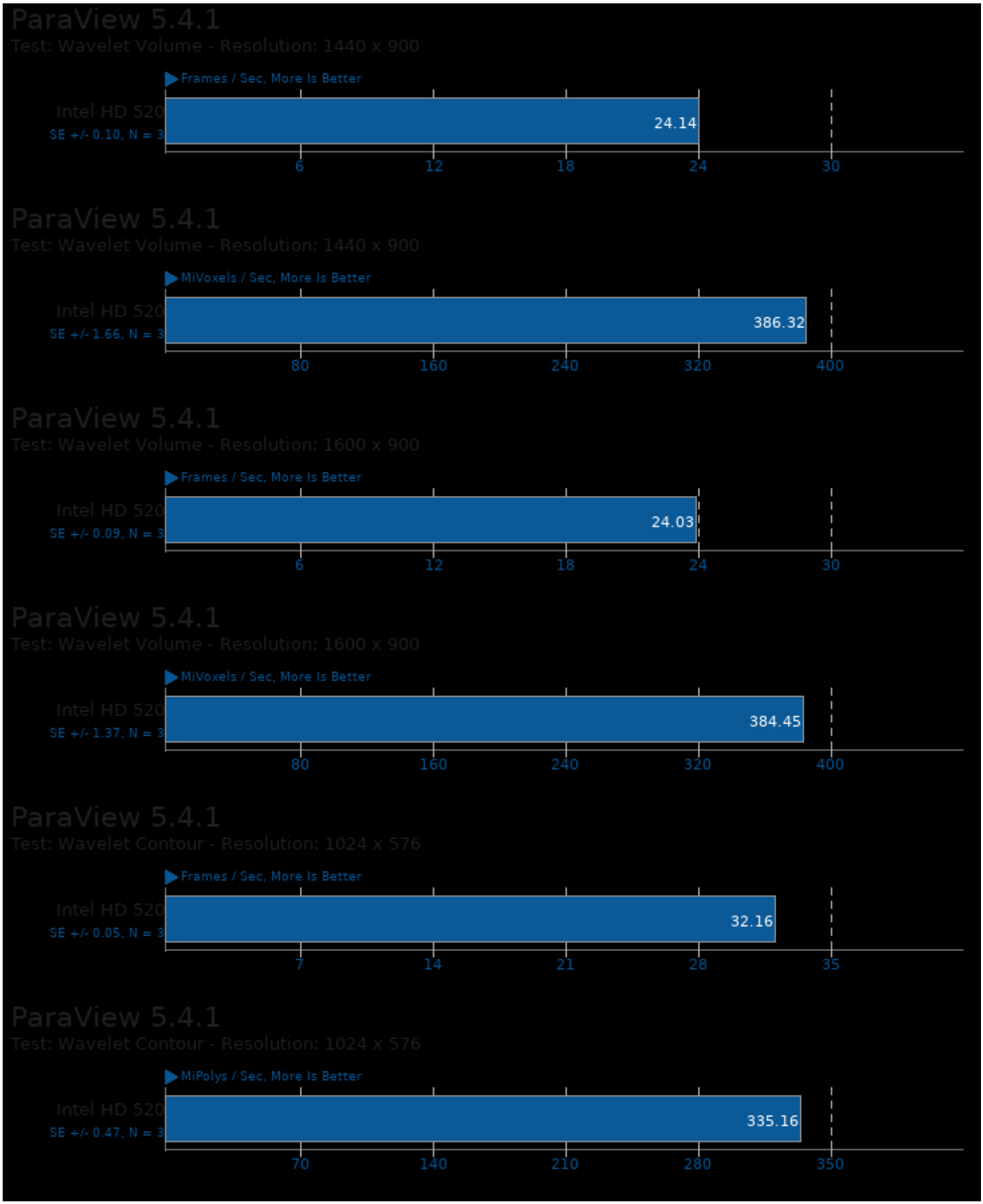

ParaView 5.4.1
Test: Many Spheres - Resolution: 1600 x 900
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.00, N = 3
4.94
1.1115
2.223
3.3345
4.446
5.5575
ParaView 5.4.1
Test: Many Spheres - Resolution: 1600 x 900
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.21, N = 3
495.22
110
220
330
440
550
ParaView 5.4.1
Test: Many Spheres - Resolution: 1280 x 1024
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.00, N = 3
4.91
1.1048
2.2096
3.3144
4.4192
5.524
ParaView 5.4.1
Test: Many Spheres - Resolution: 1280 x 1024
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.28, N = 3
492.47
110
220
330
440
550
ParaView 5.4.1
Test: Many Spheres - Resolution: 1400 x 1050
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.00, N = 3
4.91
1.1048
2.2096
3.3144
4.4192
5.524
ParaView 5.4.1
Test: Many Spheres - Resolution: 1400 x 1050
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.27, N = 3
491.74
110
220
330
440
550

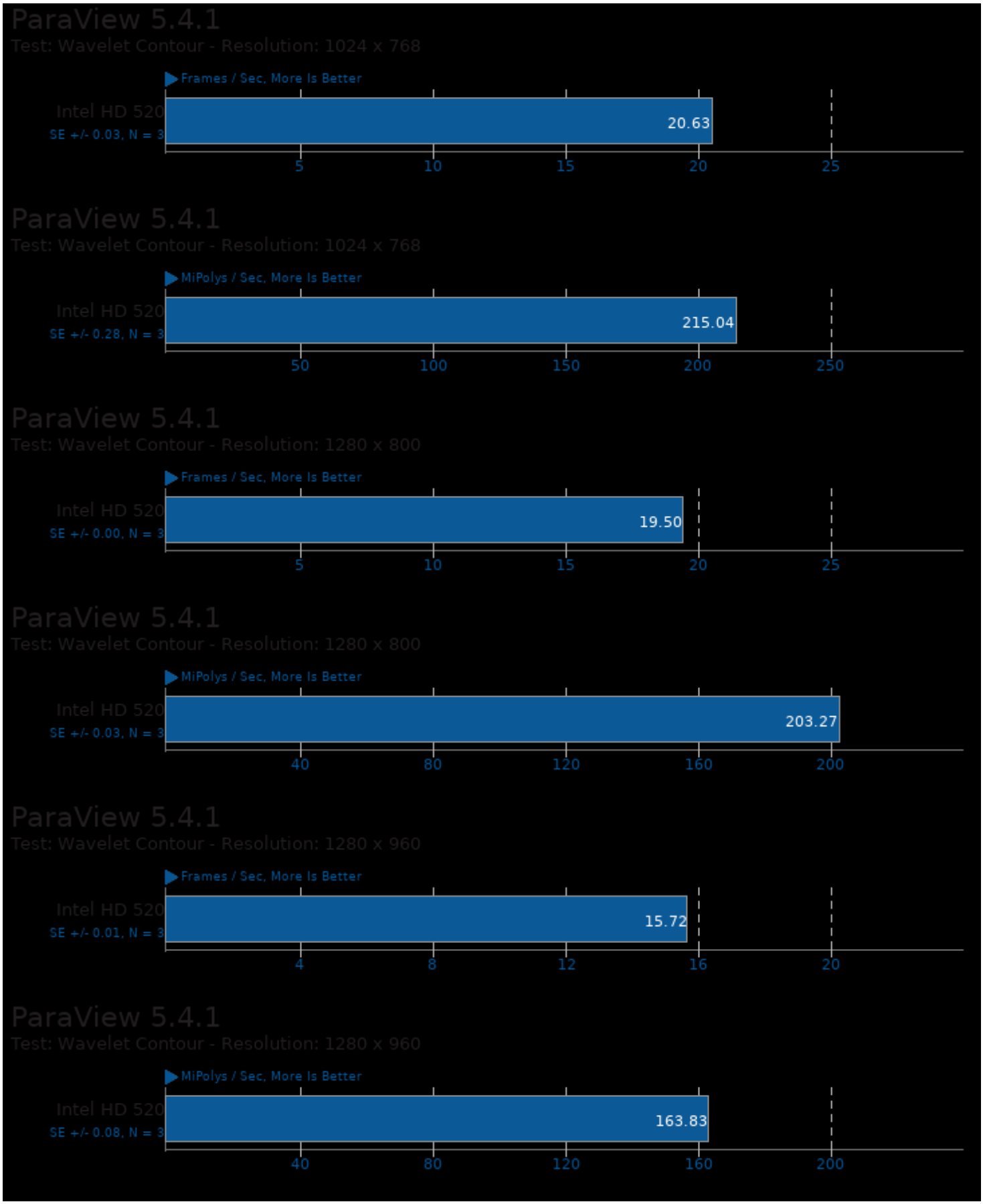

ParaView 5.4.1
Test: Many Spheres - Resolution: 1600 x 1024
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.00, N = 3
4.89
1.1003
2.2006
3.3009
4.4012
5.5015
ParaView 5.4.1
Test: Many Spheres - Resolution: 1600 x 1024
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.16, N = 3
490.80
110
220
330
440
550
ParaView 5.4.1
Test: Many Spheres - Resolution: 1680 x 1050
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.00, N = 3
4.88
1.098
2.196
3.294
4.392
5.49
ParaView 5.4.1
Test: Many Spheres - Resolution: 1680 x 1050
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.39, N = 3
489.43
110
220
330
440
550
ParaView 5.4.1
Test: Many Spheres - Resolution: 1920 x 1080
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.00, N = 3
4.88
1.098
2.196
3.294
4.392
5.49
ParaView 5.4.1
Test: Many Spheres - Resolution: 1920 x 1080
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.13, N = 3
489.54
110
220
330
440
550

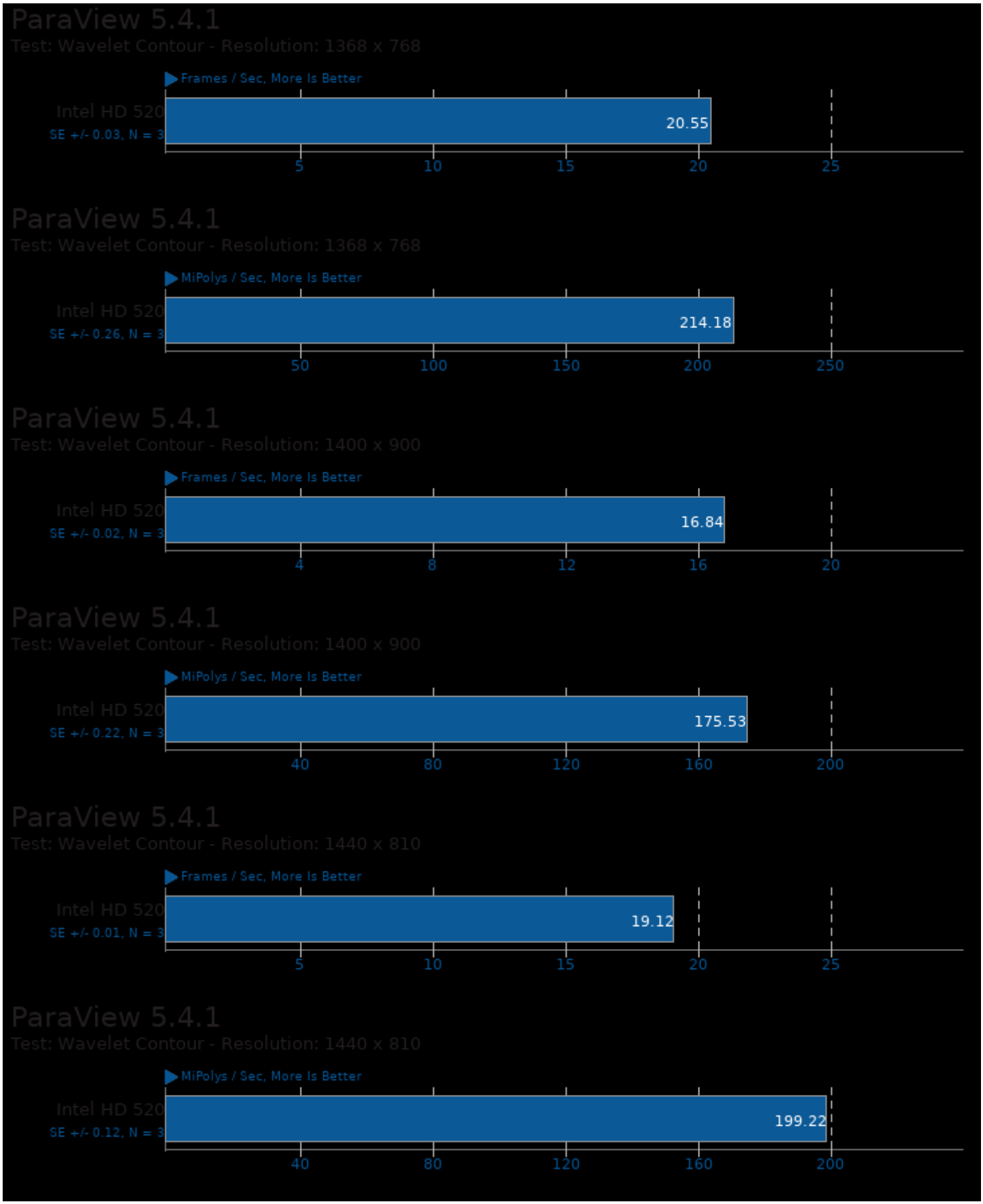

ParaView 5.4.1
Test: Wavelet Volume - Resolution: 800 x 600
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.08, N = 3
36.68
8
16
24
32
40
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 800 x 600
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 1.21, N = 3
586.84
130
260
390
520
650
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 800 x 600
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.16, N = 3
30.77
7
14
21
28
35
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 800 x 600
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 1.64, N = 3
320.66
70
140
210
280
350
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1024 x 576
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.14, N = 3
37.96
9
18
27
36
45
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1024 x 576
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 2.22, N = 3
607.32
130
260
390
520
650

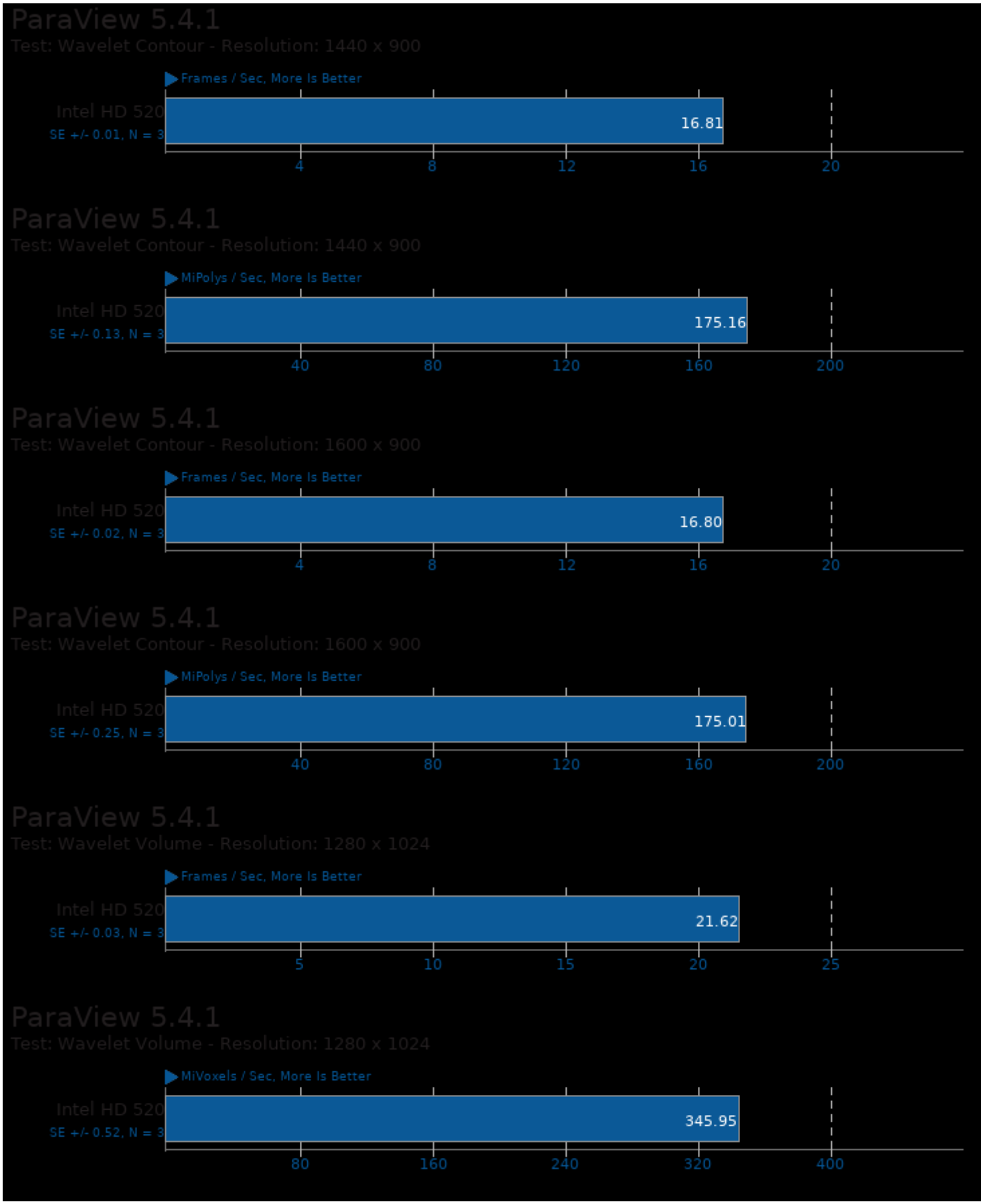

ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1024 x 768
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.12, N = 3
28.60
7
14
21
28
35
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1024 x 768
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 2.01, N = 3
457.66
100
200
300
400
500
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1280 x 800
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.04, N = 3
27.10
6
12
18
24
30
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1280 x 800
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 0.61, N = 3
433.66
90
180
270
360
450
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1280 x 960
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.07, N = 3
22.94
5
10
15
20
25
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1280 x 960
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 1.17, N = 3
367.08
80
160
240
320
400

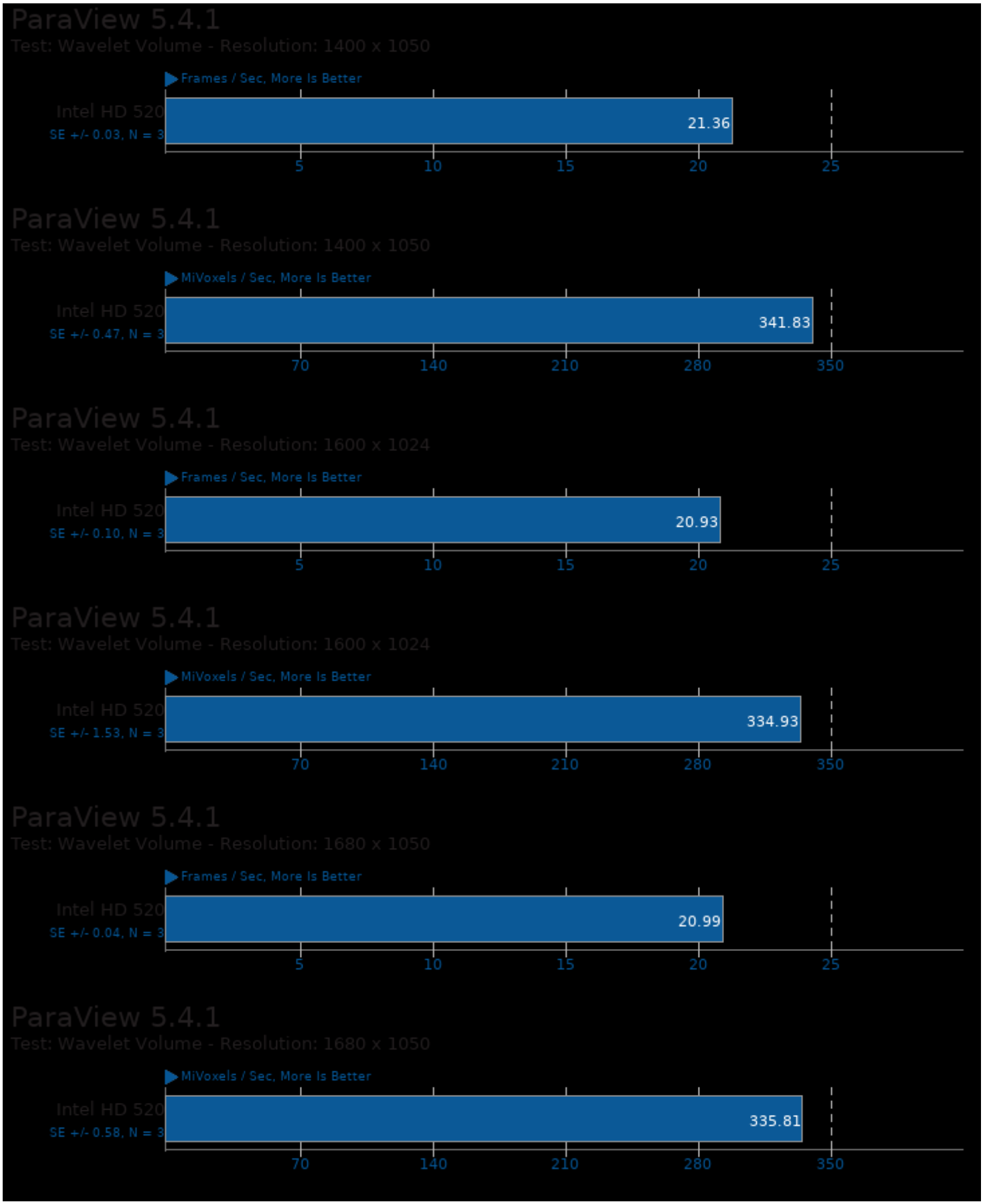

ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1368 x 768
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.06, N = 3
28.27
7
14
21
28
35
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1368 x 768
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 0.99, N = 3
452.36
100
200
300
400
500
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1400 x 900
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.04, N = 3
24.23
6
12
18
24
30
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1400 x 900
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 0.67, N = 3
387.66
80
160
240
320
400
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1440 x 810
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.06, N = 3
26.76
6
12
18
24
30
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1440 x 810
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 0.97, N = 3
428.15
90
180
270
360
450

