



[www.phoronix-test-suite.com](http://www.phoronix-test-suite.com)

## mini-ch-made-ram

Intel Xeon E3-1225 v5 testing with a INTEL H110 (5.12 BIOS) and Intel HD P530 on Ubuntu 20.04 via the Phoronix Test Suite.

### Test Systems:

#### 3CS ordered custom build

Processor: Intel Xeon E3-1225 v5 @ 3.30GHz (4 Cores), Motherboard: INTEL H110 (5.12 BIOS), Chipset: Intel Xeon E3-1200 v5/E3-1500, Memory: 2 x 16384 MB DDR4-2400MT/s Samsung M391A2K43BB1-CRC, Disk: SATA3 512GB SSD, Graphics: Intel HD P530 (1150MHz), Audio: Intel 100 /C230, Monitor: DP2VGA V235, Network: 6 x Intel I210

OS: Ubuntu 20.04, Kernel: 5.4.0-66-generic (x86\_64), Vulkan: 1.2.145, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1024x768

Kernel Notes: Transparent Huge Pages: madvise  
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,objc++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-HskZEa/gcc-9-9.3.0/debian/tmp-nvptx/usr.hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --program-prefix=x86\_64-linux-gnu- --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686

--with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v

Processor Notes: Scaling Governor: intel\_pstate powersave - CPU Microcode: 0xe2 - ThermalD 1.9.1

Java Notes: OpenJDK Runtime Environment (build 11.0.10+9-Ubuntu-0ubuntu1.20.04)

Python Notes: Python 3.8.5

Security Notes: itlb\_multithit: KVM: Mitigation of Split huge pages + I1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT disabled + mds: Mitigation of Clear buffers; SMT disabled + meltdown: Mitigation of PTI + spec\_store\_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre\_v1: Mitigation of usercopy/swaps barriers and \_\_user pointer sanitization + spectre\_v2: Mitigation of Full generic retrpeline IBPB: conditional IBRS\_FW STIBP: disabled RSB filling + srbs: Mitigation of Microcode + tsx\_async\_abort: Mitigation of Clear buffers; SMT disabled

## 3CS ordered custom build

<b>RAMspeed SMP - Add - Integer (MB/s)</b>	19503
Standard Deviation	0.3%
<b>RAMspeed SMP - Copy - Integer (MB/s)</b>	18486
Standard Deviation	0.1%
<b>RAMspeed SMP - Scale - Integer (MB/s)</b>	19077
Standard Deviation	0.1%
<b>RAMspeed SMP - Average - Integer (MB/s)</b>	19291
Standard Deviation	0%
<b>RAMspeed SMP - Add - Floating Point (MB/s)</b>	19760
Standard Deviation	0.2%
<b>RAMspeed SMP - Copy - Floating Point (MB/s)</b>	18447
Standard Deviation	0.2%
<b>RAMspeed SMP - Scale - Floating Point (MB/s)</b>	18866
Standard Deviation	0.1%
<b>RAMspeed SMP - Average - Floating Point (MB/s)</b>	19102
Standard Deviation	0.4%
<b>Stream - Copy (MB/s)</b>	27303
Standard Deviation	0.1%
<b>Stream - Scale (MB/s)</b>	16638
Standard Deviation	0.1%
<b>Stream - Triad (MB/s)</b>	16533
Standard Deviation	0.2%
<b>Stream - Add (MB/s)</b>	16559
Standard Deviation	0.1%
<b>MBW - Memory Copy - 4096 MiB (MiB/s)</b>	11544
Standard Deviation	0.1%
<b>MBW - M.C.F.B.S - 4096 MiB (MiB/s)</b>	7887
Standard Deviation	0.6%
<b>NAS Parallel Benchmarks - BT.C (Mop/s)</b>	13211
Standard Deviation	0.2%
<b>NAS Parallel Benchmarks - FT.C (Mop/s)</b>	6739
Standard Deviation	0.7%
<b>NAS Parallel Benchmarks - LU.C (Mop/s)</b>	13920
Standard Deviation	0%
<b>NAS Parallel Benchmarks - MG.C (Mop/s)</b>	7290
Standard Deviation	0.2%
<b>NAS Parallel Benchmarks - SP.B (Mop/s)</b>	4536
Standard Deviation	0.1%
<b>Parboil - OpenMP LBM (sec)</b>	125.394249
Standard Deviation	0.2%
<b>Parboil - OpenMP Stencil (sec)</b>	26.917256
Standard Deviation	0.5%

<b>Parboil - O.M.G (sec)</b>	29.700283
Standard Deviation	5.8%
<b>CloverLeaf - L.E.H (sec)</b>	210.03
Standard Deviation	0.2%
<b>Rodinia - OpenMP LavaMD (sec)</b>	856.038
Standard Deviation	0%
<b>Rodinia - OpenMP CFD Solver (sec)</b>	60.948
Standard Deviation	2.4%
<b>Rodinia - O.S (sec)</b>	41.758
Standard Deviation	0.3%
<b>NAMD - ATPase Simulation - 327,506 Atoms (days/ns)</b>	5.11401
Standard Deviation	0.7%
<b>Timed MrBayes Analysis - P.P.A (sec)</b>	107.489
Standard Deviation	0.6%
<b>DaCapo Benchmark - H2 (msec)</b>	3645
Standard Deviation	7.7%
<b>DaCapo Benchmark - Jython (msec)</b>	5003
Standard Deviation	0.7%
<b>DaCapo Benchmark - Tradesoap (msec)</b>	9661
Standard Deviation	1.7%
<b>DaCapo Benchmark - Tradebeans (msec)</b>	3620
Standard Deviation	1.5%
<b>Renaissance - Scala Dotty (ms)</b>	2052
Standard Deviation	0.4%
<b>Renaissance - Rand Forest (ms)</b>	2068
Standard Deviation	2.5%
<b>Renaissance - Apache Spark ALS (ms)</b>	2697
Standard Deviation	0.9%
<b>Renaissance - Apache Spark Bayes (ms)</b>	424.581
Standard Deviation	8.5%
<b>Renaissance - Savina Reactors.IO (ms)</b>	13035
Standard Deviation	5.7%
<b>Renaissance - A.S.P (ms)</b>	5520
Standard Deviation	9.8%
<b>Renaissance - T.H.R (ms)</b>	1620
Standard Deviation	1.9%
<b>Renaissance - I.M.D.S (ms)</b>	4654
Standard Deviation	4.7%
<b>Renaissance - A.U.C.T (ms)</b>	10057
Standard Deviation	11.9%
<b>Renaissance - G.A.U.J.F (ms)</b>	1698
Standard Deviation	2.4%
<b>Zstd Compression - 3 - Compression Speed (MB/s)</b>	1408
Standard Deviation	2%
<b>Zstd Compression - 3 - D.S (MB/s)</b>	2796
Standard Deviation	0%
<b>Zstd Compression - 8 - Compression Speed (MB/s)</b>	195.3
Standard Deviation	0.6%
<b>Zstd Compression - 8 - D.S (MB/s)</b>	2887
Standard Deviation	0.2%
<b>Zstd Compression - 19 - Compression Speed (MB/s)</b>	11.4
Standard Deviation	0%
<b>Zstd Compression - 19 - D.S (MB/s)</b>	2597