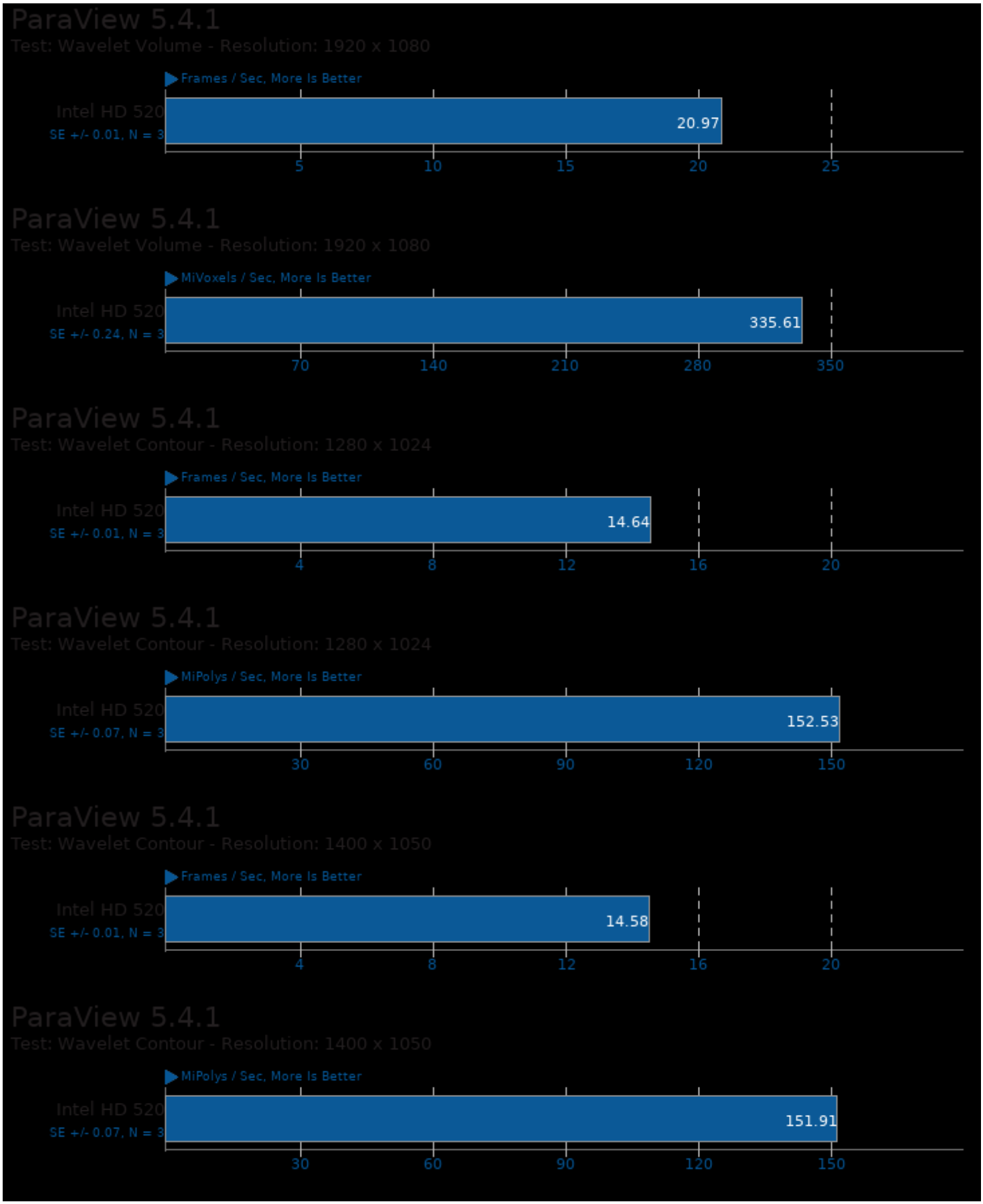

ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1440 x 900
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.10, N = 3
24.14
6
12
18
24
30
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1440 x 900
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 1.66, N = 3
386.32
80
160
240
320
400
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1600 x 900
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.09, N = 3
24.03
6
12
18
24
30
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1600 x 900
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 1.37, N = 3
384.45
80
160
240
320
400
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1024 x 576
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.05, N = 3
32.16
7
14
21
28
35
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1024 x 576
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.47, N = 3
335.16
70
140
210
280
350

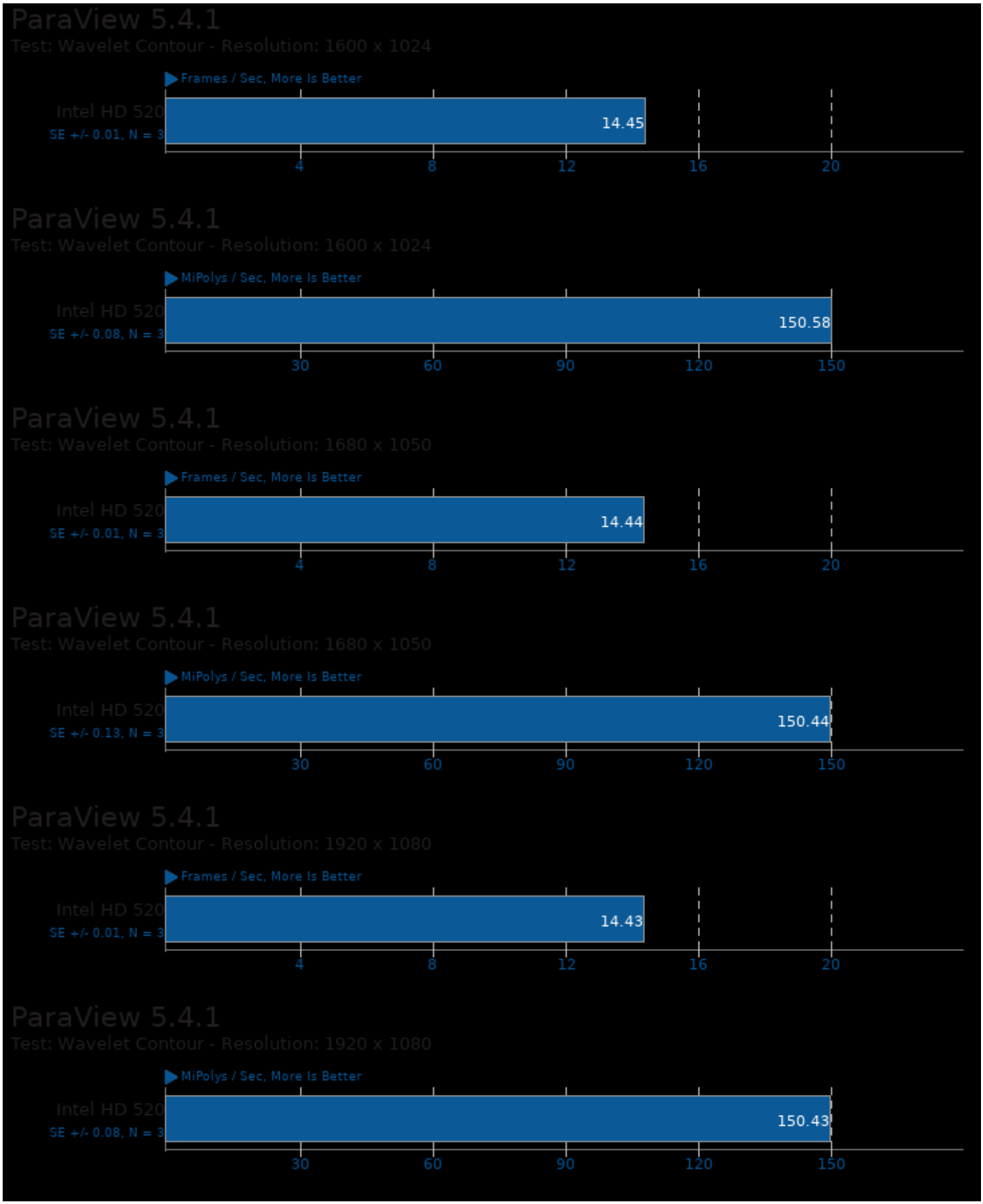

ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1024 x 768
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.03, N = 3
20.63
5
10
15
20
25
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1024 x 768
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.28, N = 3
215.04
50
100
150
200
250
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1280 x 800
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.00, N = 3
19.50
5
10
15
20
25
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1280 x 800
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.03, N = 3
203.27
40
80
120
160
200
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1280 x 960
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.01, N = 3
15.72
4
8
12
16
20
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1280 x 960
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.08, N = 3
163.83
40
80
120
160
200


ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1368 x 768
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.03, N = 3
20.55
5
10
15
20
25
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1368 x 768
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.26, N = 3
214.18
50
100
150
200
250
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1400 x 900
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.02, N = 3
16.84
4
8
12
16
20
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1400 x 900
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.22, N = 3
175.53
40
80
120
160
200
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1440 x 810
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.01, N = 3
19.12
5
10
15
20
25
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1440 x 810
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.12, N = 3
199.22
40
80
120
160
200


ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1440 x 900
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.01, N = 3
16.81
4
8
12
16
20
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1440 x 900
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.13, N = 3
175.16
40
80
120
160
200
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1600 x 900
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.02, N = 3
16.80
4
8
12
16
20
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1600 x 900
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.25, N = 3
175.01
40
80
120
160
200
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1280 x 1024
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.03, N = 3
21.62
5
10
15
20
25
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1280 x 1024
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 0.52, N = 3
345.95
80
160
240
320
400

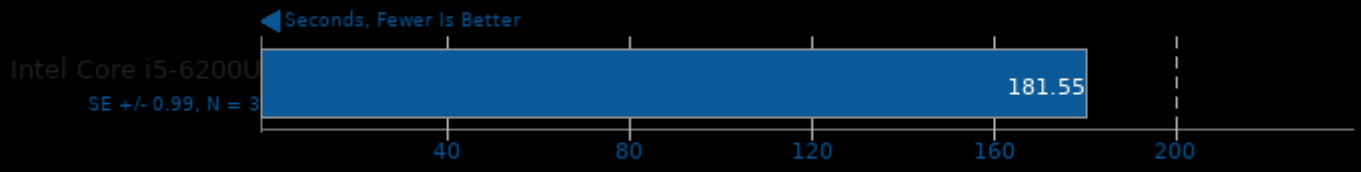

ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1400 x 1050
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.03, N = 3
21.36
5
10
15
20
25
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1400 x 1050
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 0.47, N = 3
341.83
70
140
210
280
350
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1600 x 1024
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.10, N = 3
20.93
5
10
15
20
25
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1600 x 1024
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 1.53, N = 3
334.93
70
140
210
280
350
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1680 x 1050
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.04, N = 3
20.99
5
10
15
20
25
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1680 x 1050
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 0.58, N = 3
335.81
70
140
210
280
350


ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1920 x 1080
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.01, N = 3
20.97
5
10
15
20
25
ParaView 5.4.1
Test: Wavelet Volume - Resolution: 1920 x 1080
MiVoxels / Sec, More Is Better
Intel HD 520
SE +/- 0.24, N = 3
335.61
70
140
210
280
350
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1280 x 1024
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.01, N = 3
14.64
4
8
12
16
20
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1280 x 1024
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.07, N = 3
152.53
30
60
90
120
150
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1400 x 1050
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.01, N = 3
14.58
4
8
12
16
20
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1400 x 1050
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.07, N = 3
151.91
30
60
90
120
150


ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1600 x 1024
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.01, N = 3
14.45
4
8
12
16
20
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1600 x 1024
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.08, N = 3
150.58
30
60
90
120
150
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1680 x 1050
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.01, N = 3
14.44
4
8
12
16
20
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1680 x 1050
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.13, N = 3
150.44
30
60
90
120
150
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1920 x 1080
Frames / Sec, More Is Better
Intel HD 520
SE +/- 0.01, N = 3
14.43
4
8
12
16
20
ParaView 5.4.1
Test: Wavelet Contour - Resolution: 1920 x 1080
MiPolys / Sec, More Is Better
Intel HD 520
SE +/- 0.08, N = 3
150.43
30
60
90
120
150

Parboil 2.5

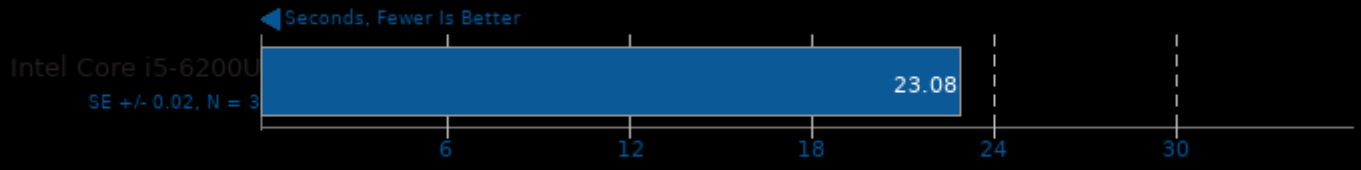
Test: OpenMP LBM



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

Parboil 2.5

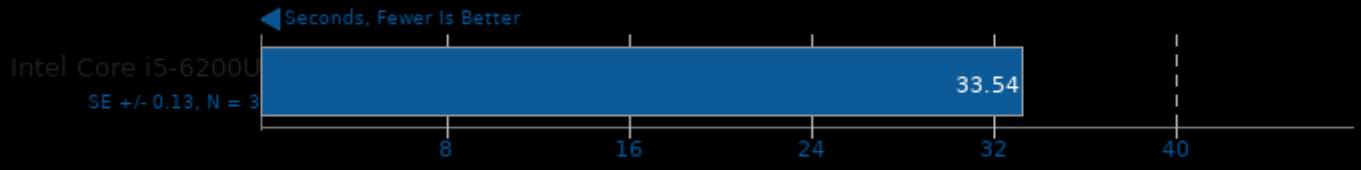
Test: OpenMP CUTCP



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

Parboil 2.5

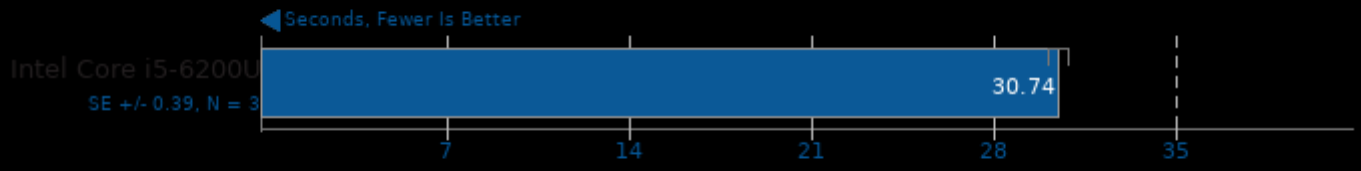
Test: OpenMP Stencil



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

Parboil 2.5

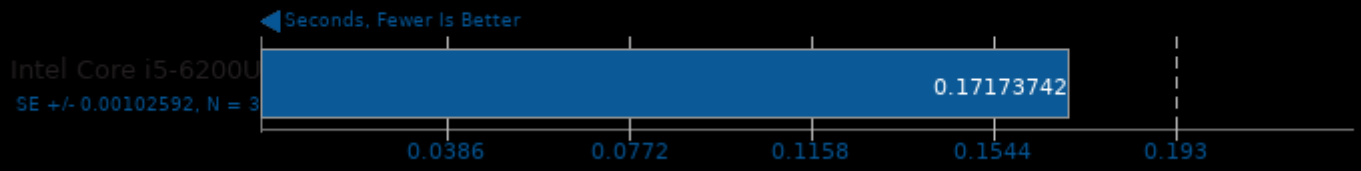
Test: OpenMP MRI Gridding



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

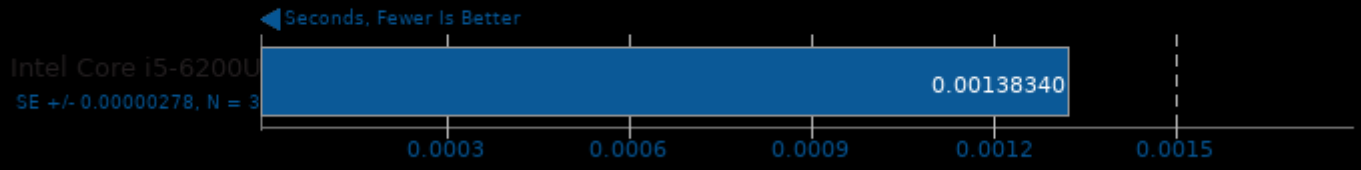
Perl Benchmarks

Test: Pod2html



Perl Benchmarks

Test: Interpreter



PostgreSQL pgbench 10.3

Scaling: On-Disk - Test: Normal Load - Mode: Read Only



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

PostgreSQL pgbench 10.3

Scaling: On-Disk - Test: Normal Load - Mode: Read Write



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

PostgreSQL pgbench 10.3

Scaling: On-Disk - Test: Single Thread - Mode: Read Only



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

PostgreSQL pgbench 10.3

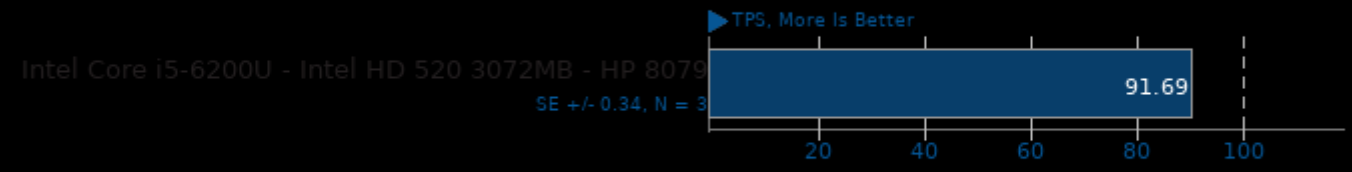
Scaling: Mostly RAM - Test: Normal Load - Mode: Read Only



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

PostgreSQL pgbench 10.3

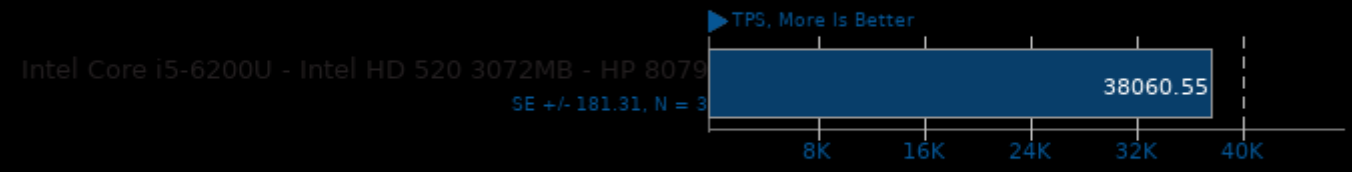
Scaling: On-Disk - Test: Single Thread - Mode: Read Write



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

PostgreSQL pgbench 10.3

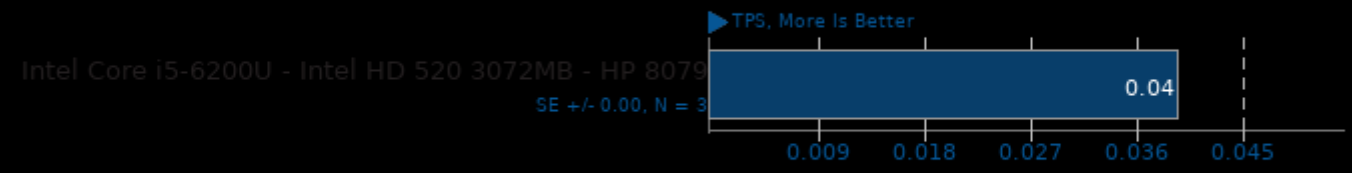
Scaling: Buffer Test - Test: Normal Load - Mode: Read Only



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

PostgreSQL pgbench 10.3

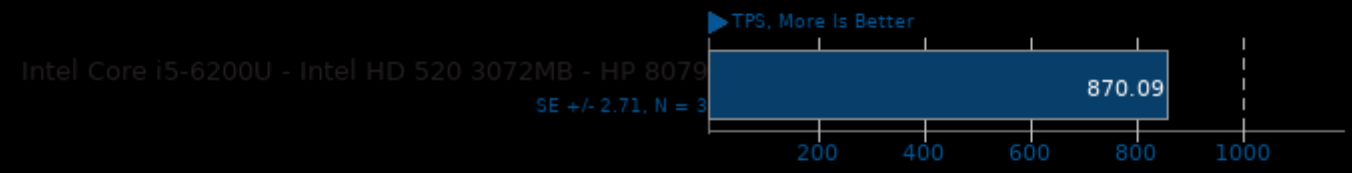
Scaling: Mostly RAM - Test: Normal Load - Mode: Read Write



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

PostgreSQL pgbench 10.3

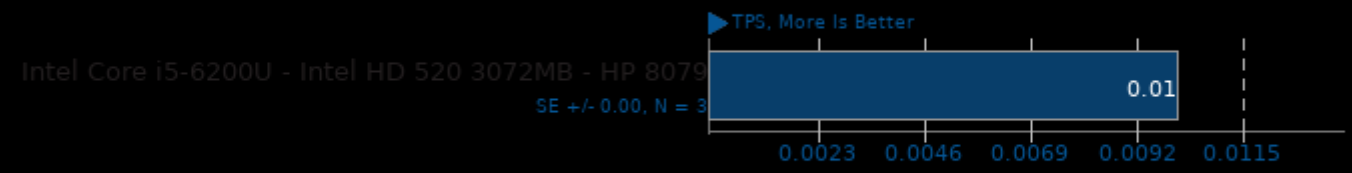
Scaling: Buffer Test - Test: Normal Load - Mode: Read Write



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

PostgreSQL pgbench 10.3

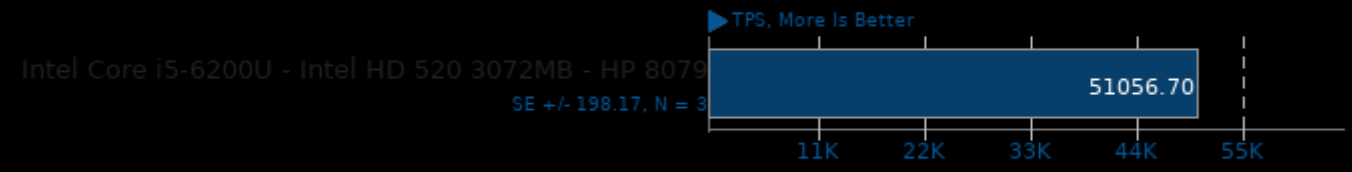
Scaling: Mostly RAM - Test: Single Thread - Mode: Read Only



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

PostgreSQL pgbench 10.3

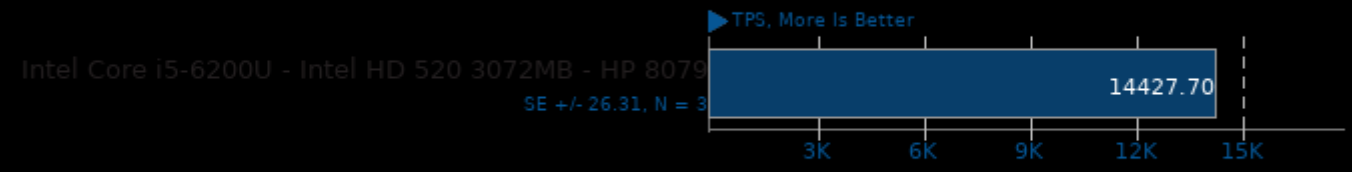
Scaling: On-Disk - Test: Heavy Contention - Mode: Read Only



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

PostgreSQL pgbench 10.3

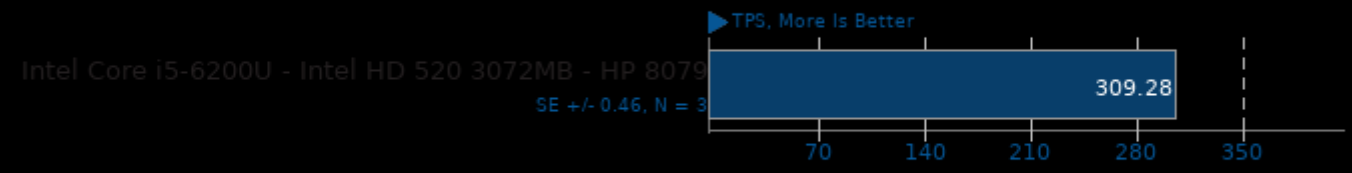
Scaling: Buffer Test - Test: Single Thread - Mode: Read Only



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

PostgreSQL pgbench 10.3

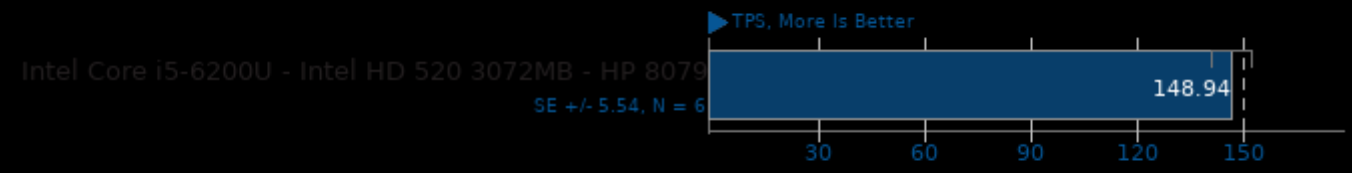
Scaling: On-Disk - Test: Heavy Contention - Mode: Read Write



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

PostgreSQL pgbench 10.3

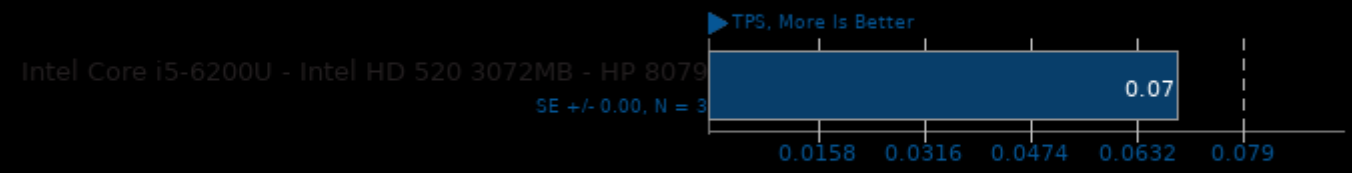
Scaling: Buffer Test - Test: Single Thread - Mode: Read Write



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

PostgreSQL pgbench 10.3

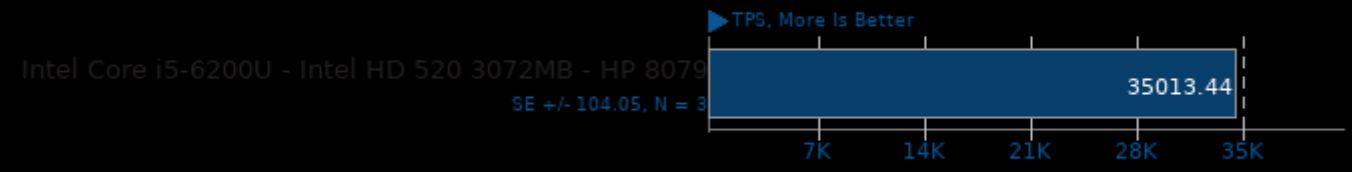
Scaling: Mostly RAM - Test: Heavy Contention - Mode: Read Only



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

PostgreSQL pgbench 10.3

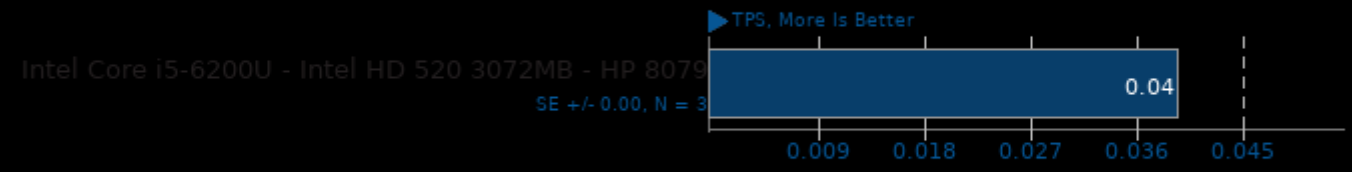
Scaling: Buffer Test - Test: Heavy Contention - Mode: Read Only



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

PostgreSQL pgbench 10.3

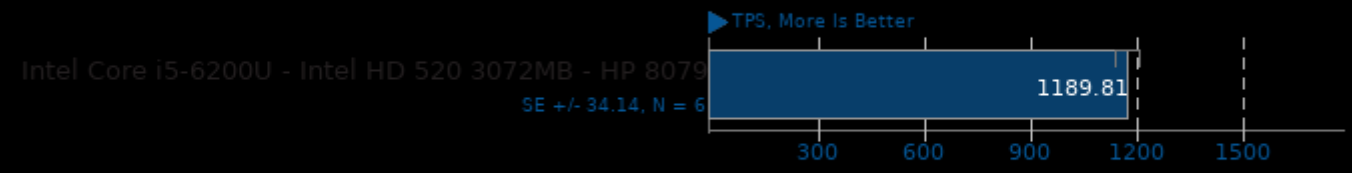
Scaling: Mostly RAM - Test: Heavy Contention - Mode: Read Write



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

PostgreSQL pgbench 10.3

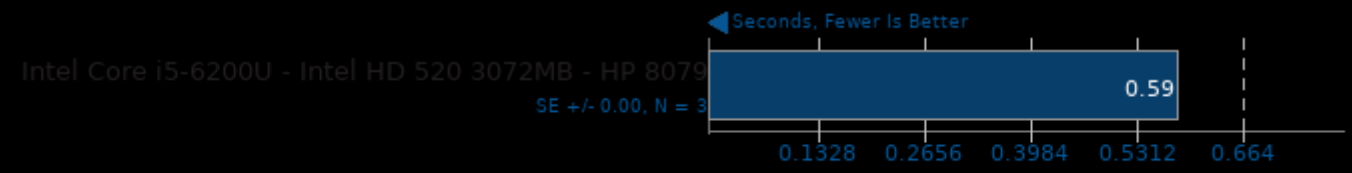
Scaling: Buffer Test - Test: Heavy Contention - Mode: Read Write



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

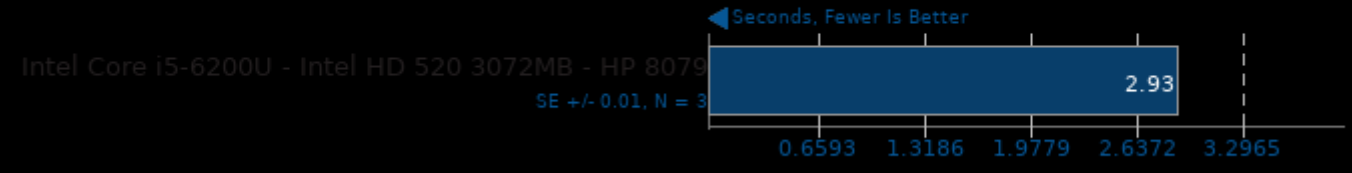
PHP Micro Benchmarks

Test: Zend bench



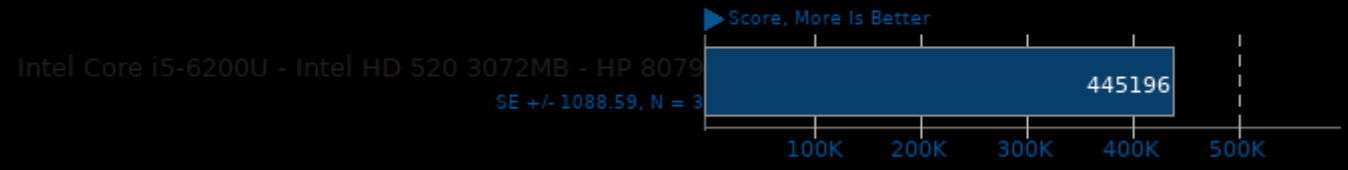
PHP Micro Benchmarks

Test: Zend micro_bench

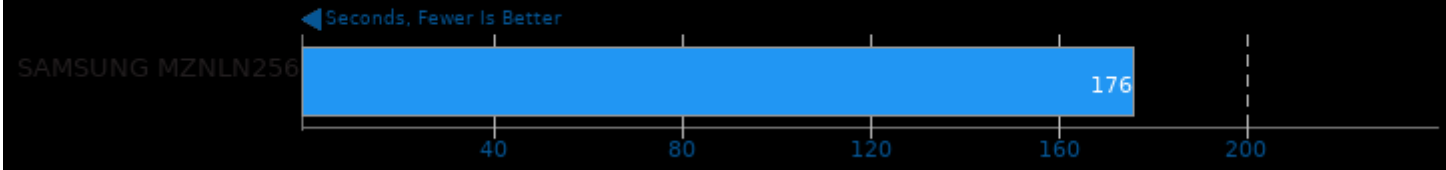


PHPBench 0.8.1

PHP Benchmark Suite

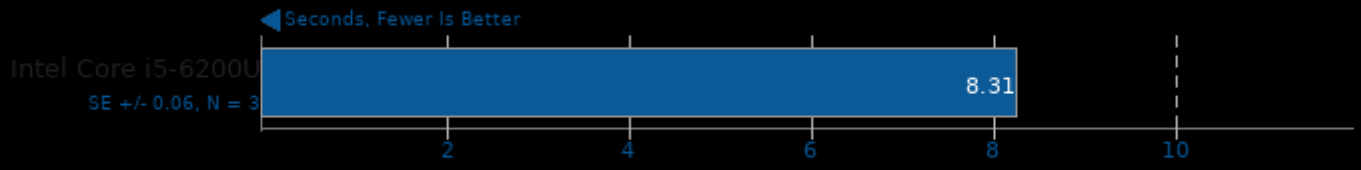


Pjdfstest



PolyBench-C 4.2

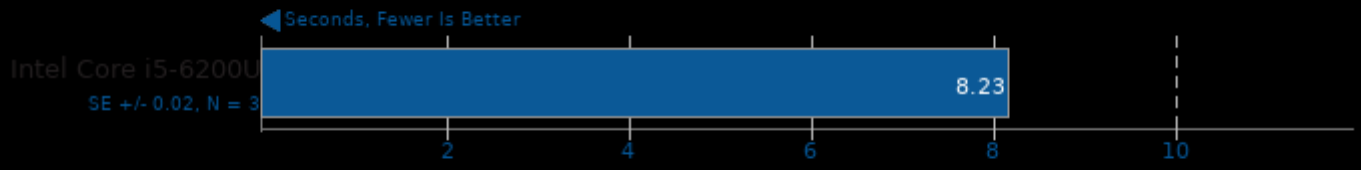
Test: Covariance Computation



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

PolyBench-C 4.2

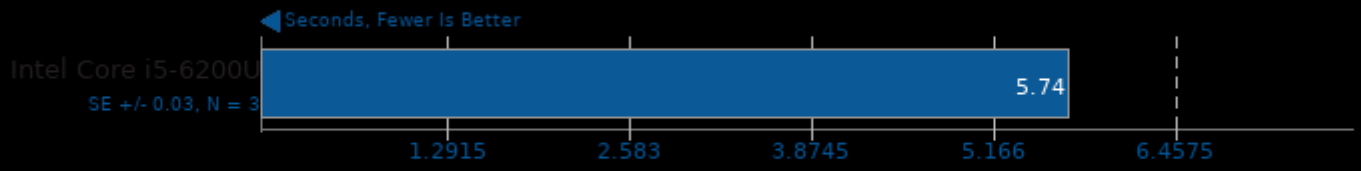
Test: Correlation Computation



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

PolyBench-C 4.2

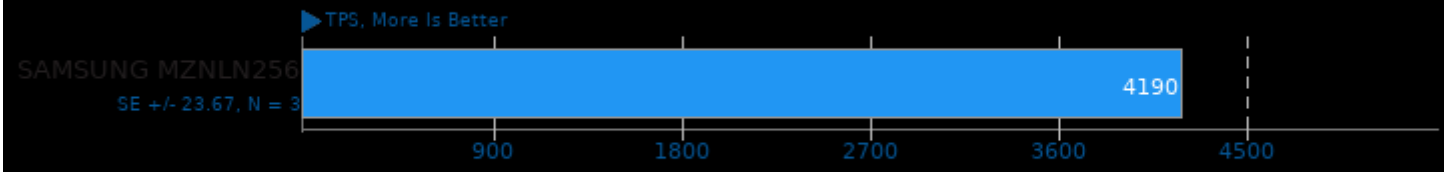
Test: 3 Matrix Multiplications



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

PostMark 1.51

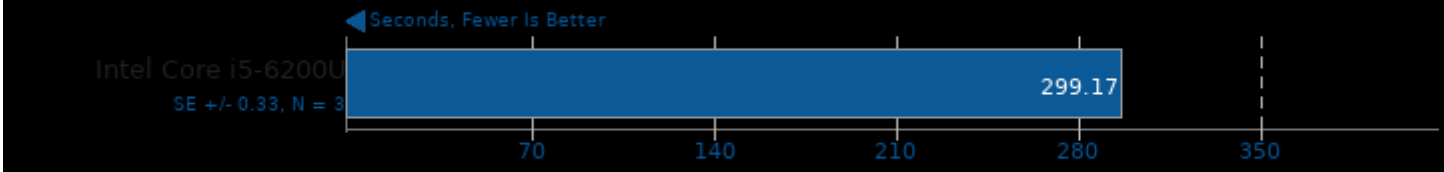
Disk Transaction Performance



1. (CC) gcc options: -O3

POV-Ray 3.7.0.7

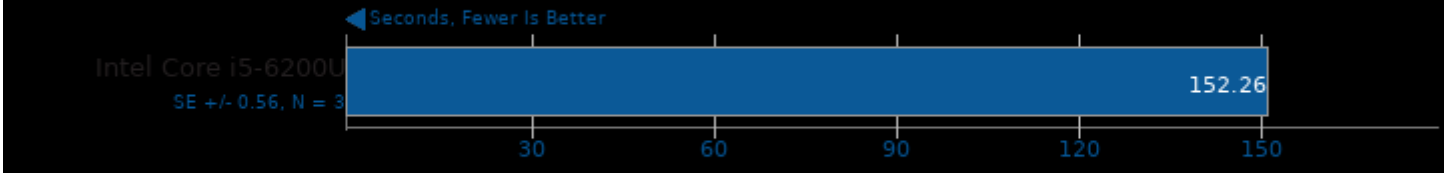
Trace Time



1. (CXX) g++ options: -pipe -O3 -ffast-math -march=native -pthread -lSDL -lSM -lICE -lX11 -lIlmImf -lImath -lHalf -lIex -lIexMath -lIlmThread -lpthread -lti

Primesieve 7.4

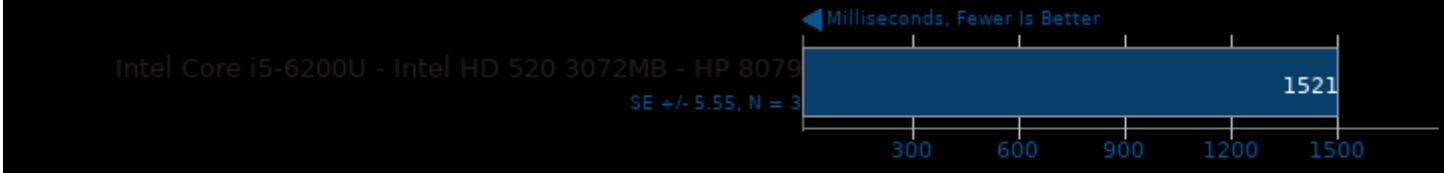
1e12 Prime Number Generation



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

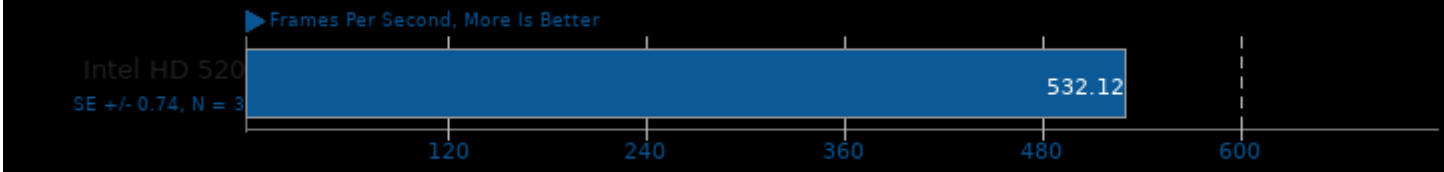
PyBench 2018-02-16

Total For Average Test Times



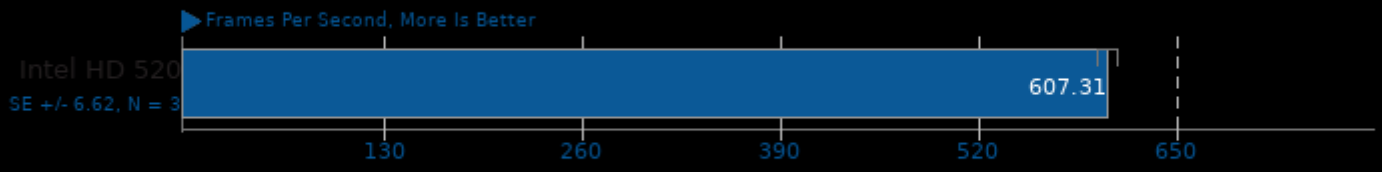
QGears2

Rendering: OpenGL - Test: Text



1. (CXX) g++ options: -lQt5OpenGL -lQt5Widgets -lQt5Gui -lQt5Core -lGL -lpthread

QGears2
Rendering: OpenGL - Test: Gears



1. (CXX) g++ options: -lQt5OpenGL -lQt5Widgets -lQt5Gui -lQt5Core -lGL -lpthread

QGears2
Rendering: OpenGL - Test: Image Scaling



1. (CXX) g++ options: -lQt5OpenGL -lQt5Widgets -lQt5Gui -lQt5Core -lGL -lpthread

QGears2
Rendering: CPU-based Raster - Test: Text



1. (CXX) g++ options: -lQt5OpenGL -lQt5Widgets -lQt5Gui -lQt5Core -lGL -lpthread

QGears2
Rendering: CPU-based Raster - Test: Gears



1. (CXX) g++ options: -lQt5OpenGL -lQt5Widgets -lQt5Gui -lQt5Core -lGL -lpthread

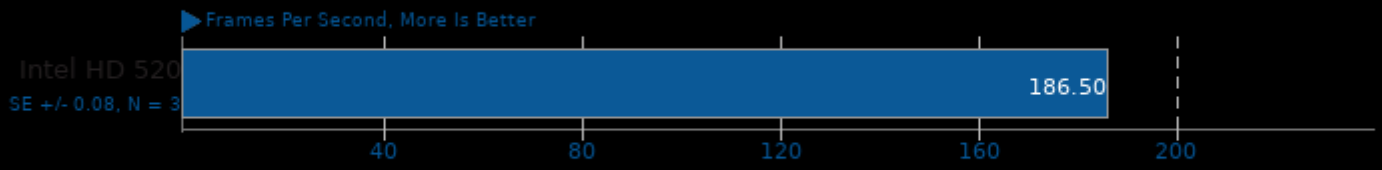
QGears2
Rendering: XRender Extension - Test: Text



1. (CXX) g++ options: -lQt5OpenGL -lQt5Widgets -lQt5Gui -lQt5Core -lGL -lpthread

QGears2

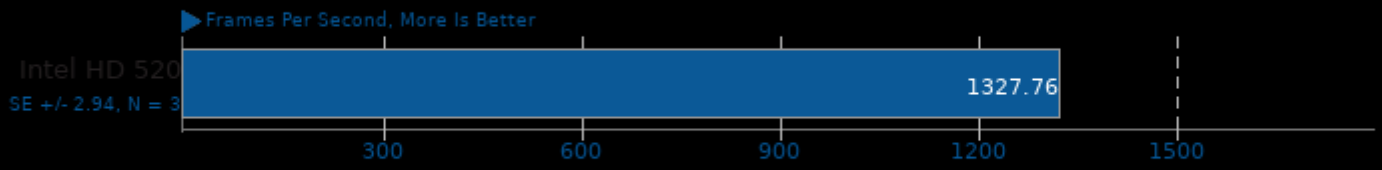
Rendering: XRender Extension - Test: Gears



1. (CXX) g++ options: -lQt5OpenGL -lQt5Widgets -lQt5Gui -lQt5Core -lGL -lpthread

QGears2

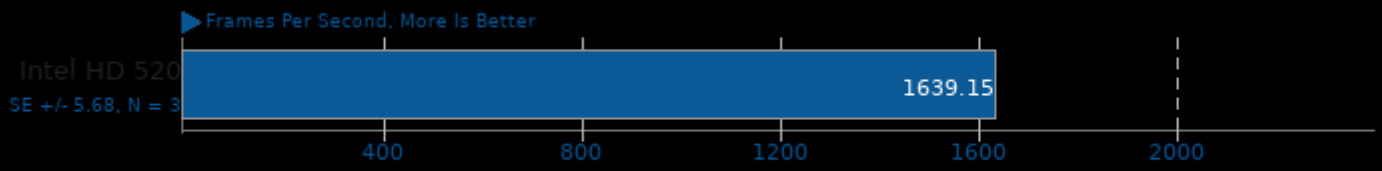
Rendering: CPU-based Raster - Test: Image Scaling