Zstd Compression - 3, Long Mode - Compression Speed (MB/s)	711.1	Standard Deviation 0.1%
Zstd Compression - 3, Long Mode - D.S (MB/s)	2963	Standard Deviation 0.3%
Zstd Compression - 8, Long Mode - Compression Speed (MB/s)	211.6	Standard Deviation 0%
Zstd Compression - 8, Long Mode - D.S (MB/s)	3080	Standard Deviation 0.6%
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	9.49	Standard Deviation 0.2%
Zstd Compression - 19, Long Mode - D.S (MB/s)	2604	Standard Deviation 0.5%
John The Ripper - Blowfish (Real C/S)	5223	Standard Deviation 0.2%
Node.js Express HTTP Load Test (Req/sec)	7964	Standard Deviation 0%
GraphicsMagick - Rotate (Iterations/min)	606	Standard Deviation 2.2%
GraphicsMagick - Sharpen (Iterations/min)	36	Standard Deviation 0.7%
GraphicsMagick - Enhanced (Iterations/min)	69	Standard Deviation 0.5%
GraphicsMagick - Resizing (Iterations/min)	348	Standard Deviation 0.2%
oneDNN MKL-DNN - D.B.d - f32 (ms)	11.5026	Standard Deviation 0.3%
dav1d - Summer Nature 4K (FPS)	62.12	Standard Deviation 0.5%
OSPray - XFrog Forest - SciVis (FPS)	0.74	Standard Deviation 0.2%
OSPray - M.R - SciVis (FPS)	4.30	Standard Deviation 0.2%
Embree - Pathtracer - Crown (FPS)	2.8127	Standard Deviation 0.3%
rav1e - 9 (FPS)	1.759	Standard Deviation 0.1%
VP9 libvpx Encoding - Speed 5 (FPS)	20.34	Standard Deviation 0.1%
x264 - H.2.V.E (FPS)	27.05	Standard Deviation 2.2%
x265 - Bosphorus 4K (FPS)	6.07	Standard Deviation 1.1%
x265 - Bosphorus 1080p (FPS)	25.98	Standard Deviation 0.3%
ACES DGEMM - S.F.P.R (GFLOP/s)	0.348108	Standard Deviation 4.9%
Intel Open Image Denoise - Memorial (Images / Sec)	3.47	Standard Deviation 0.1%
Himeno Benchmark - P.P.S (MFLOPS)	2790	Standard Deviation 0.2%
7-Zip Compression - C.S.T (MIPS)	14670	Standard Deviation 1.2%
asmFish - 1.H.M.2.D (Nodes/s)	8088657	Standard Deviation 0.2%

<b>Timed Linux Kernel Compilation - Time To Compile (sec)</b>	300.348
Standard Deviation	0.4%
<b>Timed LLVM Compilation - Time To Compile (sec)</b>	2048
Standard Deviation	0.1%
<b>Timed PHP Compilation - Time To Compile (sec)</b>	152.431
Standard Deviation	0.4%
<b>Build2 - Time To Compile (sec)</b>	367.716
Standard Deviation	0.4%
<b>Tungsten Renderer - Water Caustic (sec)</b>	62.5610
Standard Deviation	0.3%
<b>XZ Compression - C.u.1.0.3.s.i.C.L.9 (sec)</b>	90.554
Standard Deviation	0.4%
<b>DeepSpeech - CPU (sec)</b>	82.60702
Standard Deviation	1.1%
<b>Radiance Benchmark - SMP Parallel (sec)</b>	278.652
<b>OpenSSL - R.4.b.P (Signs/sec)</b>	944.0
Standard Deviation	1.4%
<b>libjpeg-turbo tjbench - D.T (Megapixels/sec)</b>	147.484537
Standard Deviation	0.6%
<b>SQLite Speedtest - Timed Time - Size 1,000 (sec)</b>	85.600
Standard Deviation	0.2%
<b>GEGL - Crop (sec)</b>	11.197
Standard Deviation	1.5%
<b>GEGL - Cartoon (sec)</b>	124.565
Standard Deviation	0.1%
<b>GEGL - Reflect (sec)</b>	41.402
Standard Deviation	0.1%
<b>GEGL - Antialias (sec)</b>	53.782
Standard Deviation	0.1%
<b>GEGL - Color Enhance (sec)</b>	80.109
Standard Deviation	0.3%
<b>GEGL - Rotate 90 Degrees (sec)</b>	55.670
Standard Deviation	0.2%
<b>GIMP - rotate (sec)</b>	16.052
Standard Deviation	0.6%
<b>GIMP - auto-levels (sec)</b>	16.779
Standard Deviation	0.1%
<b>GIMP - unsharp-mask (sec)</b>	19.201
Standard Deviation	0.1%
<b>GNU Octave Benchmark (sec)</b>	9.562
Standard Deviation	0.8%
<b>Redis - GET (Req/s)</b>	2141646
Standard Deviation	2.8%
<b>Redis - SET (Req/s)</b>	1575887
Standard Deviation	1.7%
<b>Sysbench - Memory (MiB/sec)</b>	9919
Standard Deviation	0.2%
<b>Sysbench - CPU (Events/sec)</b>	4590
Standard Deviation	0.1%
<b>Apache Cassandra - Writes (Op/s)</b>	13389
Standard Deviation	1.7%
<b>Facebook RocksDB - Rand Read (Op/s)</b>	19353001
Standard Deviation	0.2%

**Facebook RocksDB - Seq Fill (Op/s)** 617105

Standard Deviation 1.2%

**Facebook RocksDB - Read While Writing (Op/s)** 467641

Standard Deviation 1.5%

**Blender - Classroom - CPU-Only (sec)** 1719

Standard Deviation 0%

**Blender - Barbershop - CPU-Only (sec)** 2489

Standard Deviation 0.5%

**PyBench - T.F.A.T.T (Milliseconds)** 1324

Standard Deviation 0.1%

**NGINX Benchmark - S.W.P.S (Req/sec)** 29594

Standard Deviation 0.1%

**Apache Benchmark - S.W.P.S (Req/sec)** 31431

Standard Deviation 0.2%

**Appleseed - Emily (sec)** 1444**Appleseed - Disney Material (sec)** 745.119662**Appleseed - Material Tester (sec)** 766.029205**Apache Siege - 100 (Transactions/sec)** 24925