1. (CXX) g++ options: -lQt5OpenGL -lQt5Widgets -lQt5Gui -lQt5Core -lGL -lpthread

QGears2

Rendering: XRender Extension - Test: Image Scaling



1. (CXX) g++ options: -lQt5OpenGL -lQt5Widgets -lQt5Gui -lQt5Core -lGL -lpthread

Qmlbench 2

Test: Fib10



1. (CXX) g++ options: -lQt5Gui -lQt5Core -lGL -lpthread

Qmlbench 2

Test: Canvas Text Simple



1. (CXX) g++ options: -lQt5Gui -lQt5Core -lGL -lpthread

Qmlbench 2

Test: Creation Delegates Flow



1. (CXX) g++ options: -lQt5Gui -lQt5Core -lGL -lpthread

Qmlbench 2

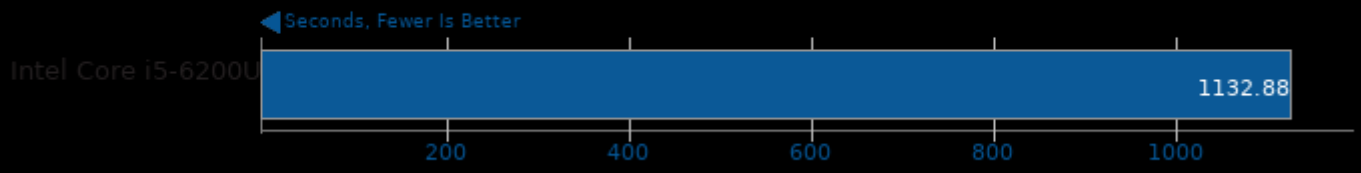
Test: Moving Images Animations



1. (CXX) g++ options: -lQt5Gui -lQt5Core -lGL -lpthread

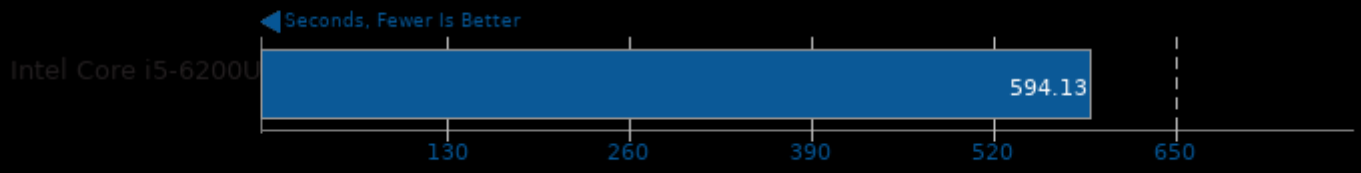
Radiance Benchmark 5.0

Test: Serial



Radiance Benchmark 5.0

Test: SMP Parallel



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

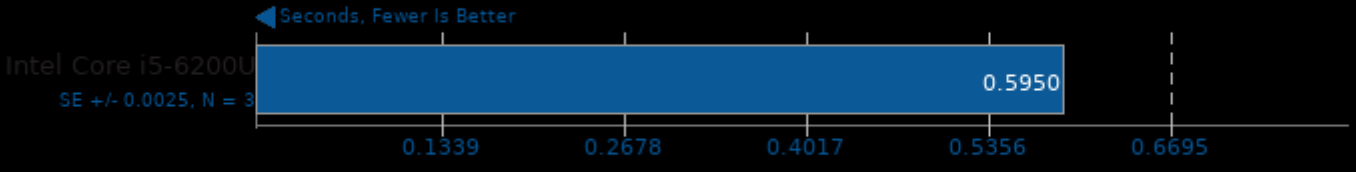
RAMspeed SMP 3.5.0

Type: Average - Benchmark: Floating Point



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

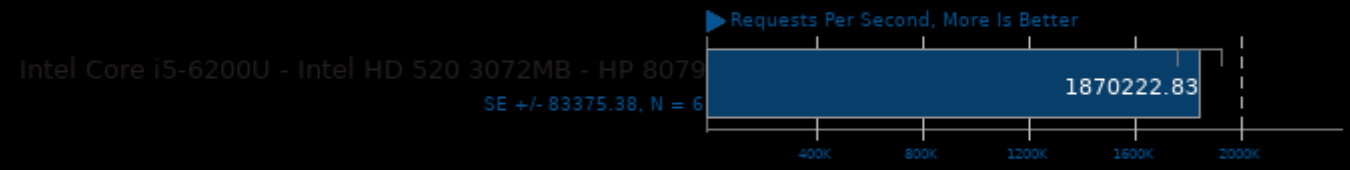
R Benchmark



1. R scripting front-end version 3.4.4 (2018-03-15)

Redis 4.0.8

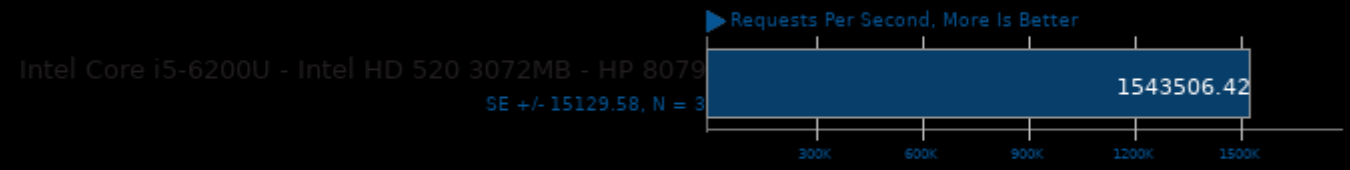
Test: LPOP



1. (CC) gcc options: -ggdb -rdynamic -lm -ldl -pthread

Redis 4.0.8

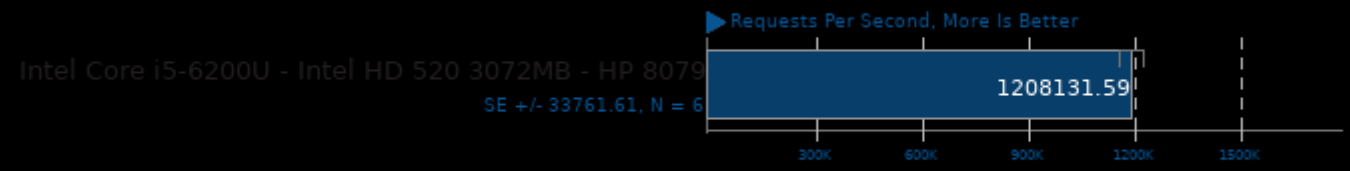
Test: SADD



1. (CC) gcc options: -ggdb -rdynamic -lm -ldl -pthread

Redis 4.0.8

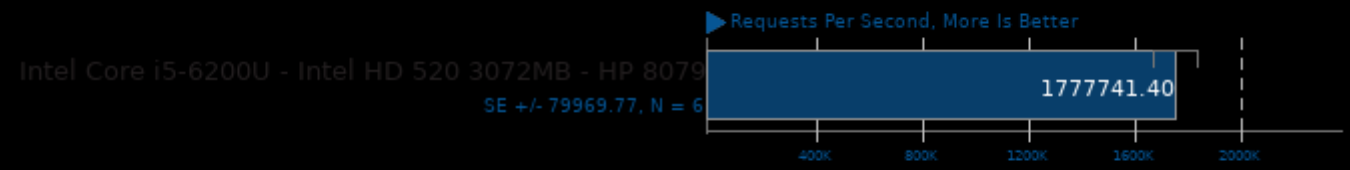
Test: LPUSH



1. (CC) gcc options: -ggdb -rdynamic -lm -ldl -pthread

Redis 4.0.8

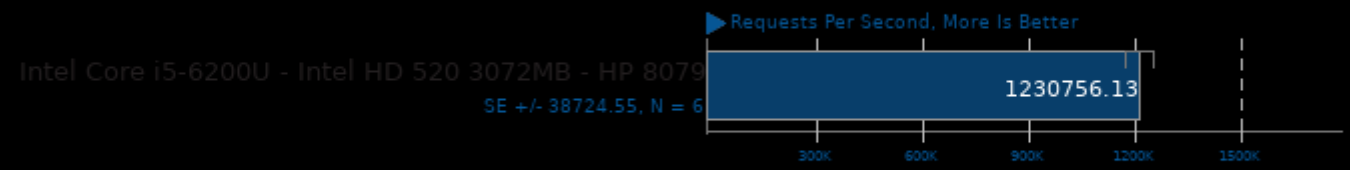
Test: GET



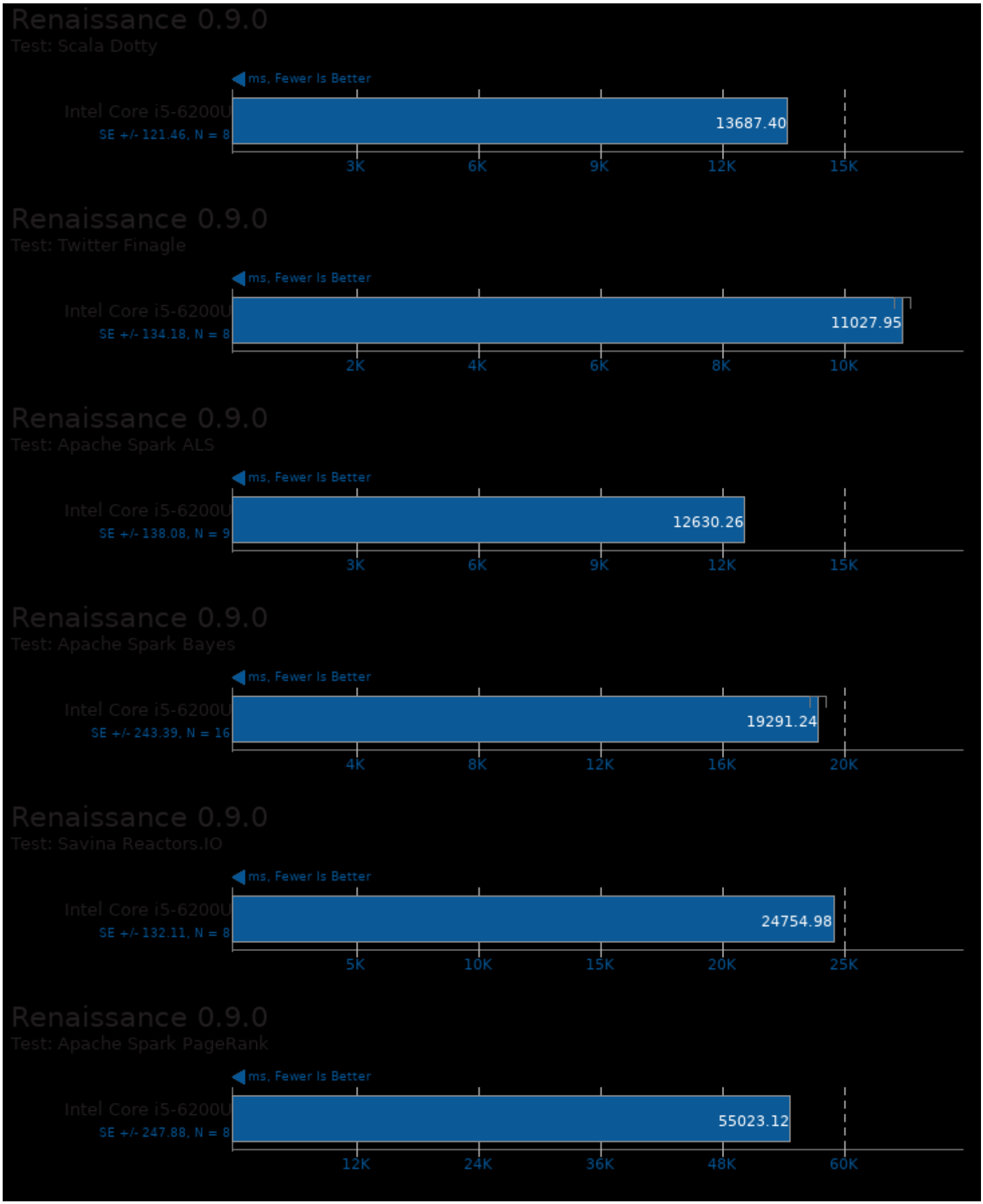
1. (CC) gcc options: -ggdb -rdynamic -lm -ldl -pthread

Redis 4.0.8

Test: SET

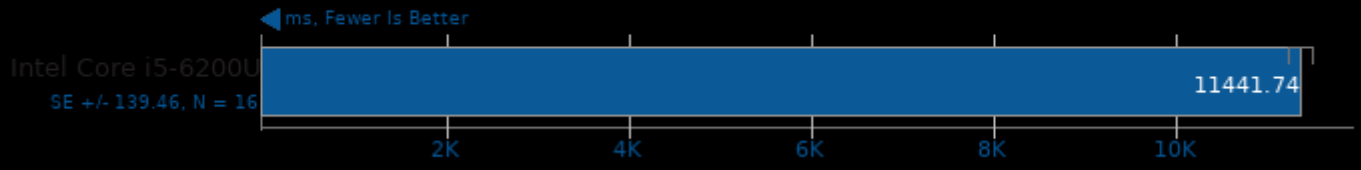


1. (CC) gcc options: -ggdb -rdynamic -lm -ldl -pthread


Renaissance 0.9.0
Test: Scala Dotty
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 121.46, N = 8
13687.40
3K
6K
9K
12K
15K
Renaissance 0.9.0
Test: Twitter Finagle
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 134.18, N = 8
11027.95
2K
4K
6K
8K
10K
Renaissance 0.9.0
Test: Apache Spark ALS
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 138.08, N = 9
12630.26
3K
6K
9K
12K
15K
Renaissance 0.9.0
Test: Apache Spark Bayes
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 243.39, N = 16
19291.24
4K
8K
12K
16K
20K
Renaissance 0.9.0
Test: Savina Reactors.IO
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 132.11, N = 8
24754.98
5K
10K
15K
20K
25K
Renaissance 0.9.0
Test: Apache Spark PageRank
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 247.88, N = 8
55023.12
12K
24K
36K
48K
60K

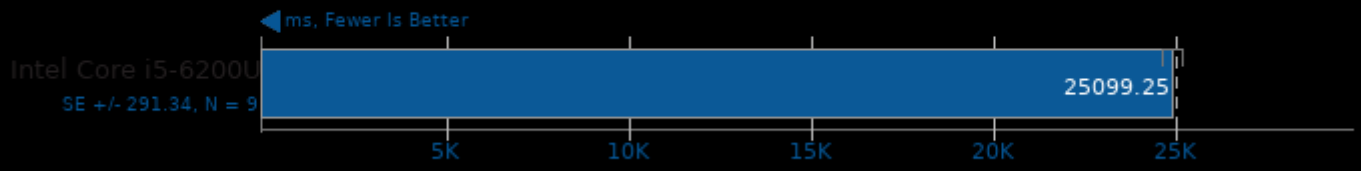
Renaissance 0.9.0

Test: In-Memory Database Shootout



Renaissance 0.9.0

Test: Akka Unbalanced Cobwebbed Tree



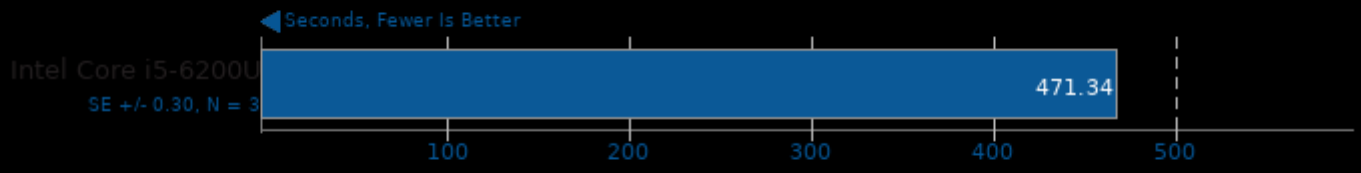
Render Bench



1. (CC) gcc options: -lm -lX11 -lXext -lXrender -llmlib2

Rodinia 2.4

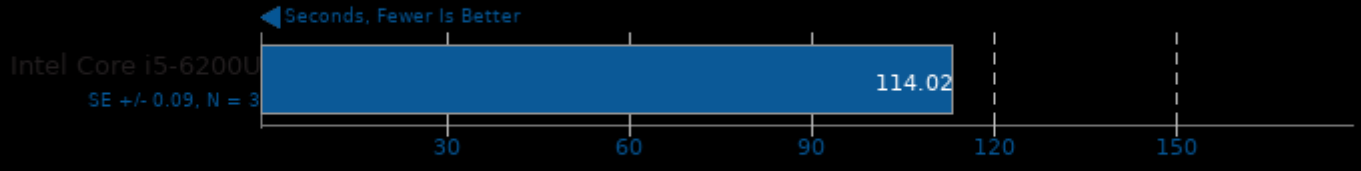
Test: OpenMP LavaMD



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

Rodinia 2.4

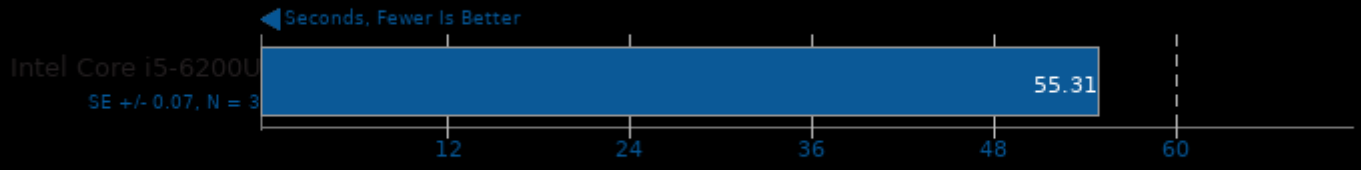
Test: OpenMP CFD Solver



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

Rodinia 2.4

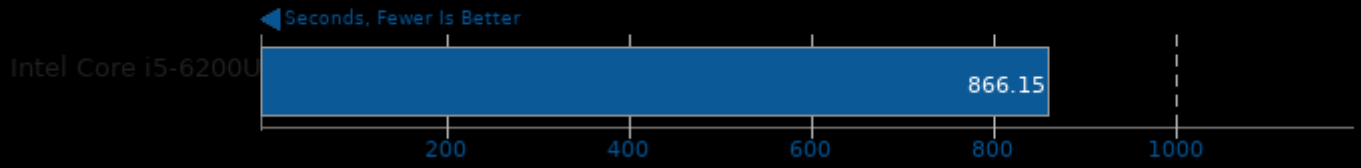
Test: OpenMP Streamcluster



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

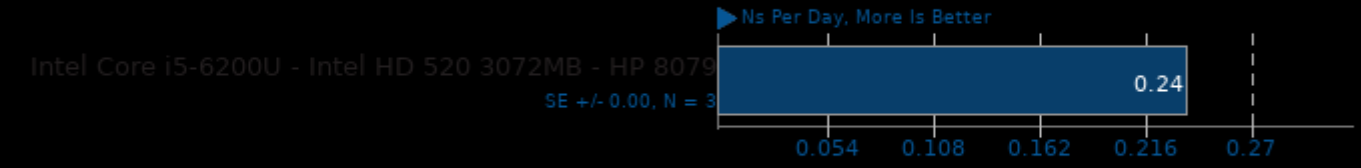
CP2K Molecular Dynamics 6.1

Fayalite-FIST Data



GROMACS 2018.3

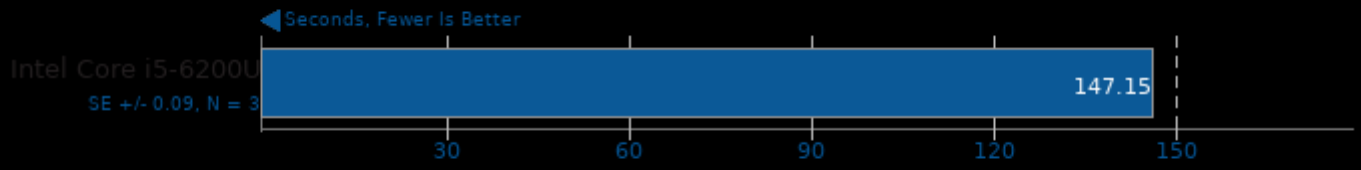
Water Benchmark



1. (CXX) g++ options: -march=core-avx2 -std=c++11 -O3 -funroll-all-loops -fopenmp -lrt -lpthread -lm

Rust Mandelbrot

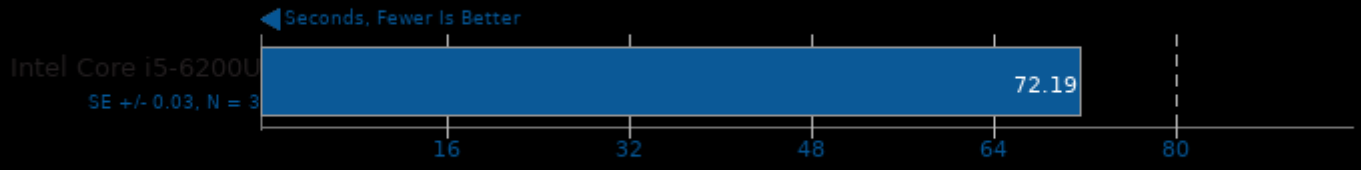
Time To Complete Serial/Parallel Mandelbrot



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

Rust Prime Benchmark

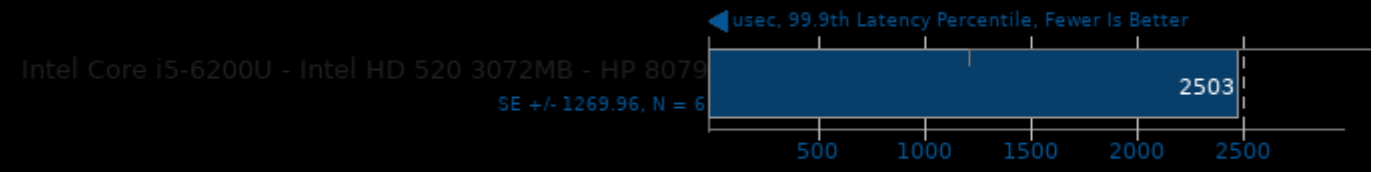
Prime Number Test To 200,000,000



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

Schbench

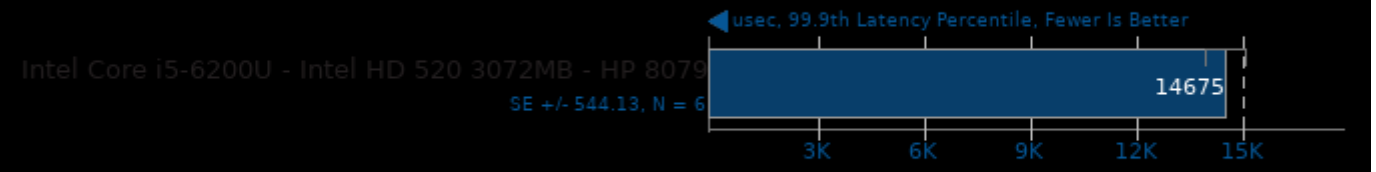
Message Threads: 2 - Workers Per Message Thread: 2