Standard Deviation 0.1%

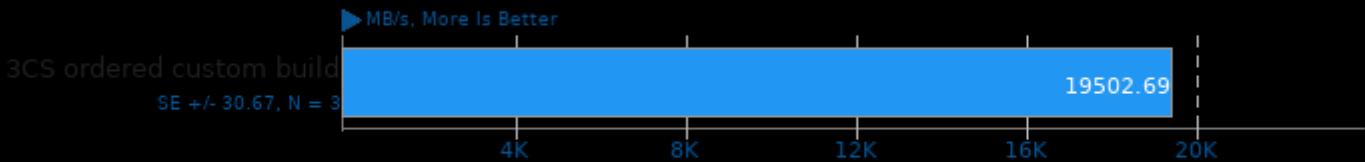
**PHPBench - P.B.S (Score)** 555767

Standard Deviation 0.2%

**BRL-CAD - V.P.M (VGR Performance Metric)** 32514

**RAMspeed SMP 3.5.0**

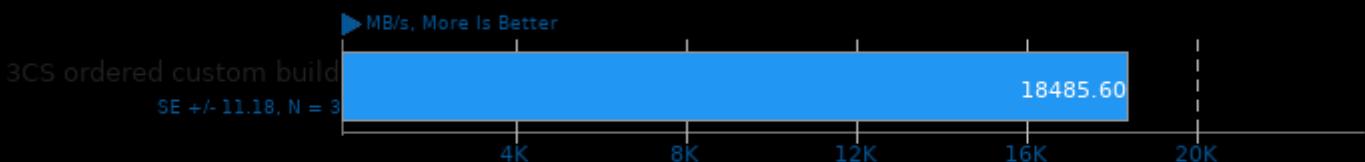
Type: Add - Benchmark: Integer



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

**RAMspeed SMP 3.5.0**

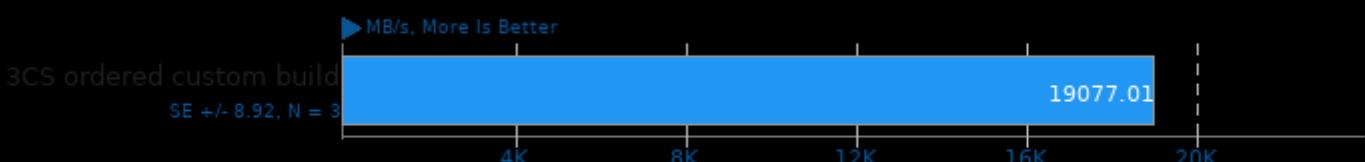
Type: Copy - Benchmark: Integer



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

**RAMspeed SMP 3.5.0**

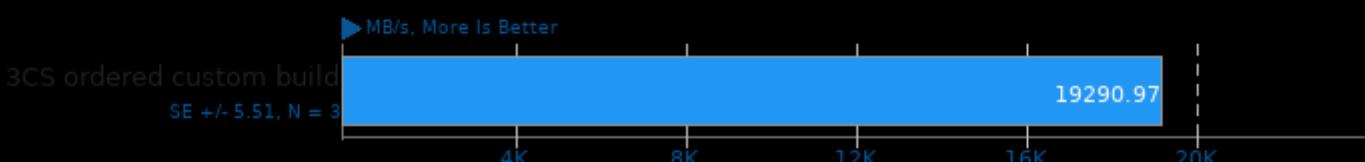
Type: Scale - Benchmark: Integer



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

**RAMspeed SMP 3.5.0**

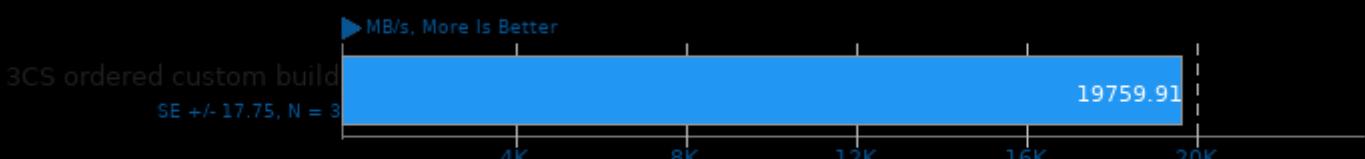
Type: Average - Benchmark: Integer



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

**RAMspeed SMP 3.5.0**

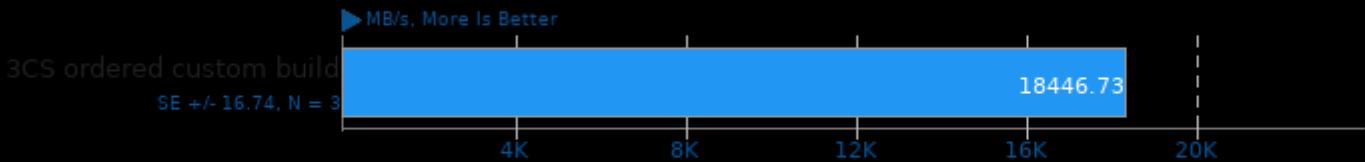
Type: Add - Benchmark: Floating Point



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

## RAMspeed SMP 3.5.0

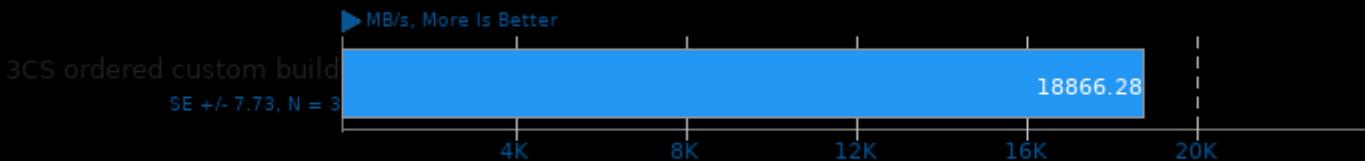
Type: Copy - Benchmark: Floating Point



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

## RAMspeed SMP 3.5.0

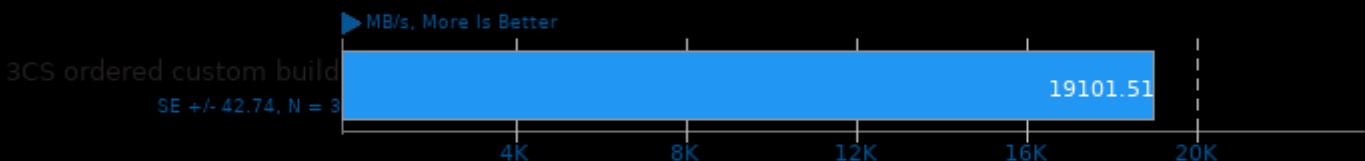
Type: Scale - Benchmark: Floating Point



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

## RAMspeed SMP 3.5.0

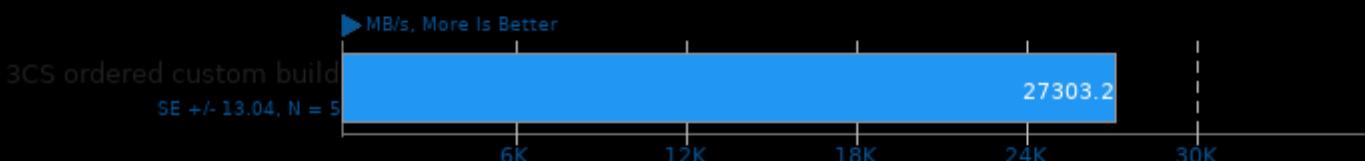
Type: Average - Benchmark: Floating Point



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

## Stream 2013-01-17

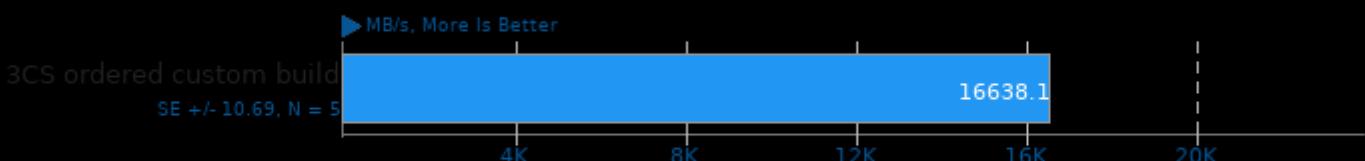
Type: Copy



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

## Stream 2013-01-17

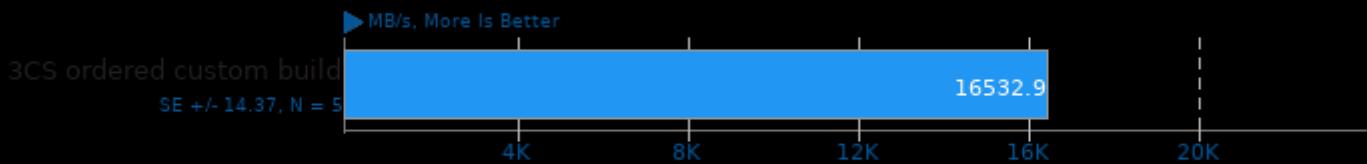
Type: Scale



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

## Stream 2013-01-17

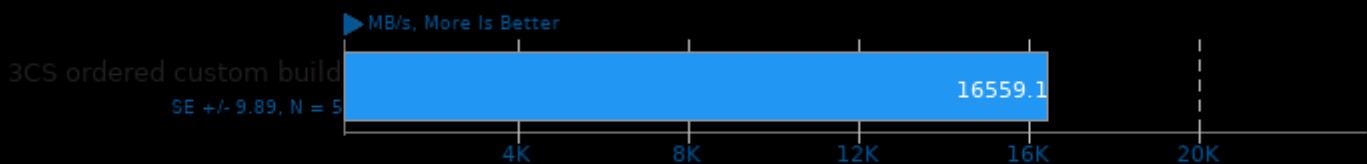
Type: Triad



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

## Stream 2013-01-17

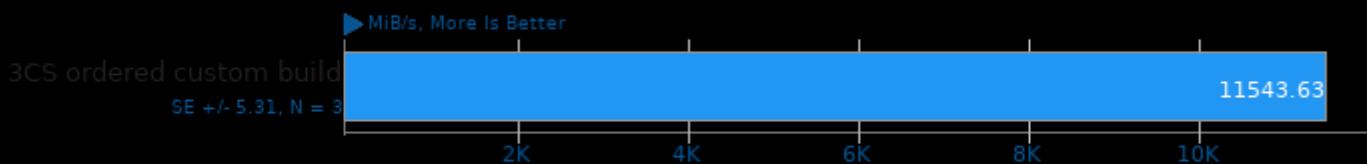
Type: Add



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

## MBW 2018-09-08

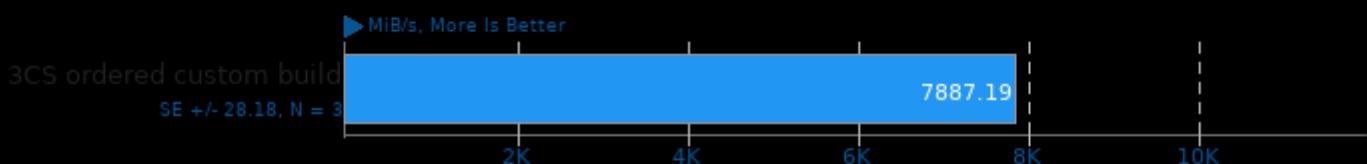
Test: Memory Copy - Array Size: 4096 MiB



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

## MBW 2018-09-08

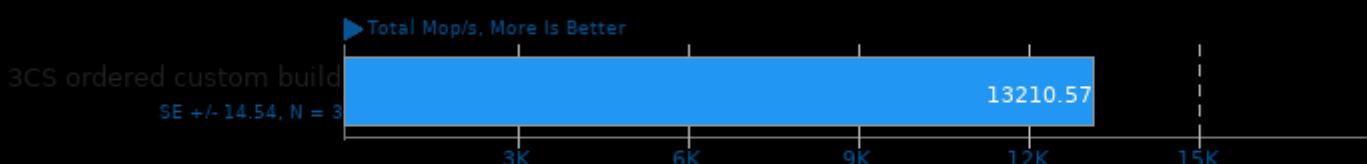
Test: Memory Copy, Fixed Block Size - Array Size: 4096 MiB



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

## NAS Parallel Benchmarks 3.4

Test / Class: BT.C

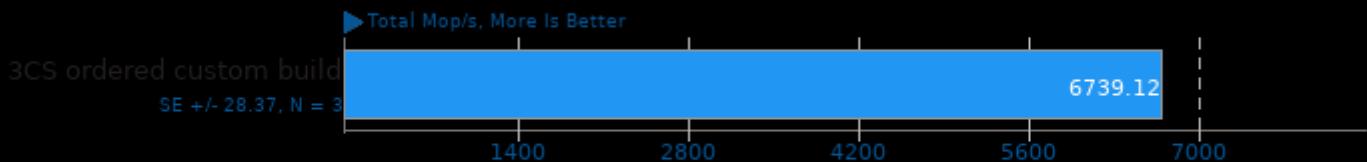


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi\_usempif08 -lmpi\_mpifh -lmpi

2. Open MPI 4.0.3

## NAS Parallel Benchmarks 3.4

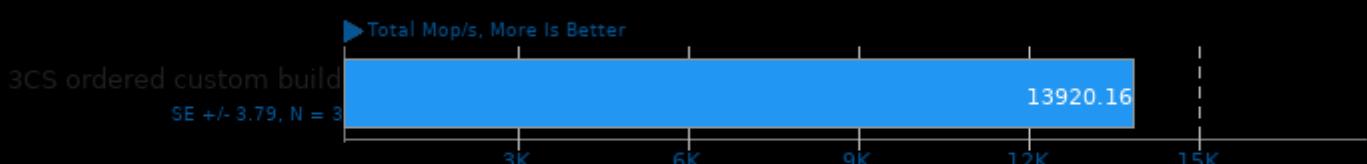
Test / Class: FT.C



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi\_usempif08 -lmpi\_mpifh -lmpi  
2. Open MPI 4.0.3

## NAS Parallel Benchmarks 3.4

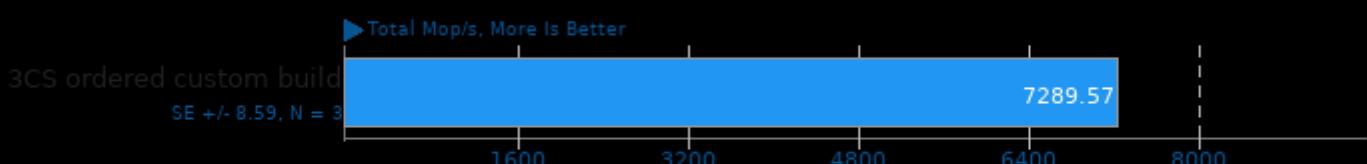
Test / Class: LU.C



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi\_usempif08 -lmpi\_mpifh -lmpi  
2. Open MPI 4.0.3

## NAS Parallel Benchmarks 3.4

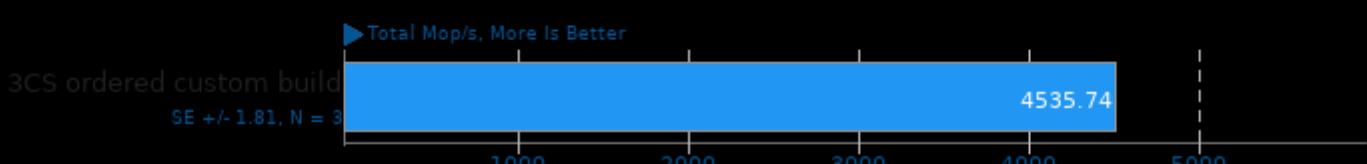
Test / Class: MG.C



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi\_usempif08 -lmpi\_mpifh -lmpi  
2. Open MPI 4.0.3

## NAS Parallel Benchmarks 3.4

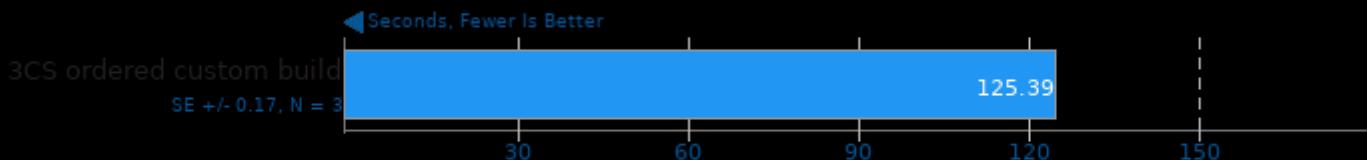
Test / Class: SP.B



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi\_usempif08 -lmpi\_mpifh -lmpi  
2. Open MPI 4.0.3