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

Schbench

Message Threads: 2 - Workers Per Message Thread: 4



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

Schbench

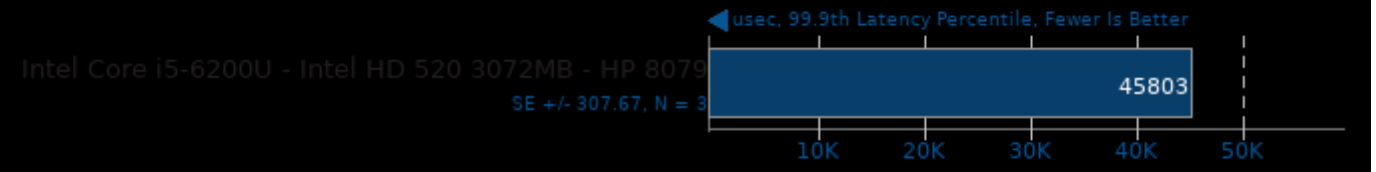
Message Threads: 2 - Workers Per Message Thread: 6



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

Schbench

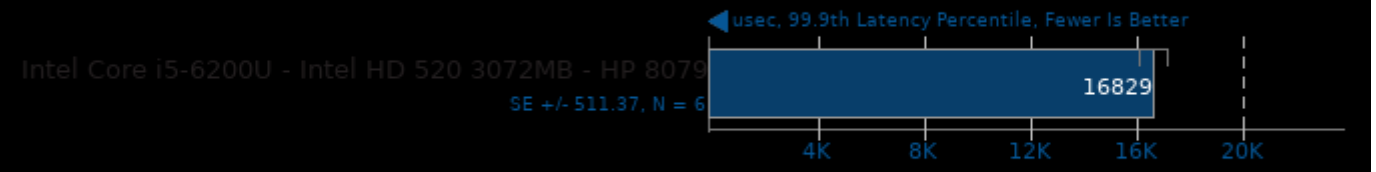
Message Threads: 2 - Workers Per Message Thread: 8



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

Schbench

Message Threads: 4 - Workers Per Message Thread: 2



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

Schbench

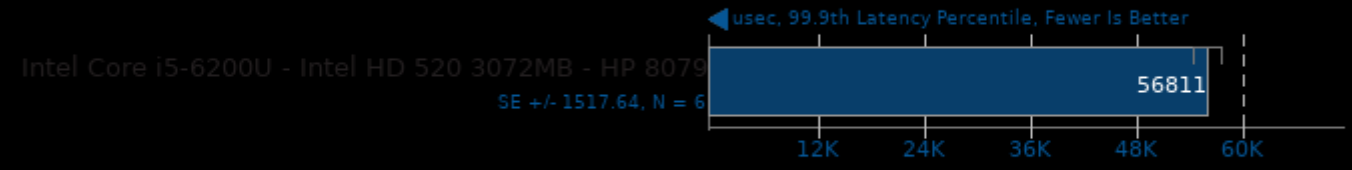
Message Threads: 4 - Workers Per Message Thread: 4



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

Schbench

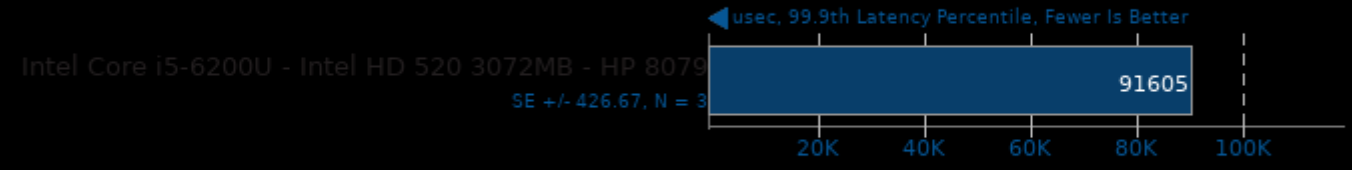
Message Threads: 4 - Workers Per Message Thread: 6



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

Schbench

Message Threads: 4 - Workers Per Message Thread: 8



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

Schbench

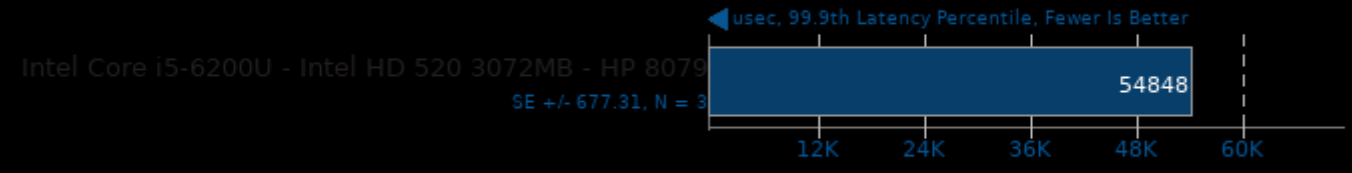
Message Threads: 6 - Workers Per Message Thread: 2



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

Schbench

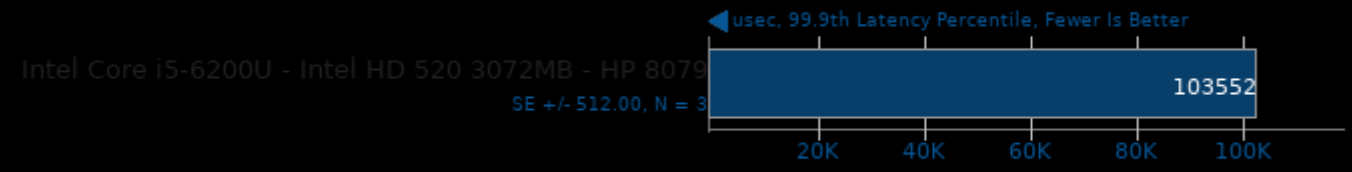
Message Threads: 6 - Workers Per Message Thread: 4



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

Schbench

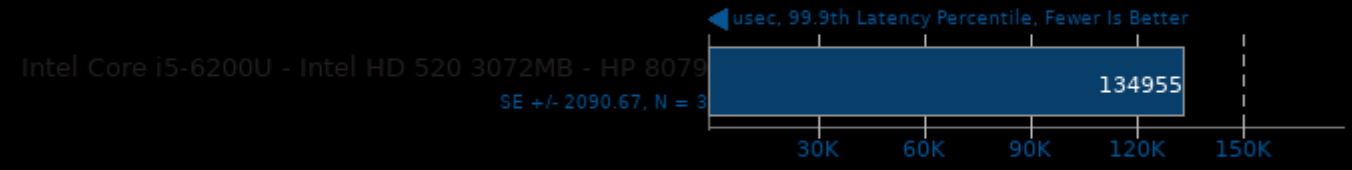
Message Threads: 6 - Workers Per Message Thread: 6



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

Schbench

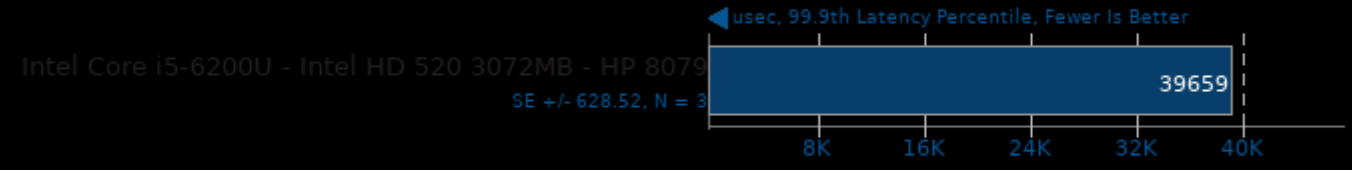
Message Threads: 6 - Workers Per Message Thread: 8



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

Schbench

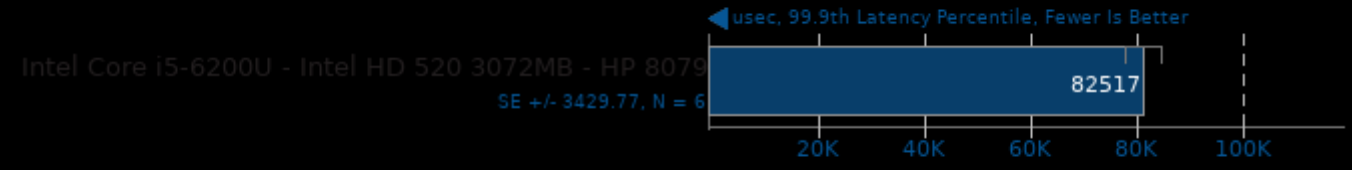
Message Threads: 8 - Workers Per Message Thread: 2



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

Schbench

Message Threads: 8 - Workers Per Message Thread: 4



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

Schbench

Message Threads: 8 - Workers Per Message Thread: 6



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

Schbench

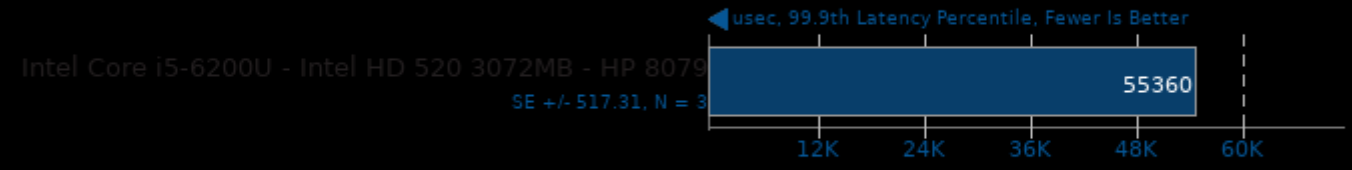
Message Threads: 8 - Workers Per Message Thread: 8



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

Schbench

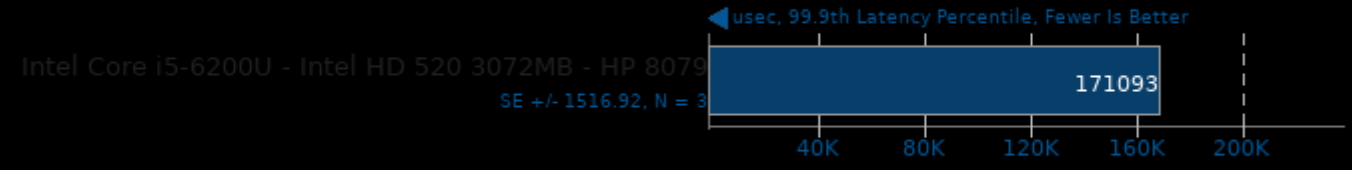
Message Threads: 16 - Workers Per Message Thread: 2



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

Schbench

Message Threads: 16 - Workers Per Message Thread: 4



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

Schbench

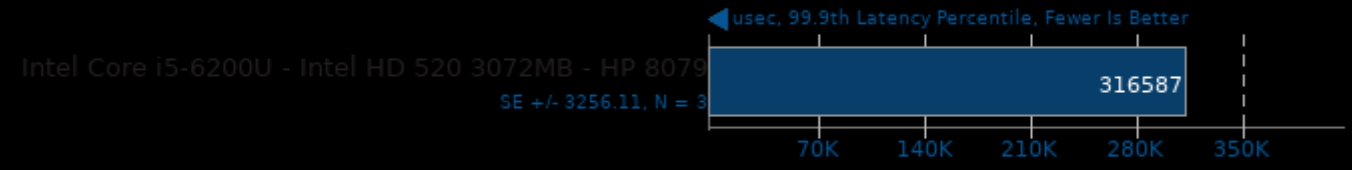
Message Threads: 16 - Workers Per Message Thread: 6



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

Schbench

Message Threads: 16 - Workers Per Message Thread: 8



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

Schbench

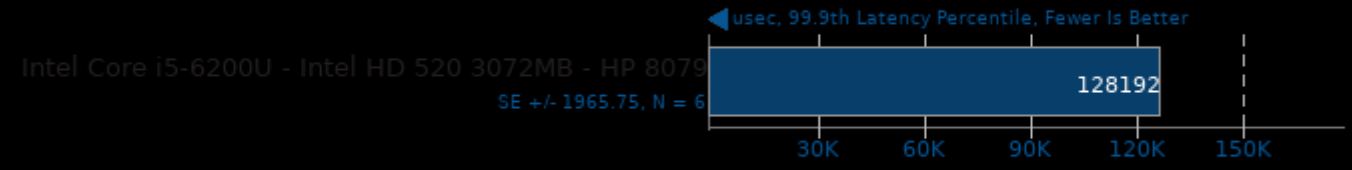
Message Threads: 2 - Workers Per Message Thread: 16



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

Schbench

Message Threads: 2 - Workers Per Message Thread: 24



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

Schbench

Message Threads: 2 - Workers Per Message Thread: 32



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

Schbench

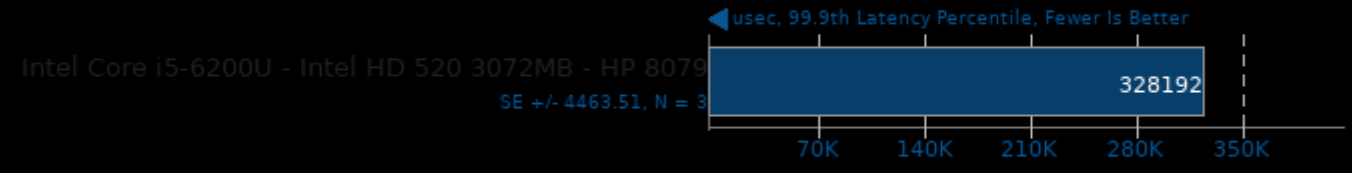
Message Threads: 32 - Workers Per Message Thread: 2



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

Schbench

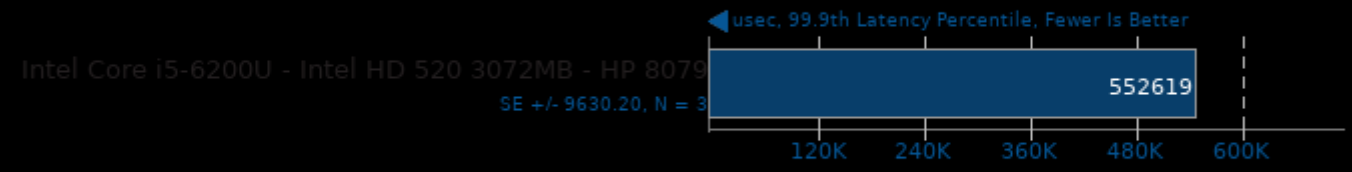
Message Threads: 32 - Workers Per Message Thread: 4



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

Schbench

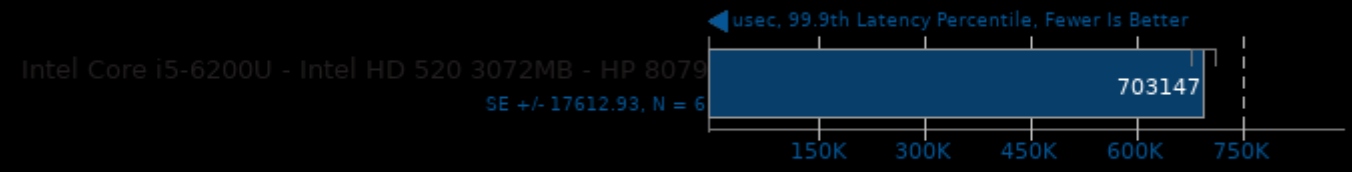
Message Threads: 32 - Workers Per Message Thread: 6



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

Schbench

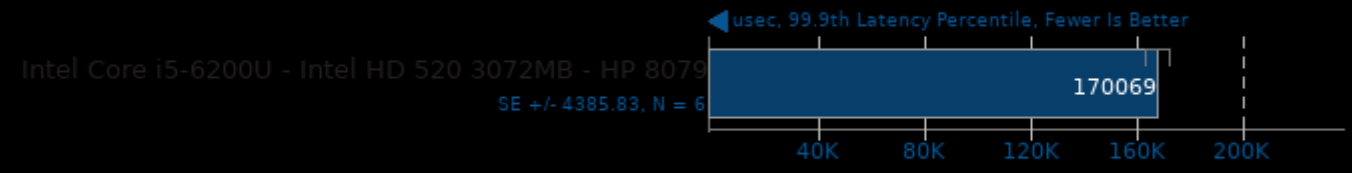
Message Threads: 32 - Workers Per Message Thread: 8



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

Schbench

Message Threads: 4 - Workers Per Message Thread: 16



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

Schbench

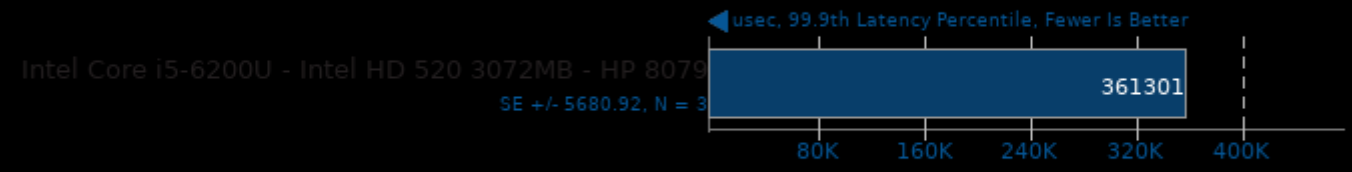
Message Threads: 4 - Workers Per Message Thread: 24



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

Schbench

Message Threads: 4 - Workers Per Message Thread: 32



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

Schbench

Message Threads: 6 - Workers Per Message Thread: 16



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

Schbench

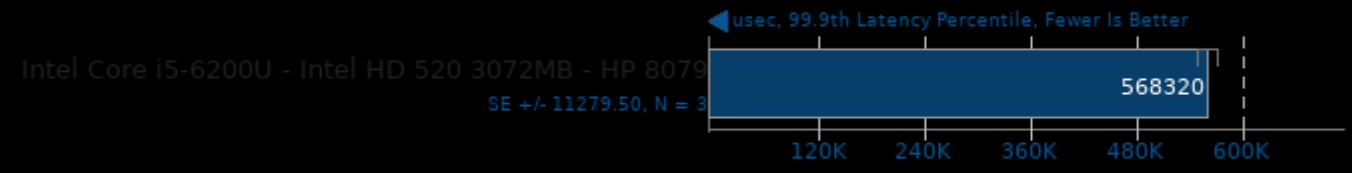
Message Threads: 6 - Workers Per Message Thread: 24



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

Schbench

Message Threads: 6 - Workers Per Message Thread: 32



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

Schbench

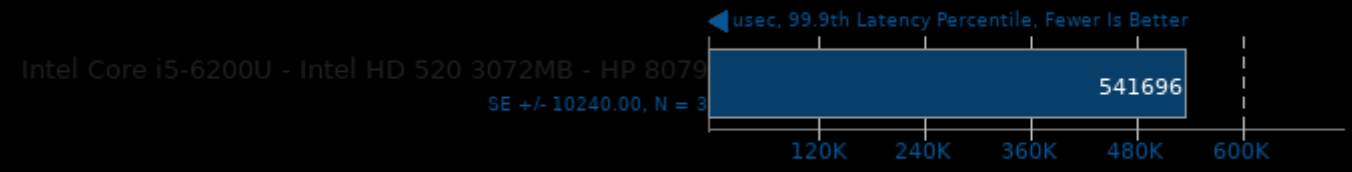
Message Threads: 8 - Workers Per Message Thread: 16



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

Schbench

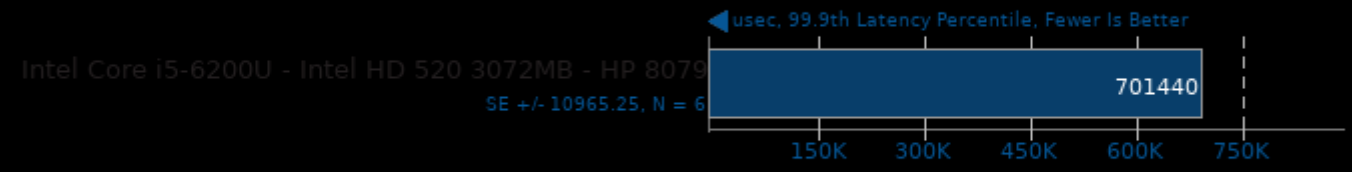
Message Threads: 8 - Workers Per Message Thread: 24



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

Schbench

Message Threads: 8 - Workers Per Message Thread: 32



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

Schbench

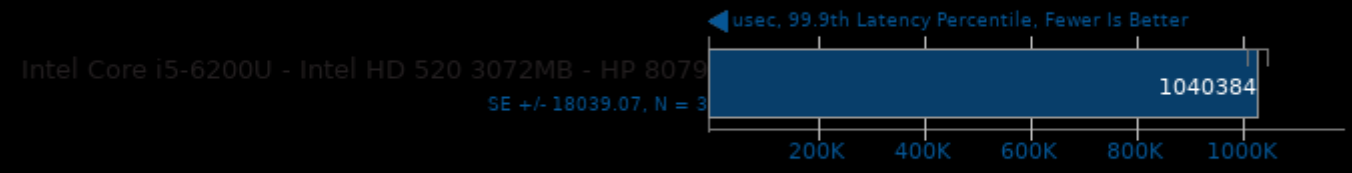
Message Threads: 16 - Workers Per Message Thread: 16



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

Schbench

Message Threads: 16 - Workers Per Message Thread: 24



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

Schbench

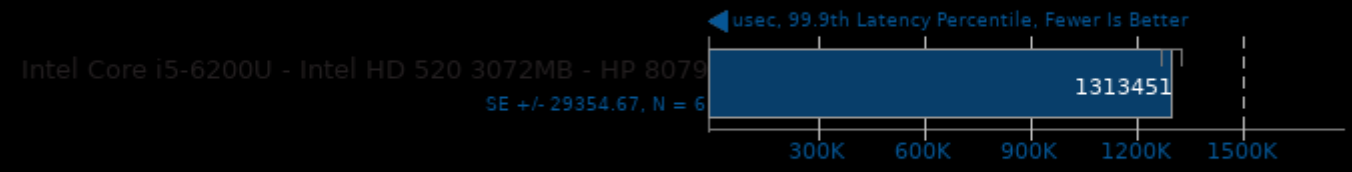
Message Threads: 16 - Workers Per Message Thread: 32



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

Schbench

Message Threads: 32 - Workers Per Message Thread: 16



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

Schbench

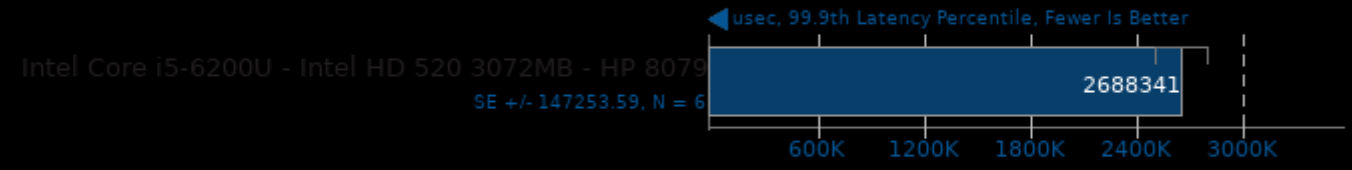
Message Threads: 32 - Workers Per Message Thread: 24



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

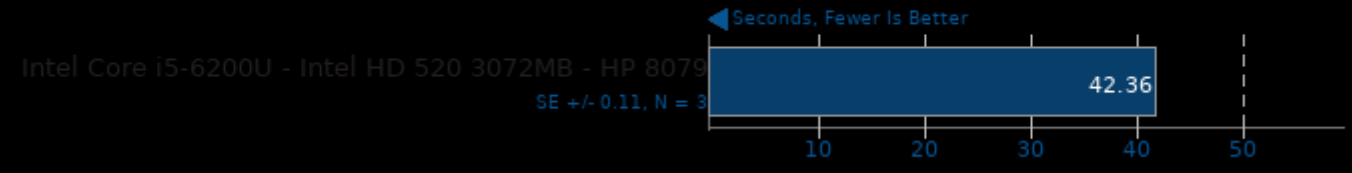
Schbench

Message Threads: 32 - Workers Per Message Thread: 32



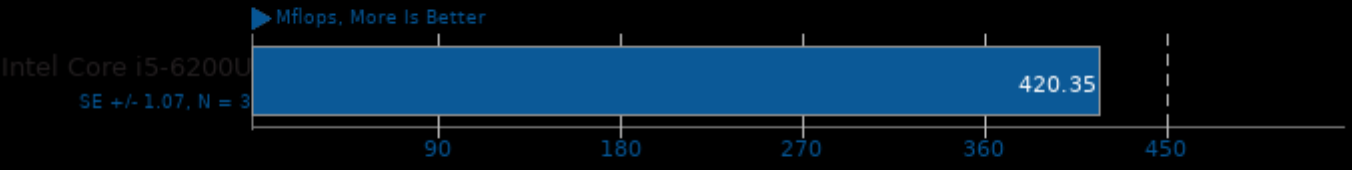
1. (CC) gcc options: -O2 -lpthread

Scikit-Learn 0.17.1



SciMark 2.0

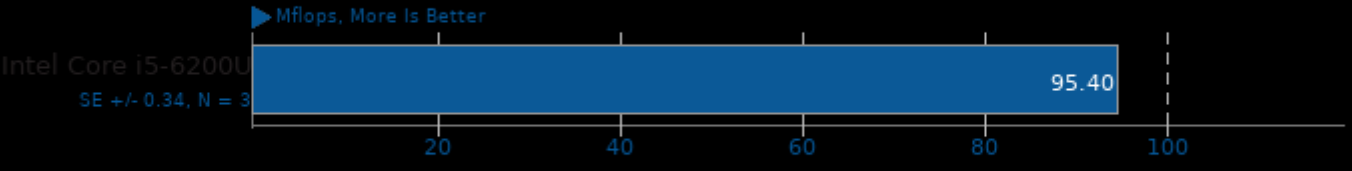
Computational Test: Composite



1. (CC) gcc options: -lm

SciMark 2.0

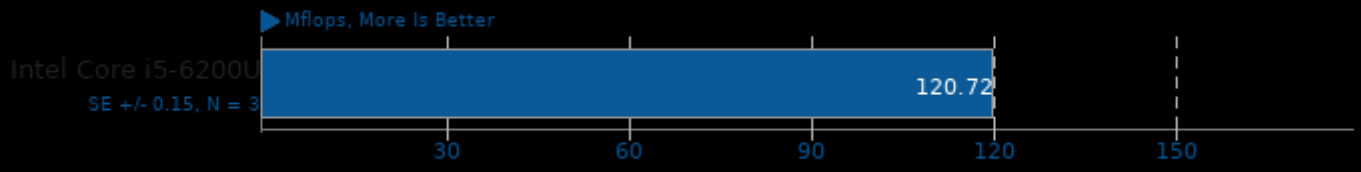
Computational Test: Monte Carlo



1. (CC) gcc options: -lm

SciMark 2.0

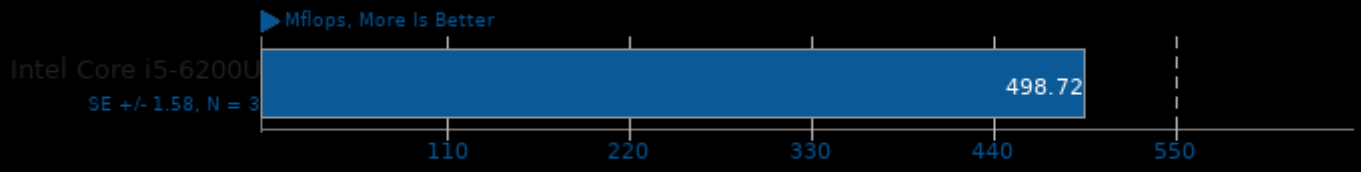
Computational Test: Fast Fourier Transform



1. (CC) gcc options: -lm

SciMark 2.0

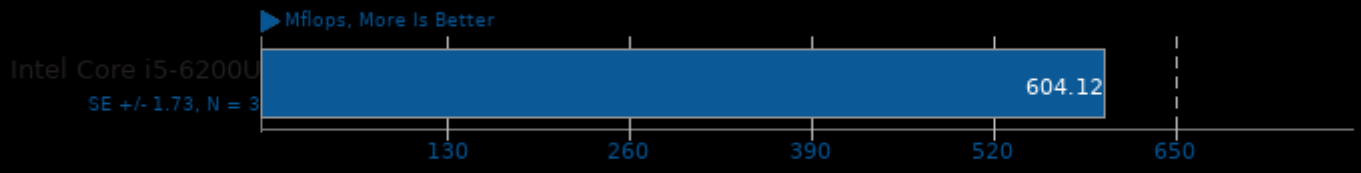
Computational Test: Sparse Matrix Multiply



1. (CC) gcc options: -lm

SciMark 2.0

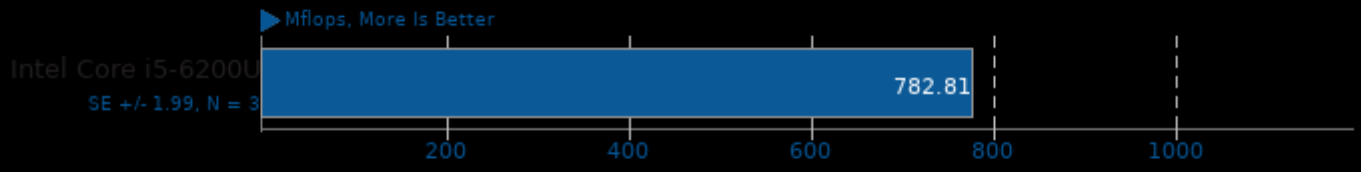
Computational Test: Dense LU Matrix Factorization



1. (CC) gcc options: -lm

SciMark 2.0

Computational Test: Jacobi Successive Over-Relaxation



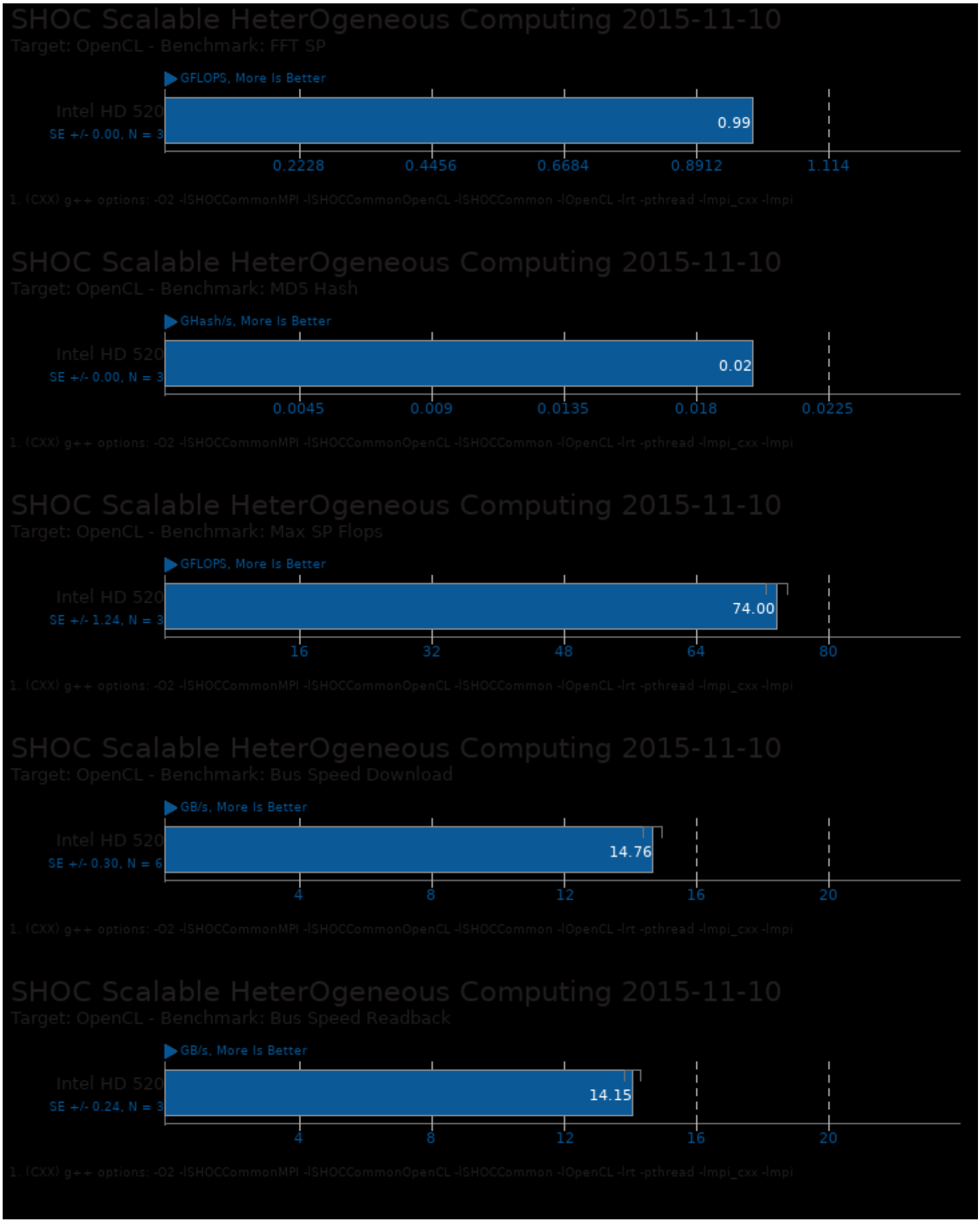
1. (CC) gcc options: -lm

SHOC Scalable HeterOgeneous Computing 2015-11-10

Target: OpenCL - Benchmark: Triad

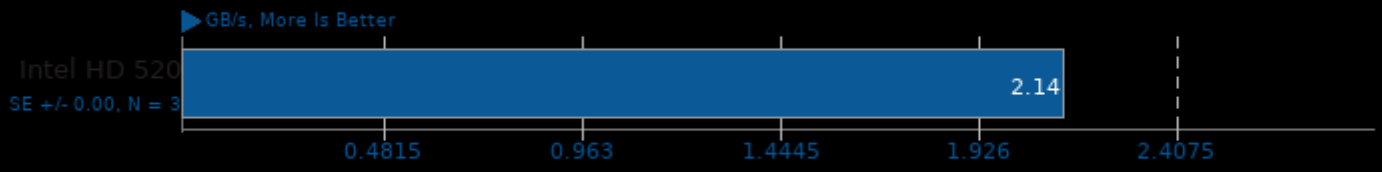


1. (CXX) g++ options: -O2 -lSHOCCommonMPI -lSHOCCommonOpenCL -lSHOCCommon -lOpenCL -lrt -pthread -lmpi_cxx -lmpi


SHOC Scalable HeterOgeneous Computing 2015-11-10
Target: OpenCL - Benchmark: FFT SP
GFLOPS, More Is Better
Intel HD 520
SE +/- 0.00, N = 3
0.99
0.2228
0.4456
0.6684
0.8912
1.114
1. (CXX) g++ options: -O2 -lSHOCCommonMPI -lSHOCCommonOpenCL -lSHOCCommon -lOpenCL -lrt -pthread -lmpi_cxx -lmpi
SHOC Scalable HeterOgeneous Computing 2015-11-10
Target: OpenCL - Benchmark: MD5 Hash
GHash/s, More Is Better
Intel HD 520
SE +/- 0.00, N = 3
0.02
0.0045
0.009
0.0135
0.018
0.0225
1. (CXX) g++ options: -O2 -lSHOCCommonMPI -lSHOCCommonOpenCL -lSHOCCommon -lOpenCL -lrt -pthread -lmpi_cxx -lmpi
SHOC Scalable HeterOgeneous Computing 2015-11-10
Target: OpenCL - Benchmark: Max SP Flops
GFLOPS, More Is Better
Intel HD 520
SE +/- 1.24, N = 3
74.00
16
32
48
64
80
1. (CXX) g++ options: -O2 -lSHOCCommonMPI -lSHOCCommonOpenCL -lSHOCCommon -lOpenCL -lrt -pthread -lmpi_cxx -lmpi
SHOC Scalable HeterOgeneous Computing 2015-11-10
Target: OpenCL - Benchmark: Bus Speed Download
GB/s, More Is Better
Intel HD 520
SE +/- 0.30, N = 6
14.76
4
8
12
16
20
1. (CXX) g++ options: -O2 -lSHOCCommonMPI -lSHOCCommonOpenCL -lSHOCCommon -lOpenCL -lrt -pthread -lmpi_cxx -lmpi
SHOC Scalable HeterOgeneous Computing 2015-11-10
Target: OpenCL - Benchmark: Bus Speed Readback
GB/s, More Is Better
Intel HD 520
SE +/- 0.24, N = 3
14.15
4
8
12
16
20
1. (CXX) g++ options: -O2 -lSHOCCommonMPI -lSHOCCommonOpenCL -lSHOCCommon -lOpenCL -lrt -pthread -lmpi_cxx -lmpi

SHOC Scalable HeterOgeneous Computing 2015-11-10

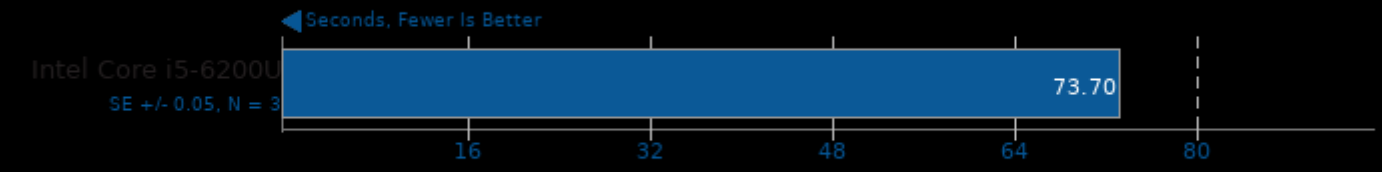
Target: OpenCL - Benchmark: Texture Read Bandwidth



1. (CXX) g++ options: -O2 -lSHOCCommonMPI -lSHOCCommonOpenCL -lSHOCCommon -lOpenCL -lrt -pthread -lmpi_cxx -lmpi

Smallpt 1.0

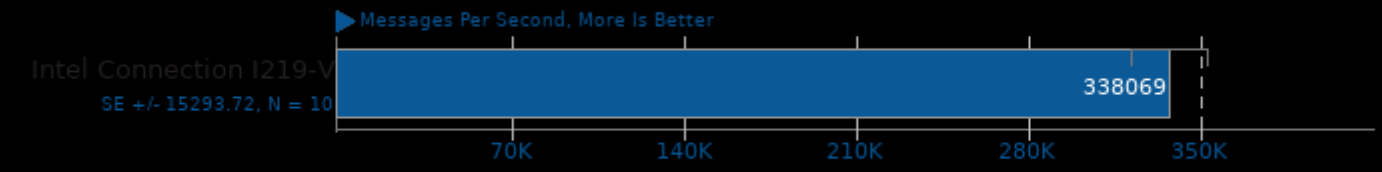
Global Illumination Renderer; 128 Samples



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

Sockperf 3.4

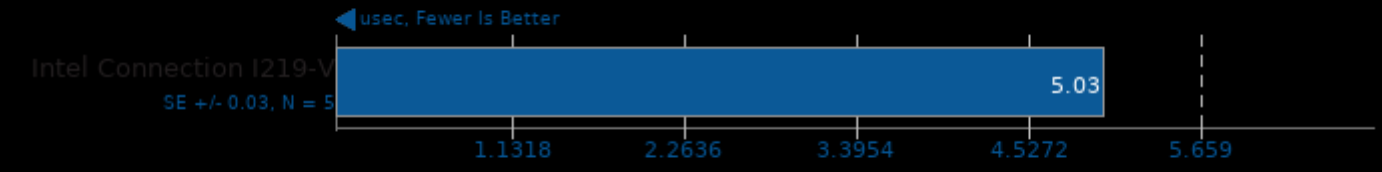
Test: Throughput



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

Sockperf 3.4

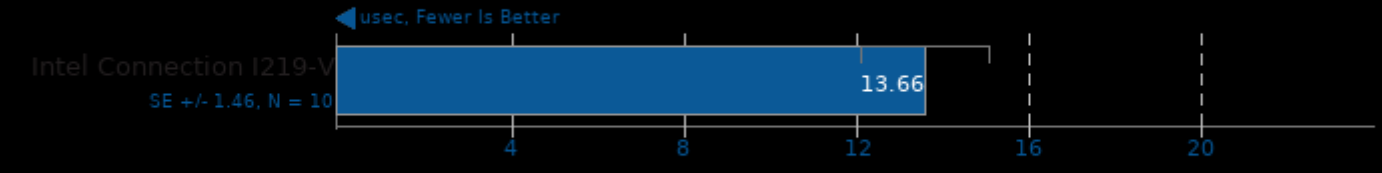
Test: Latency Ping Pong



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

Sockperf 3.4

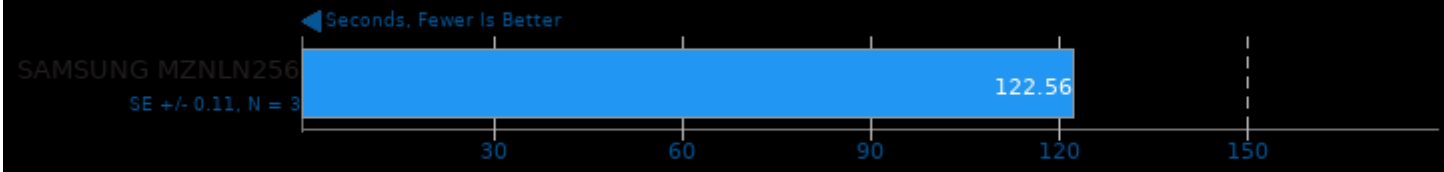
Test: Latency Under Load



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

SQLite 3.22

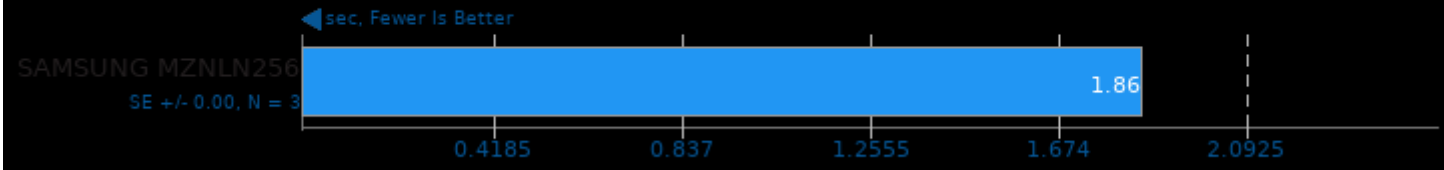
Timed SQLite Insertions



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

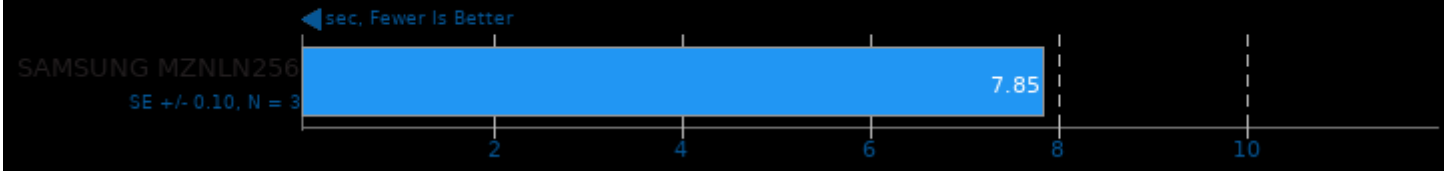
Application Start-up Time 3.4.0

Background I/O Mix: Only Sequential Reads - Application To Start: xterm - Disk Target: Default Test Directory



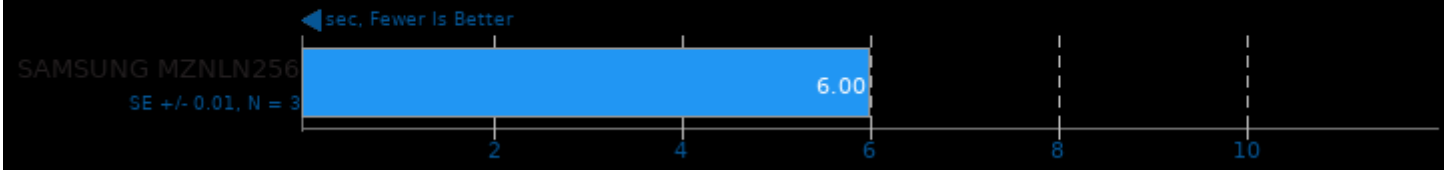
Application Start-up Time 3.4.0

Background I/O Mix: Only Sequential Reads - Application To Start: GNOME Terminal - Disk Target: Default Test Directory