## Parboil 2.5

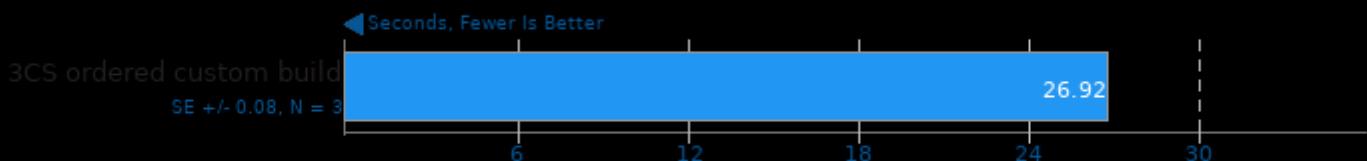
Test: OpenMP LBM



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

## Parboil 2.5

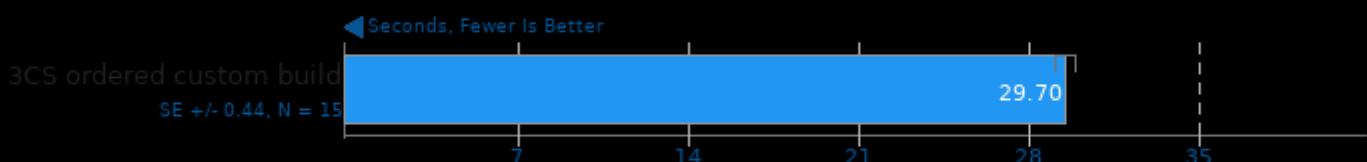
Test: OpenMP Stencil



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

## Parboil 2.5

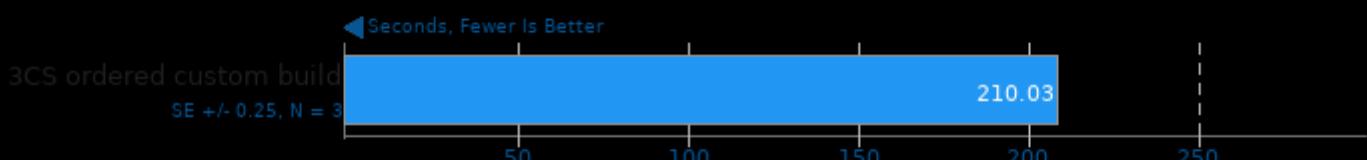
Test: OpenMP MRI Gridding



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

## CloverLeaf

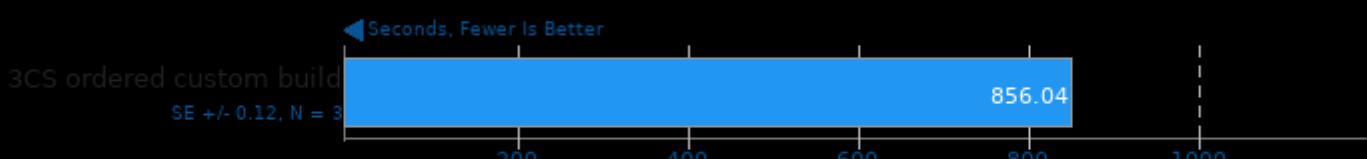
Lagrangian-Eulerian Hydrodynamics



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

## Rodinia 3.1

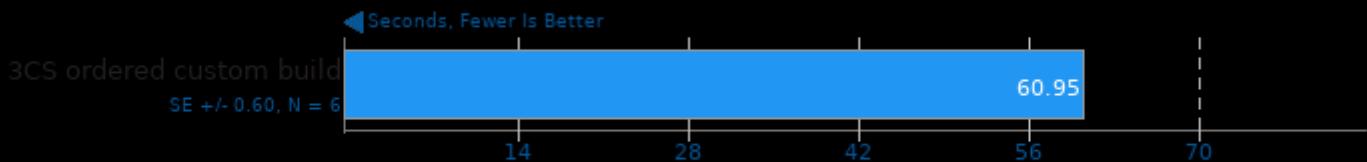
Test: OpenMP LavaMD



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

## Rodinia 3.1

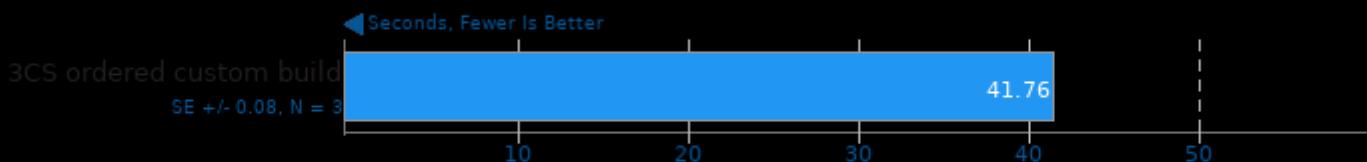
Test: OpenMP CFD Solver



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

## Rodinia 3.1

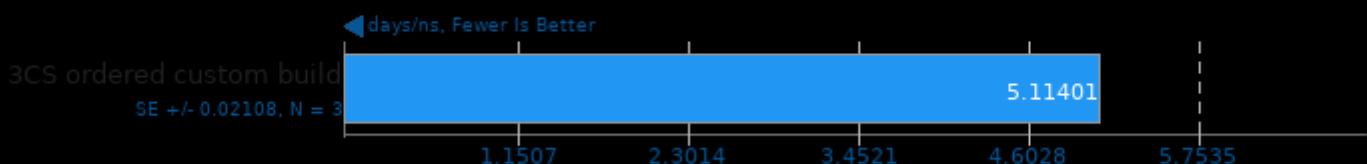
Test: OpenMP Streamcluster



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

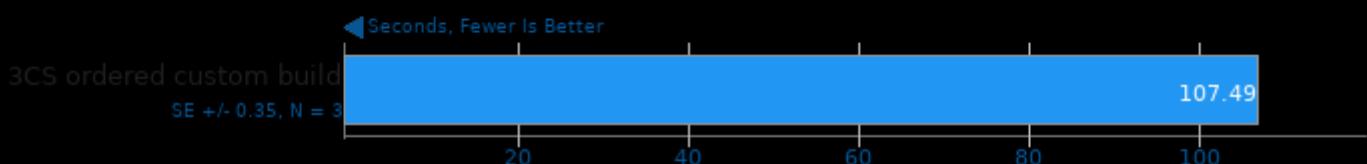
## NAMD 2.14

ATPase Simulation - 327,506 Atoms



## Timed MrBayes Analysis 3.2.7

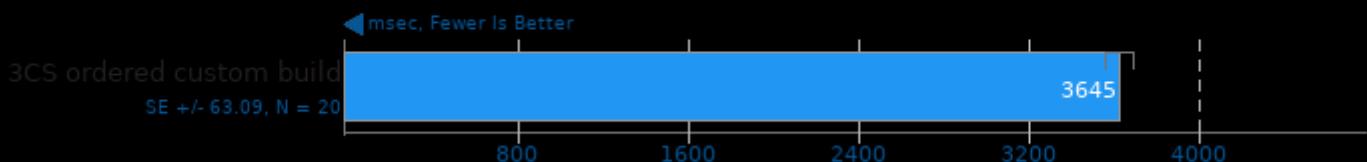
Primate Phylogeny Analysis



1. (CC) gcc options: -mmmx -msse -msse2 -msse3 -msse3 -msse4.1 -msse4.2 -maes -mavx -mfma -mavx2 -mrdrnd -mbmi -mbmi2 -madx -mmpx -mabm