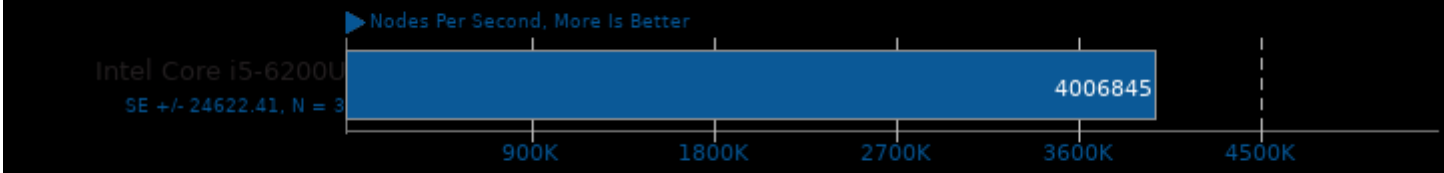
Application Start-up Time 3.4.0

Background I/O Mix: Only Sequential Reads - Application To Start: LibreOffice Writer - Disk Target: Default Test Directory



Stockfish 9

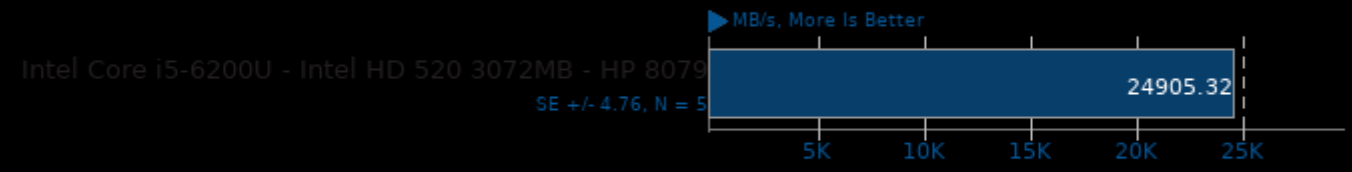
Total Time



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

Stream 2013-01-17

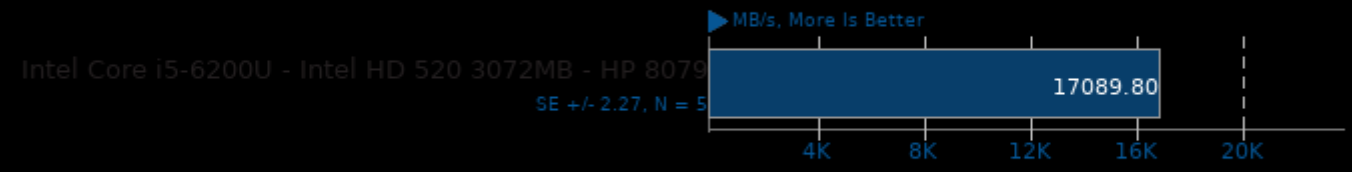
Type: Copy



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

Stream 2013-01-17

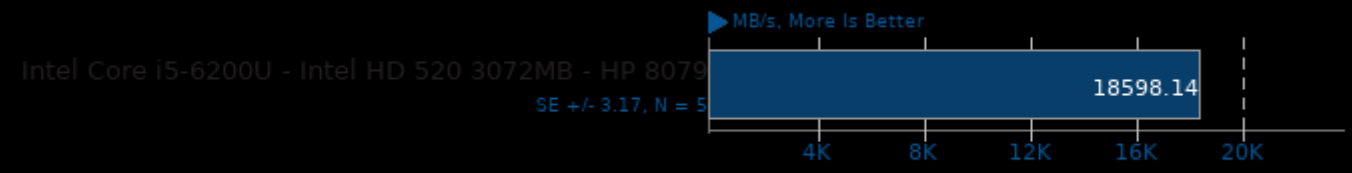
Type: Scale



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

Stream 2013-01-17

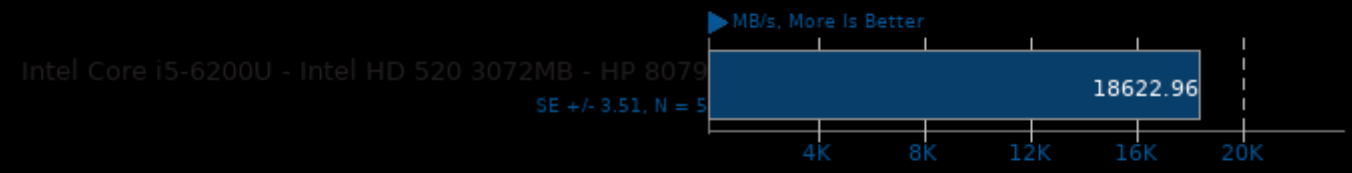
Type: Triad



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

Stream 2013-01-17

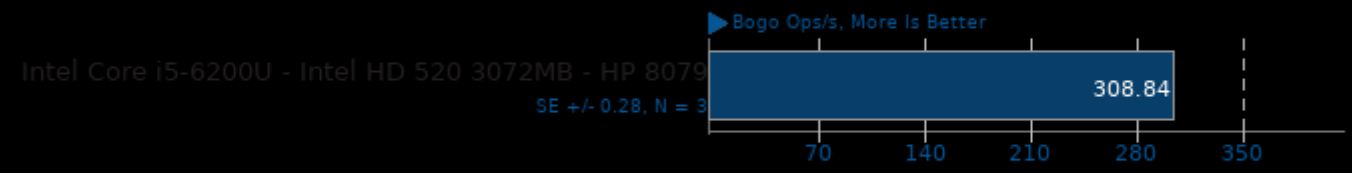
Type: Add



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

Stress-NG 0.07.26

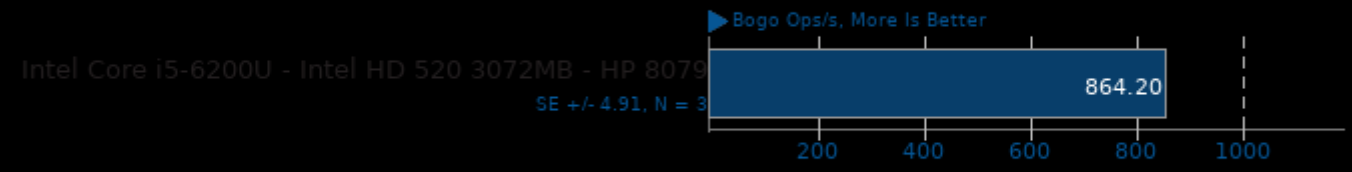
Test: Crypto



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

Stress-NG 0.07.26

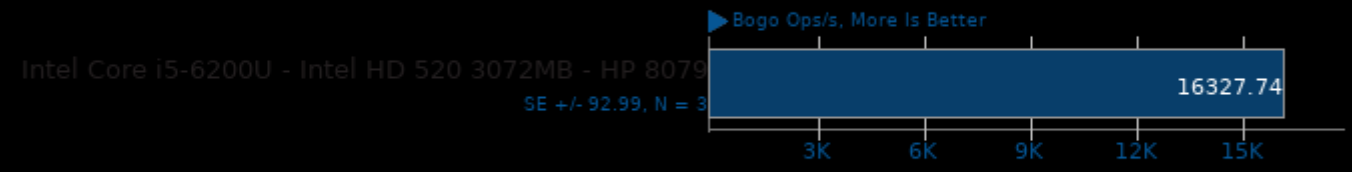
Test: Bsearch



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

Stress-NG 0.07.26

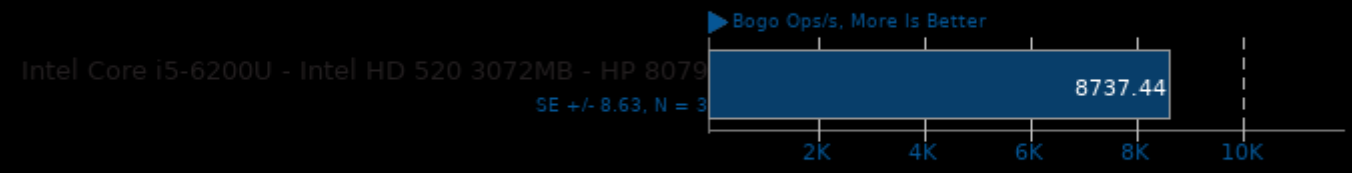
Test: Forking



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

Stress-NG 0.07.26

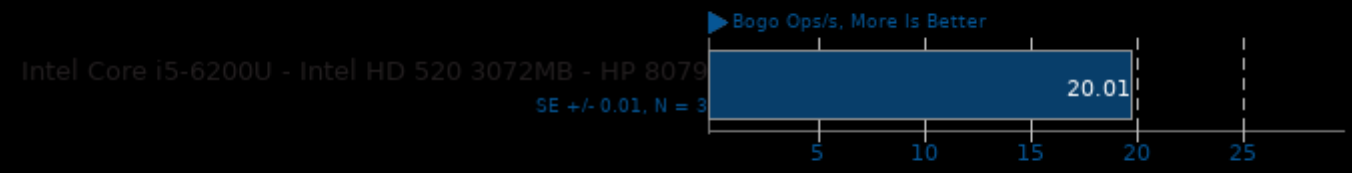
Test: Hsearch



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

Stress-NG 0.07.26

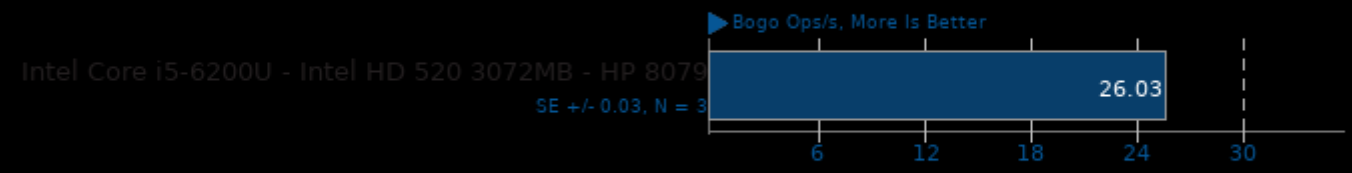
Test: Lsearch



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

Stress-NG 0.07.26

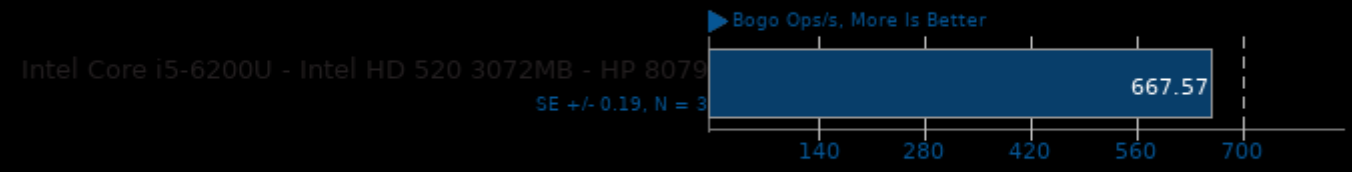
Test: Tsearch



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

Stress-NG 0.07.26

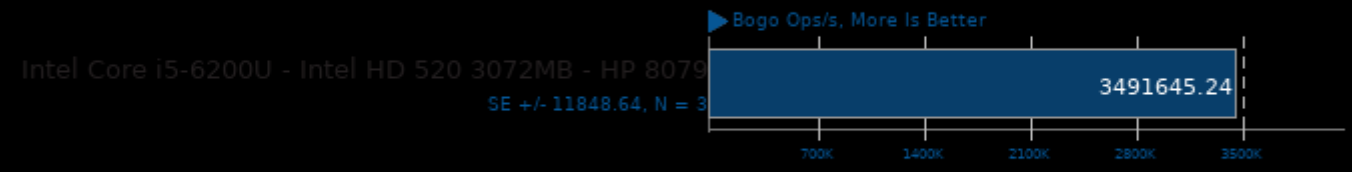
Test: CPU Stress



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

Stress-NG 0.07.26

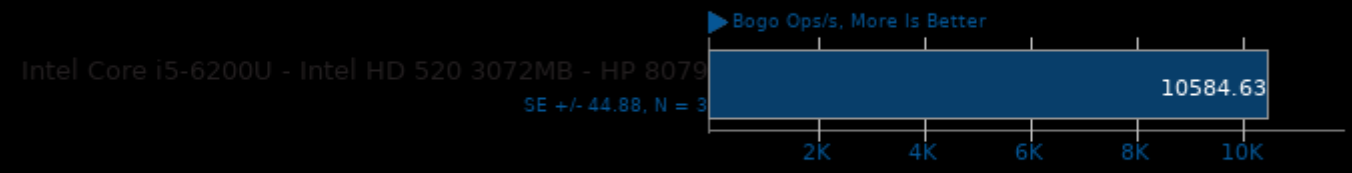
Test: Semaphores



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

Stress-NG 0.07.26

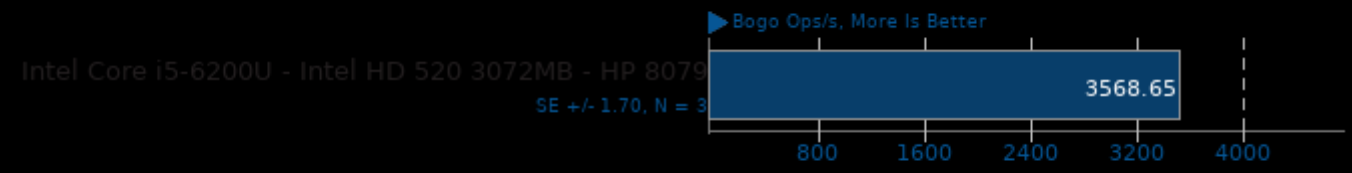
Test: Matrix Math



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

Stress-NG 0.07.26

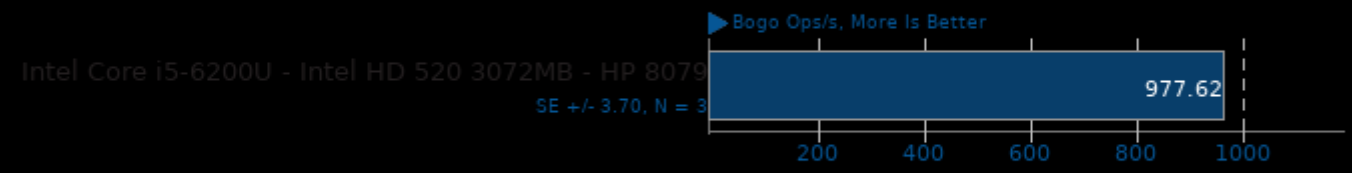
Test: Vector Math



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

Stress-NG 0.07.26

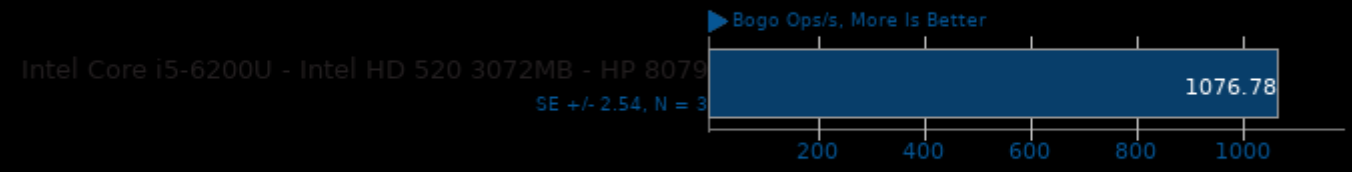
Test: Memory Copying



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

Stress-NG 0.07.26

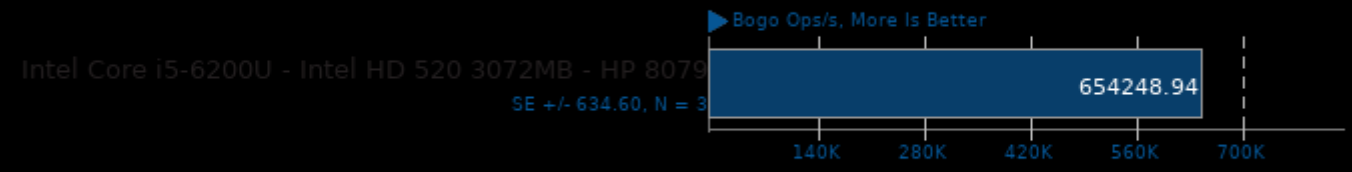
Test: Socket Activity



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

Stress-NG 0.07.26

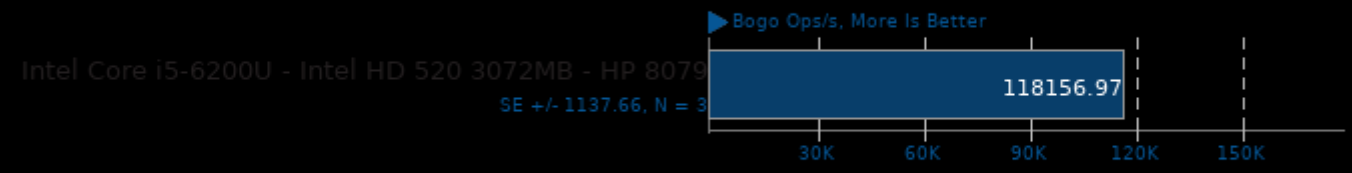
Test: Context Switching



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

Stress-NG 0.07.26

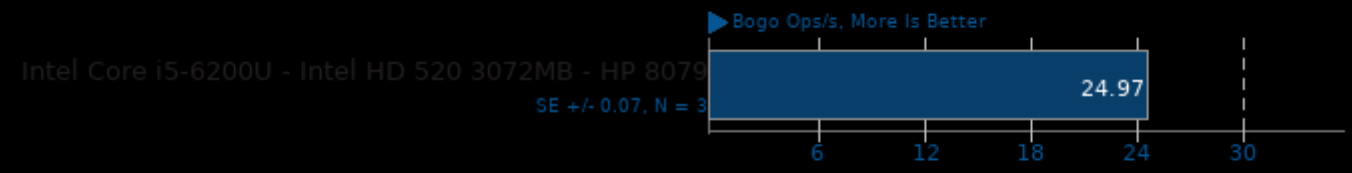
Test: Glibc C String Functions



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

Stress-NG 0.07.26

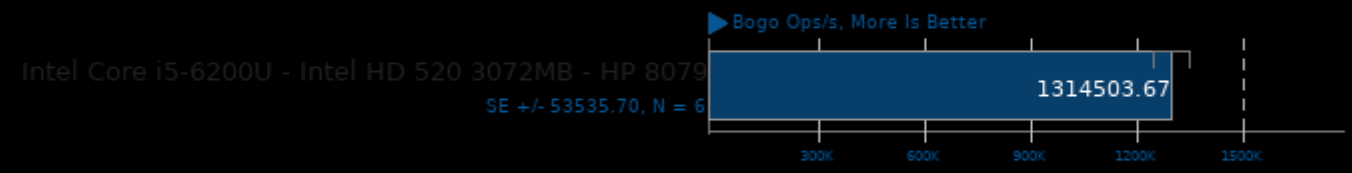
Test: Glibc Qsort Data Sorting



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

Stress-NG 0.07.26

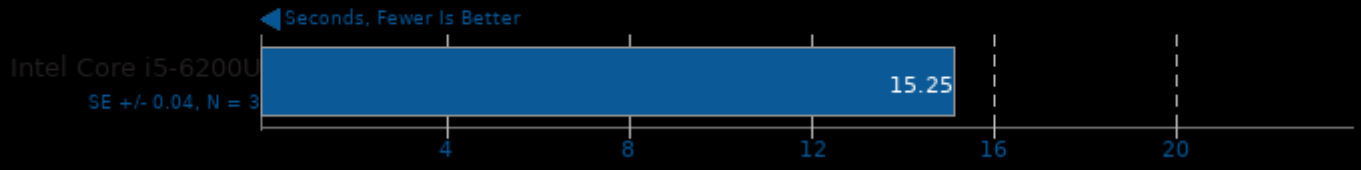
Test: System V Message Passing



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

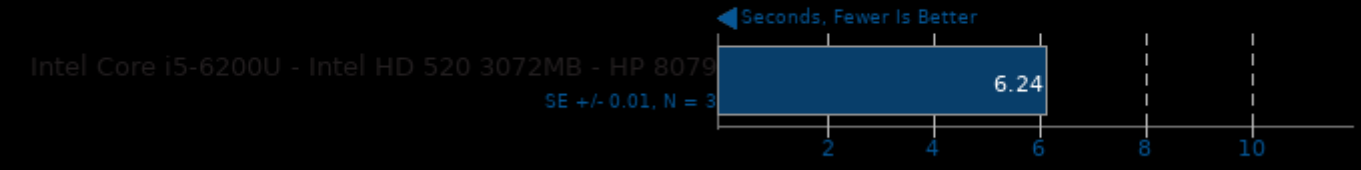
Sudokut 0.4

Total Time



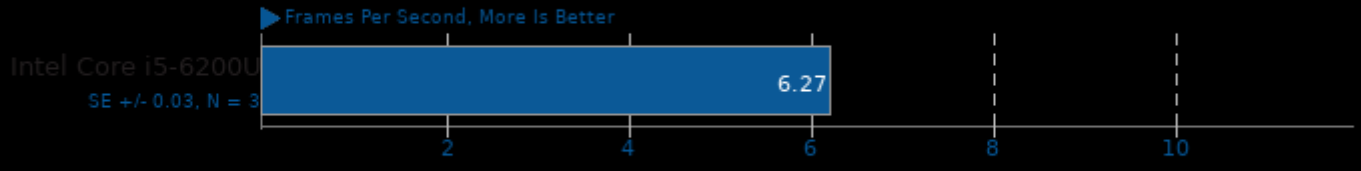
Sunflow Rendering System 0.07.2

Global Illumination + Image Synthesis



SVT-AV1 0.5

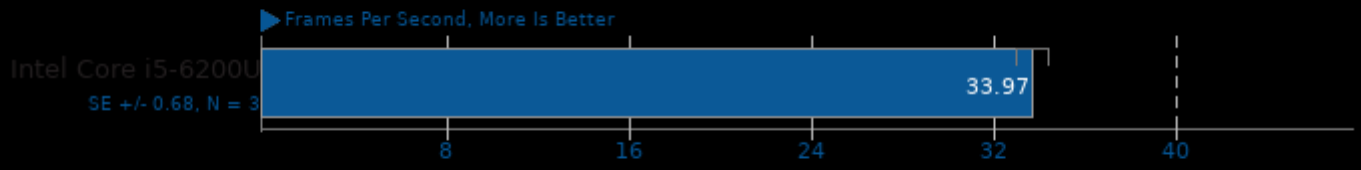
1080p 8-bit YUV To AV1 Video Encode



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

SVT-HEVC 2019-02-03

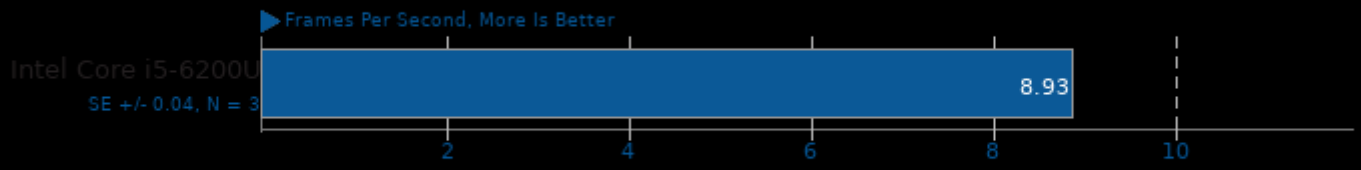
1080p 8-bit YUV To HEVC Video Encode



1. (CC) gcc options: -fPIE -fPIC -O2 -flto -fvisibility=hidden -march=native -pie -rdynamic -lpthread -lrt