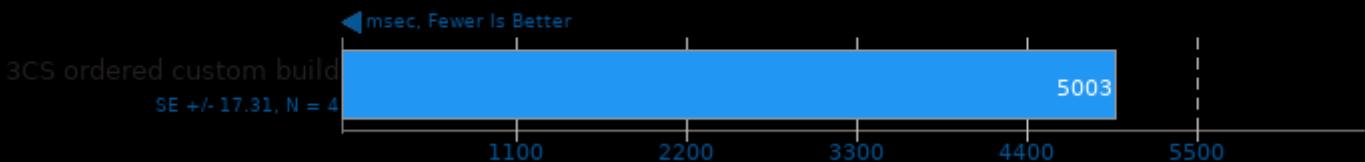
## DaCapo Benchmark 9.12-MR1

Java Test: H2



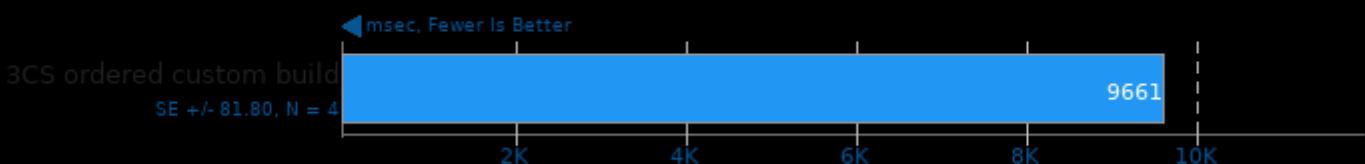
## DaCapo Benchmark 9.12-MR1

Java Test: Jython



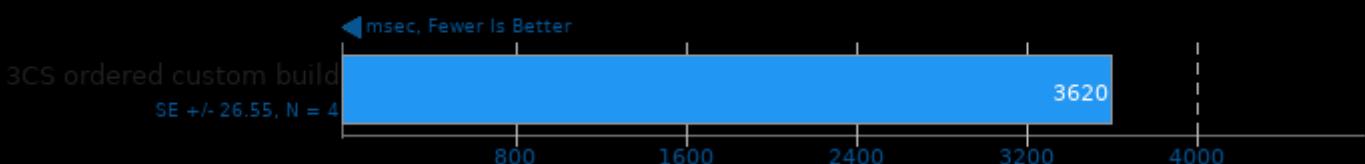
## DaCapo Benchmark 9.12-MR1

Java Test: Tradesoap



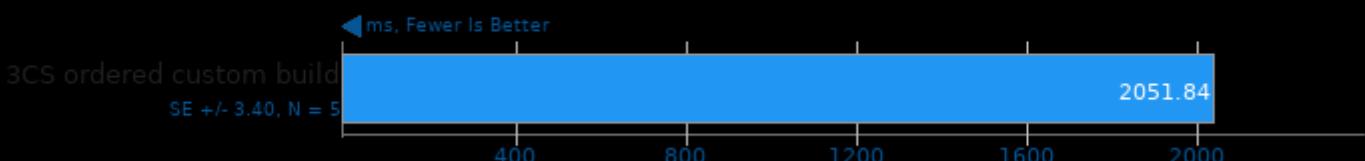
## DaCapo Benchmark 9.12-MR1

Java Test: Tradebeans



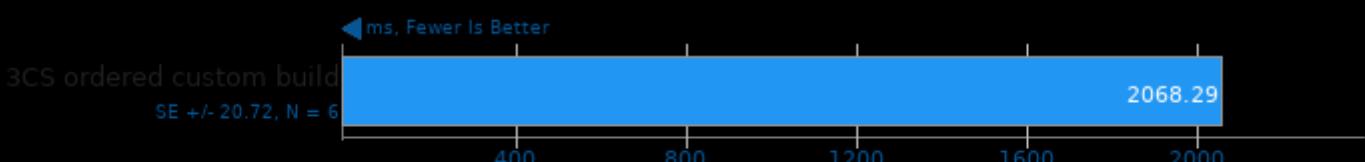
## Renaissance 0.10.0

Test: Scala Dotty



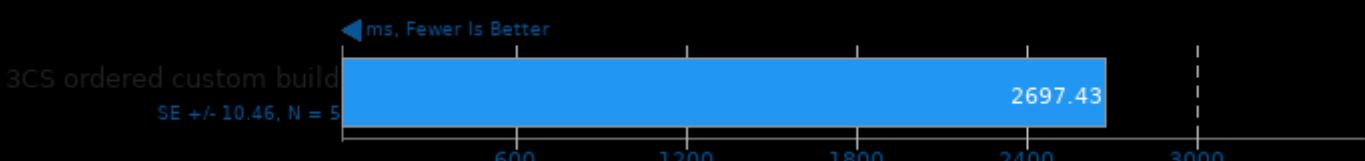
## Renaissance 0.10.0

Test: Random Forest



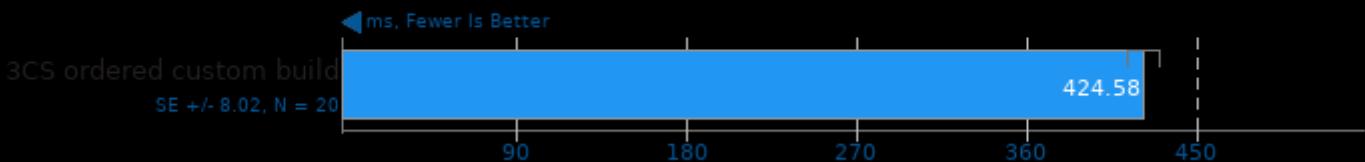
## Renaissance 0.10.0

Test: Apache Spark ALS



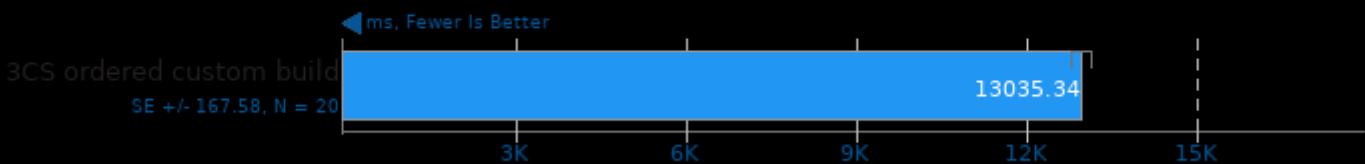
## Renaissance 0.10.0

Test: Apache Spark Bayes



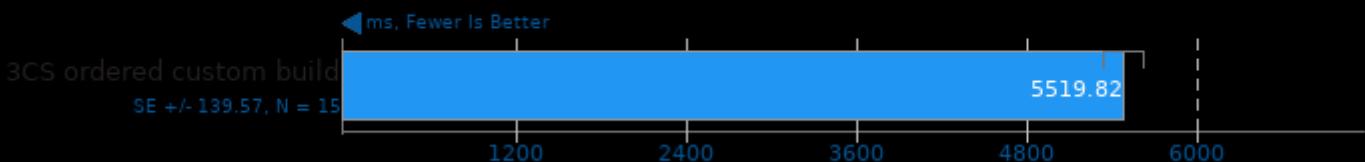
## Renaissance 0.10.0

Test: Savina Reactors.IO



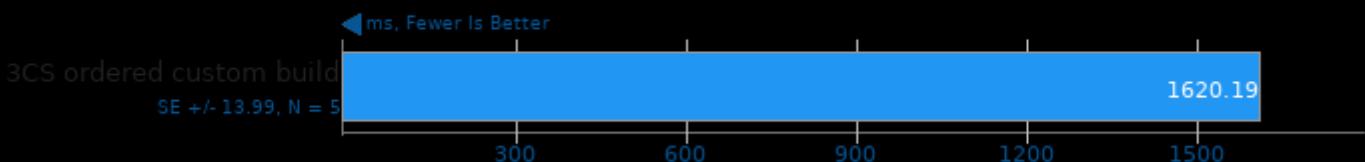
## Renaissance 0.10.0

Test: Apache Spark PageRank



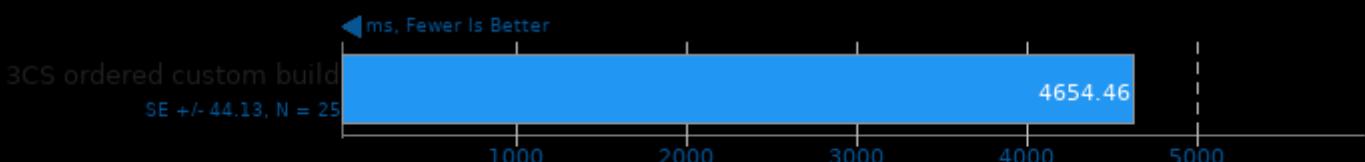
## Renaissance 0.10.0

Test: Twitter HTTP Requests



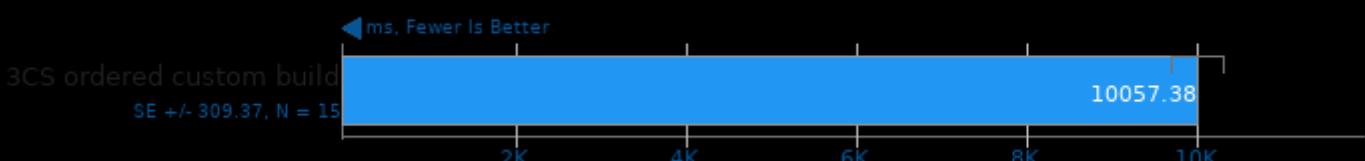
## Renaissance 0.10.0

Test: In-Memory Database Shootout



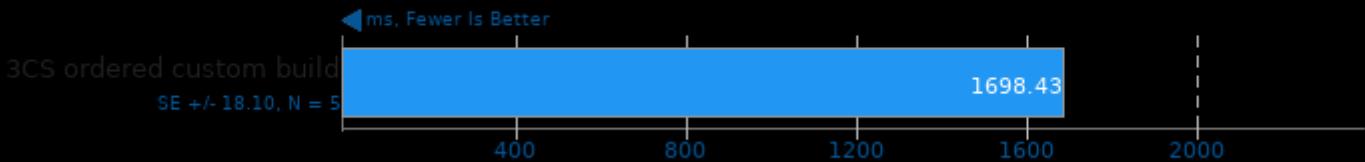
## Renaissance 0.10.0

Test: Akka Unbalanced Cobwebbed Tree



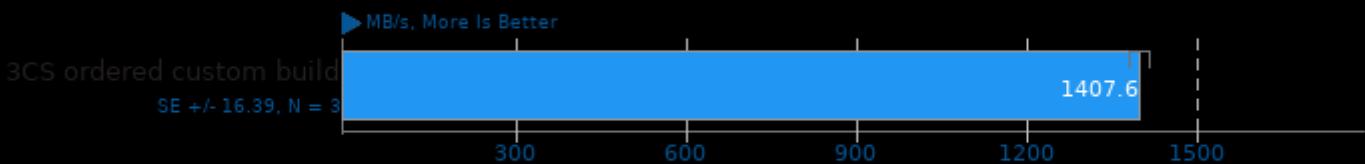
## Renaissance 0.10.0

Test: Genetic Algorithm Using Jenetics + Futures



## Zstd Compression 1.4.9

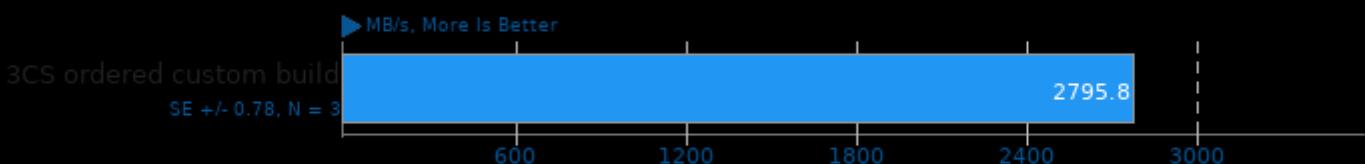
Compression Level: 3 - Compression Speed



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

## Zstd Compression 1.4.9

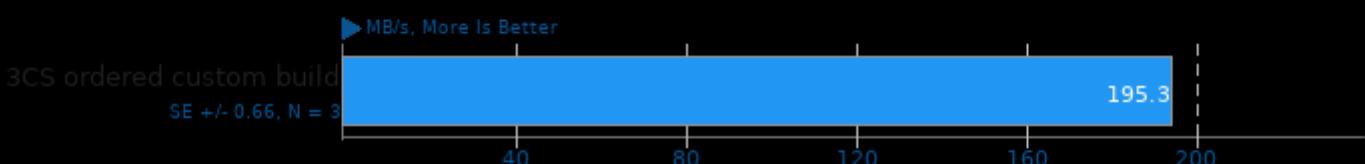
Compression Level: 3 - Decompression Speed



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

## Zstd Compression 1.4.9

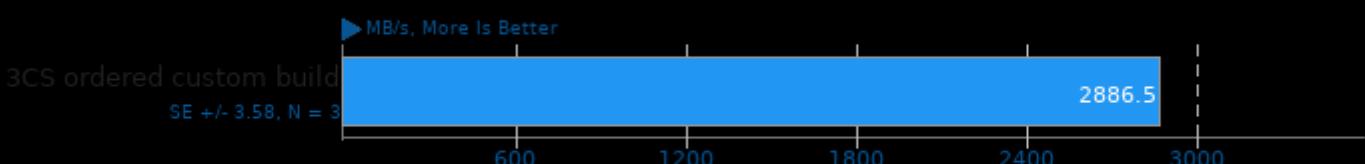
Compression Level: 8 - Compression Speed



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

## Zstd Compression 1.4.9

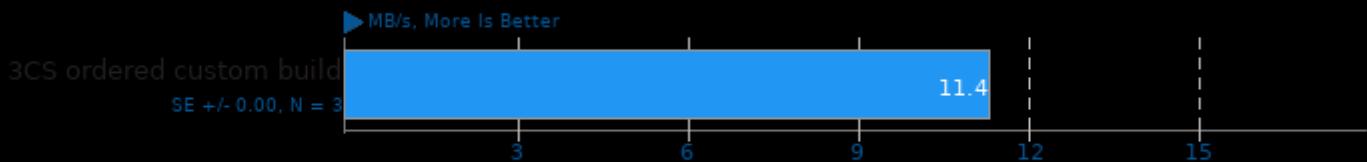
Compression Level: 8 - Decompression Speed



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

## Zstd Compression 1.4.9

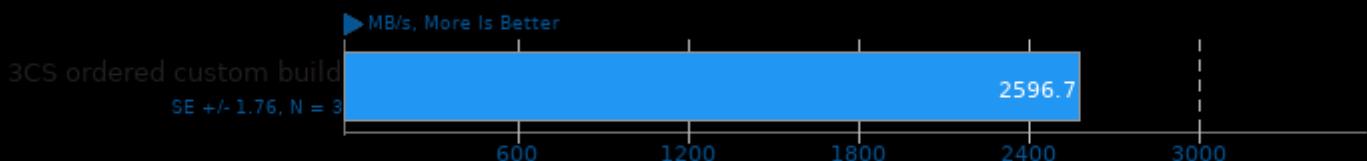
Compression Level: 19 - Compression Speed



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

## Zstd Compression 1.4.9

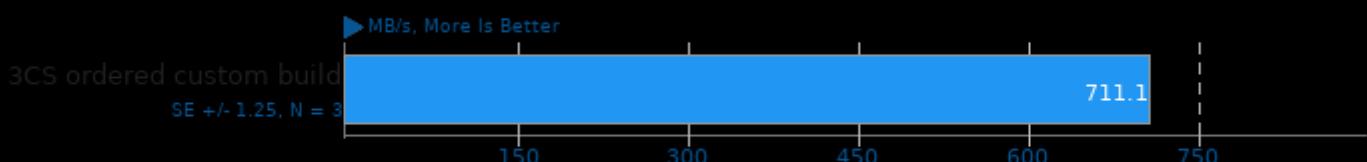
Compression Level: 19 - Decompression Speed



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

## Zstd Compression 1.4.9

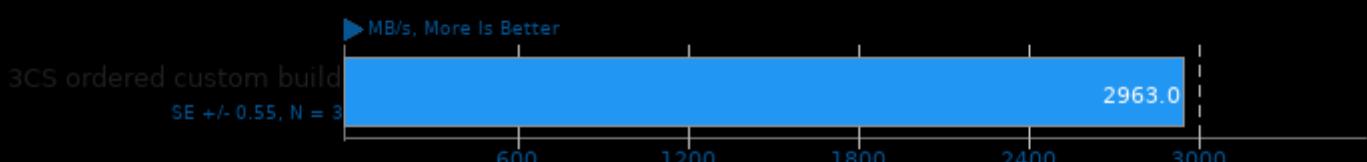
Compression Level: 3, Long Mode - Compression Speed