SVT-VP9 2019-02-17

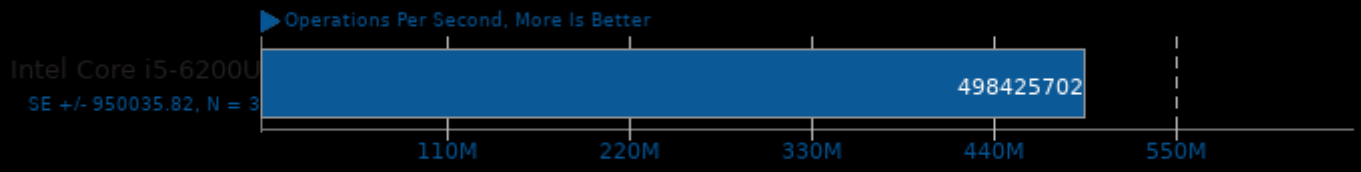
1080p 8-bit YUV To VP9 Video Encode



1. (CC) gcc options: -fPIE -fPIC -O2 -flto -fvisibility=hidden -mavx -pie -rdynamic -lpthread -lrt -lm

Swet 1.5.16

Average



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

Sysbench 2018-07-28

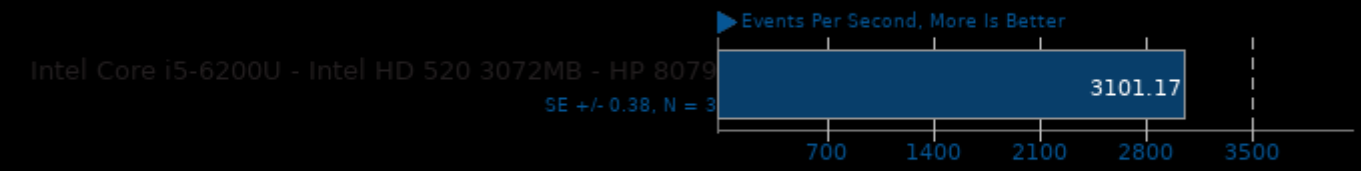
Test: Memory



1. (CC) gcc options: -pthread -O3 -funroll-loops -ggdb3 -march=core2 -rdynamic -ldl -laio -lm

Sysbench 2018-07-28

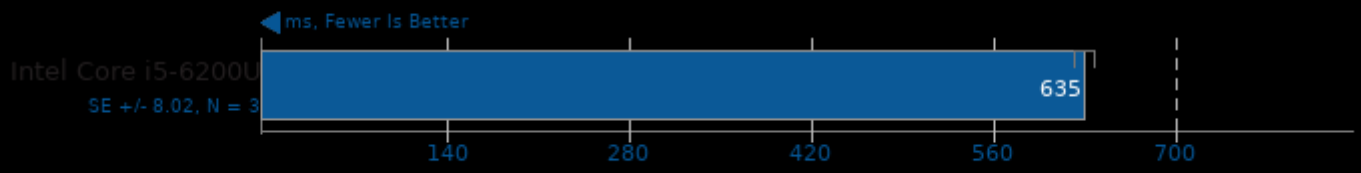
Test: CPU



1. (CC) gcc options: -pthread -O3 -funroll-loops -ggdb3 -march=core2 -rdynamic -ldl -laio -lm

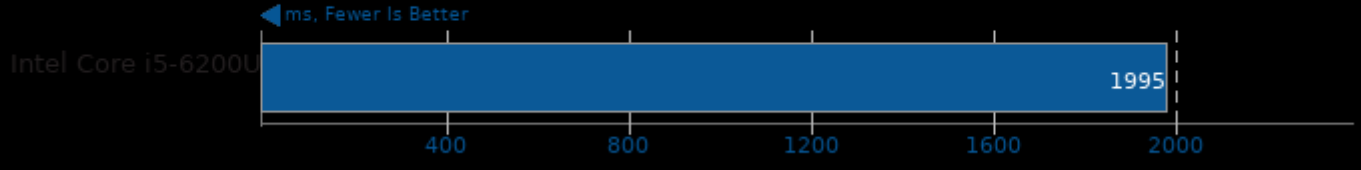
System Libxml2 Parsing

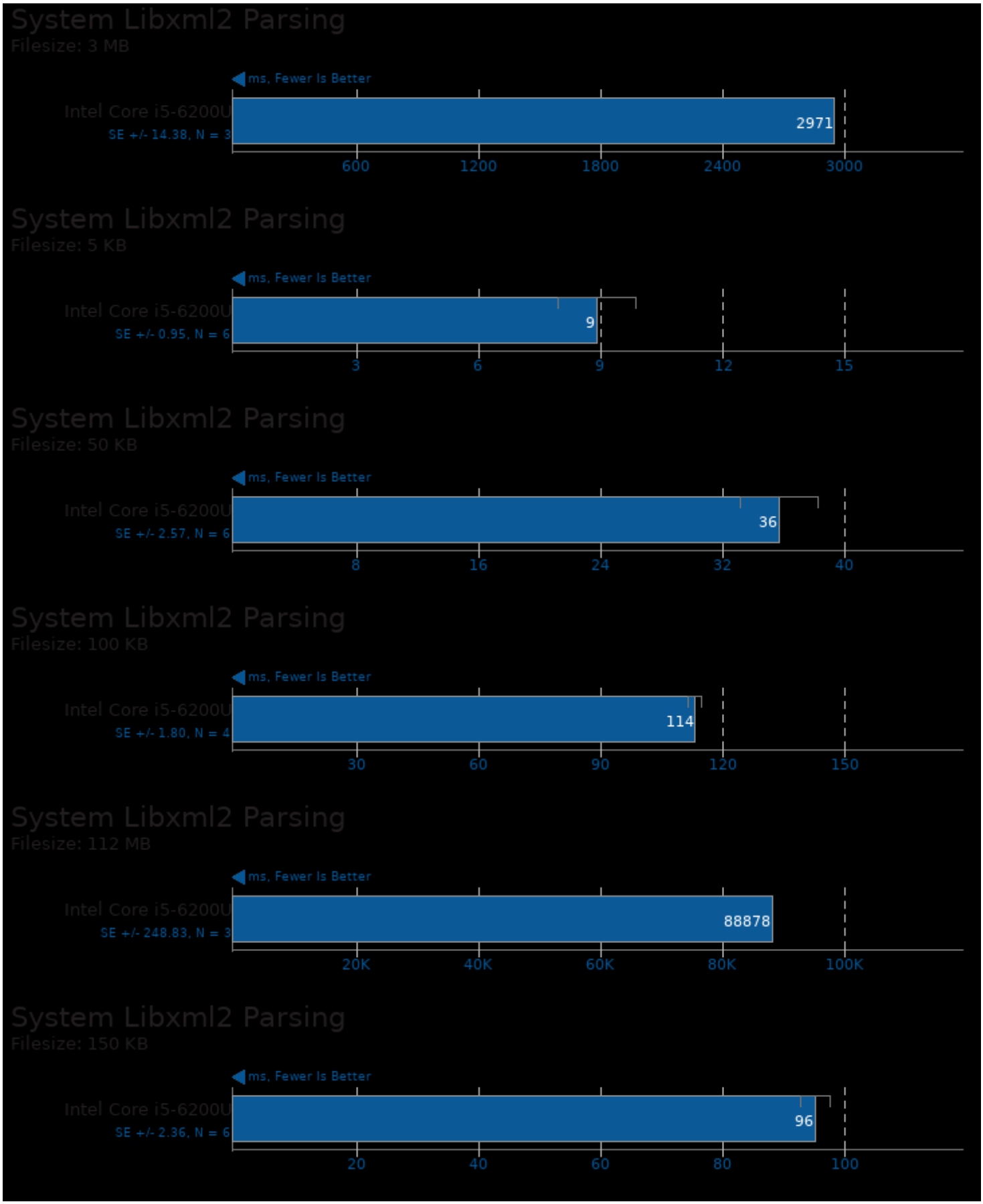
Filesize: 1 MB

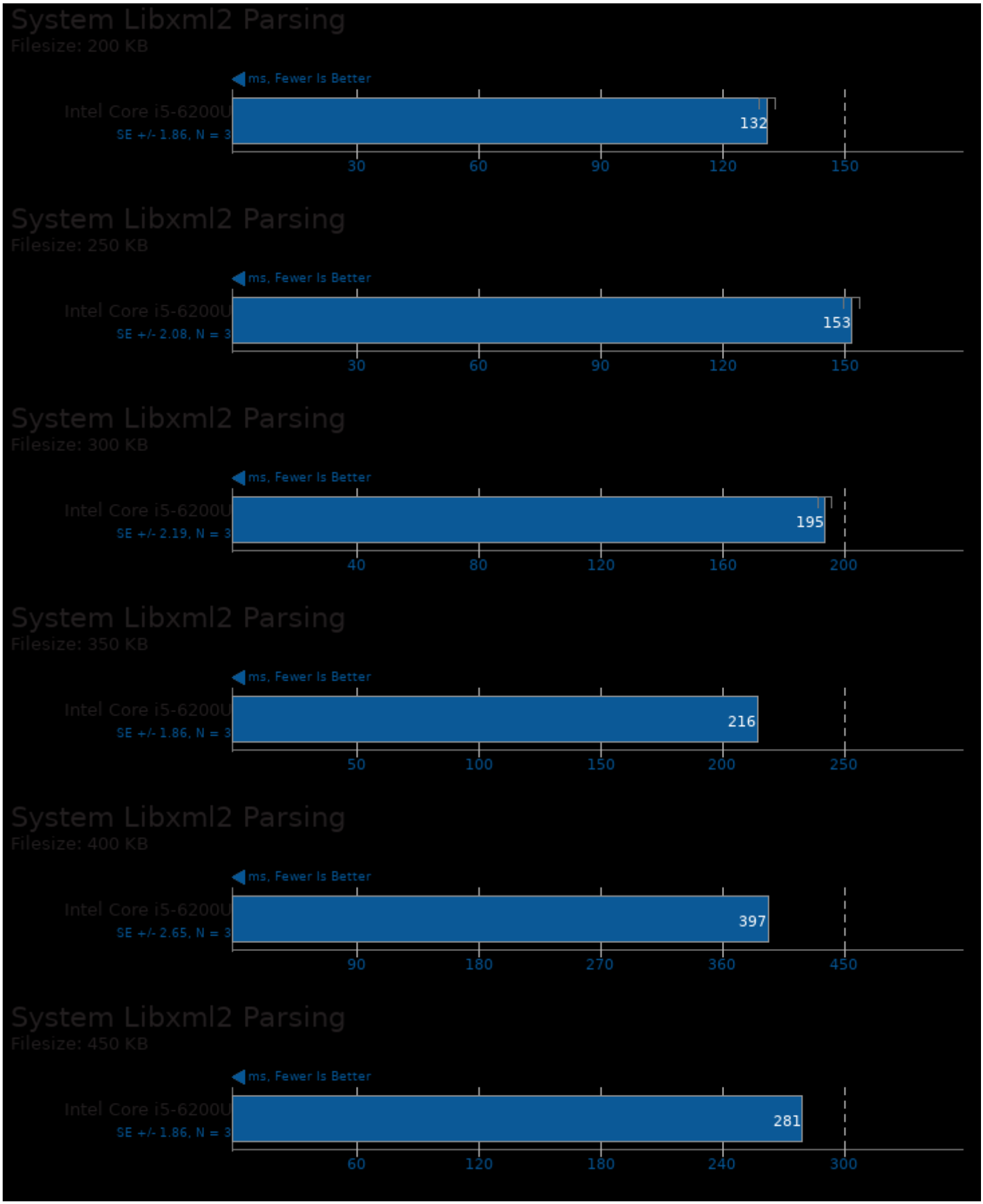


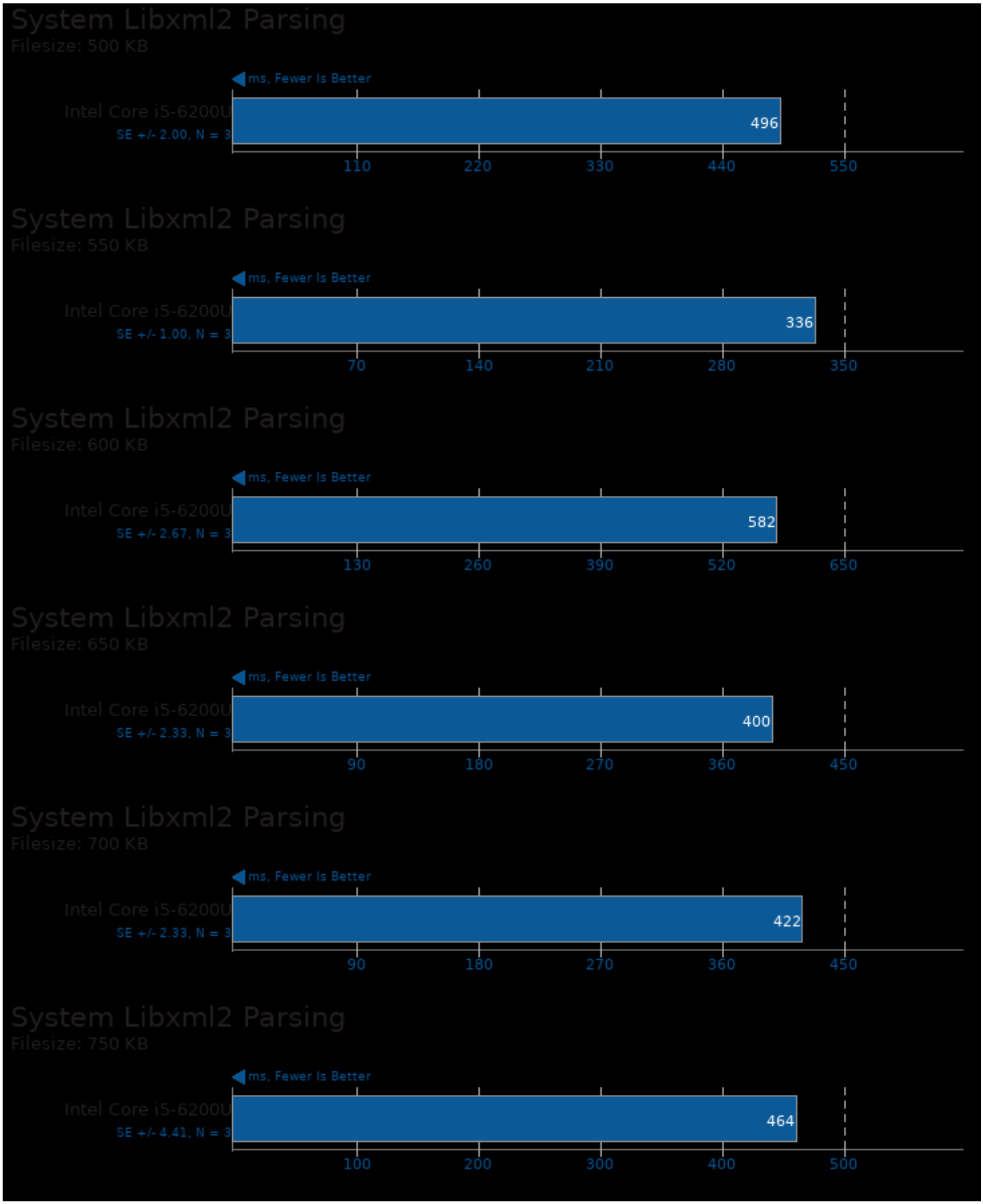
System Libxml2 Parsing

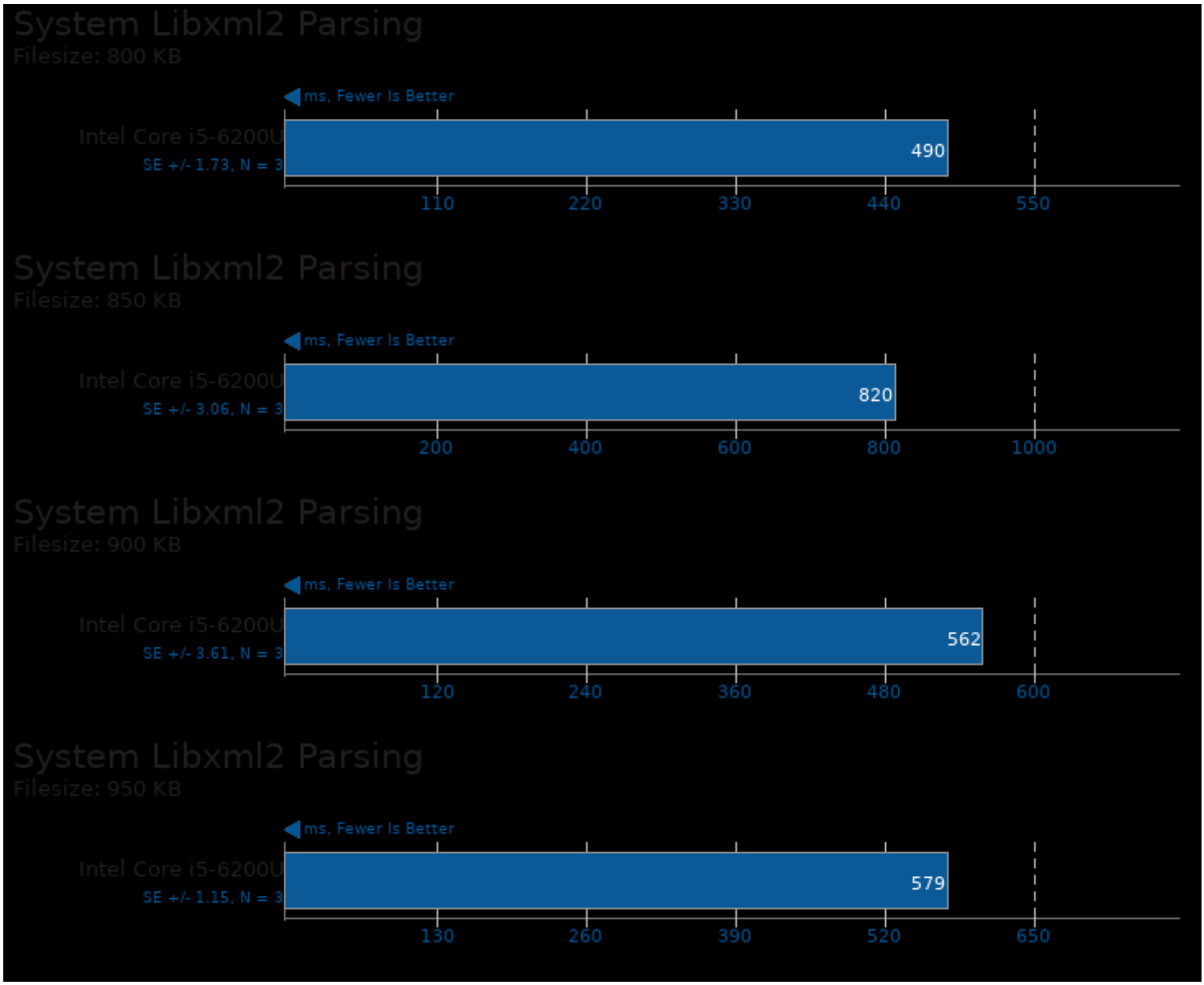
Filesize: 2 MB




System Libxml2 Parsing
Filesize: 3 MB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 14.38, N = 3
2971
600
1200
1800
2400
3000
System Libxml2 Parsing
Filesize: 5 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 0.95, N = 6
9
3
6
9
12
15
System Libxml2 Parsing
Filesize: 50 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 2.57, N = 6
36
8
16
24
32
40
System Libxml2 Parsing
Filesize: 100 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 1.80, N = 4
114
30
60
90
120
150
System Libxml2 Parsing
Filesize: 112 MB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 248.83, N = 3
88878
20K
40K
60K
80K
100K
System Libxml2 Parsing
Filesize: 150 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 2.36, N = 6
96
20
40
60
80
100


System Libxml2 Parsing
Filesize: 200 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 1.86, N = 3
132
30
60
90
120
150
System Libxml2 Parsing
Filesize: 250 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 2.08, N = 3
153
30
60
90
120
150
System Libxml2 Parsing
Filesize: 300 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 2.19, N = 3
195
40
80
120
160
200
System Libxml2 Parsing
Filesize: 350 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 1.86, N = 3
216
50
100
150
200
250
System Libxml2 Parsing
Filesize: 400 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 2.65, N = 3
397
90
180
270
360
450
System Libxml2 Parsing
Filesize: 450 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 1.86, N = 3
281
60
120
180
240
300


System Libxml2 Parsing
Filesize: 500 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 2.00, N = 3
496
110
220
330
440
550
System Libxml2 Parsing
Filesize: 550 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 1.00, N = 3
336
70
140
210
280
350
System Libxml2 Parsing
Filesize: 600 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 2.67, N = 3
582
130
260
390
520
650
System Libxml2 Parsing
Filesize: 650 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 2.33, N = 3
400
90
180
270
360
450
System Libxml2 Parsing
Filesize: 700 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 2.33, N = 3
422
90
180
270
360
450
System Libxml2 Parsing
Filesize: 750 KB
ms, Fewer Is Better
Intel Core i5-6200U
SE +/- 4.41, N = 3
464
100
200
300
400
500



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