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

## Zstd Compression 1.4.9

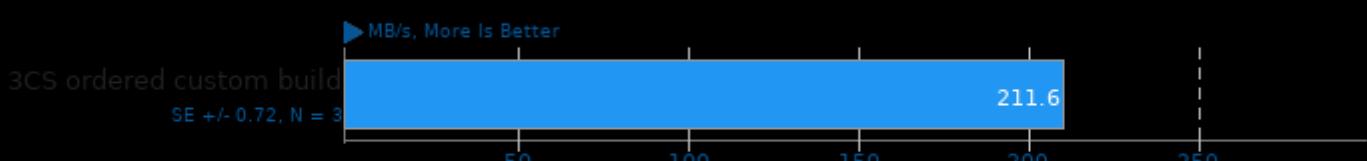
Compression Level: 3, Long Mode - Decompression Speed



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

## Zstd Compression 1.4.9

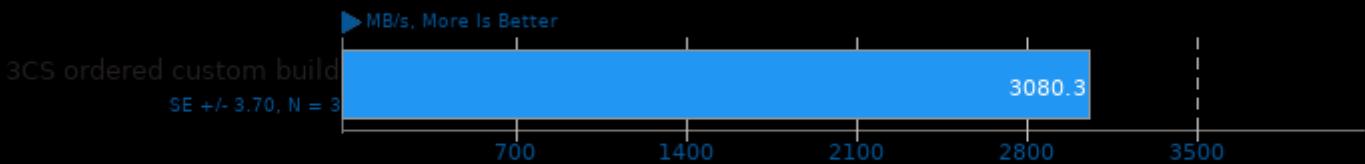
Compression Level: 8, Long Mode - Compression Speed



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

## Zstd Compression 1.4.9

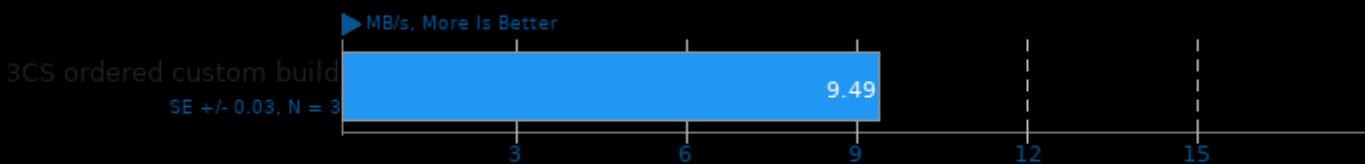
Compression Level: 8, Long Mode - Decompression Speed



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

## Zstd Compression 1.4.9

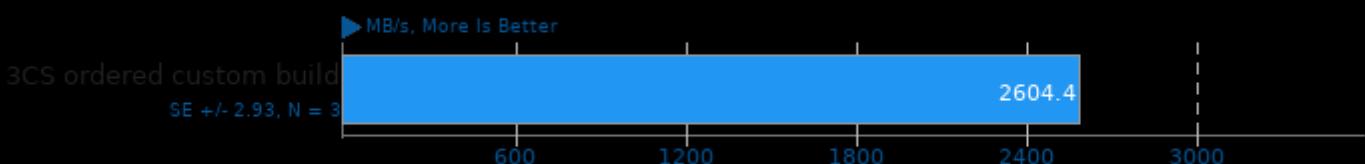
Compression Level: 19, Long Mode - Compression Speed



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

## Zstd Compression 1.4.9

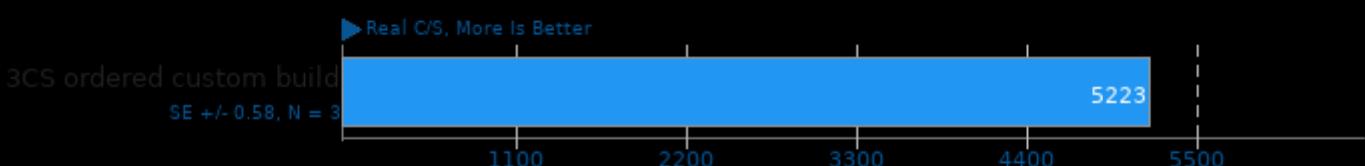
Compression Level: 19, Long Mode - Decompression Speed



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

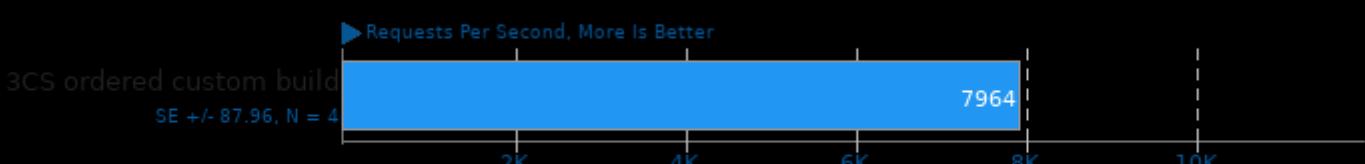
## John The Ripper 1.9.0-jumbo-1

Test: Blowfish



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

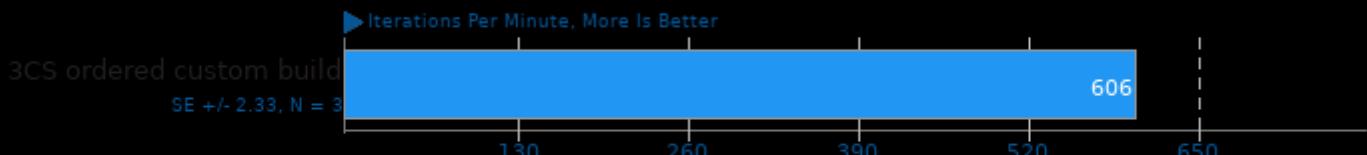
## Node.js Express HTTP Load Test



1. Nodejs  
v10.19.0

## GraphicsMagick 1.3.33

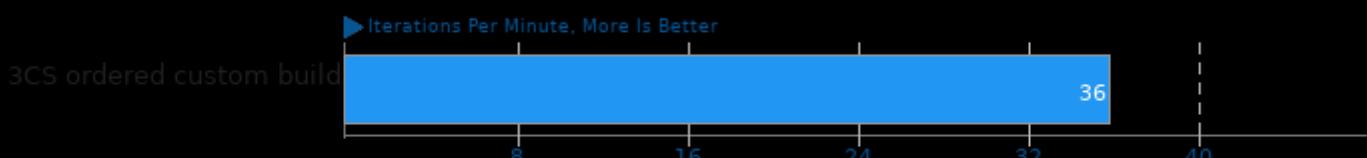
Operation: Rotate



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -ltiff -lfreetype -ljpeg -lxml2 -lzma -lbz2 -lxml2 -lz -lm -lpthread

## GraphicsMagick 1.3.33

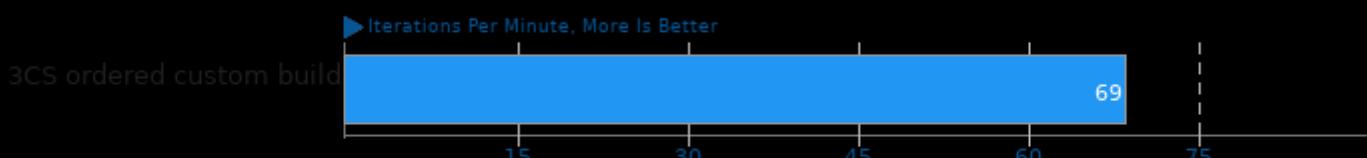
Operation: Sharpen



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -ltiff -lfreetype -ljpeg -lxml2 -lzma -lbz2 -lxml2 -lz -lm -lpthread

## GraphicsMagick 1.3.33

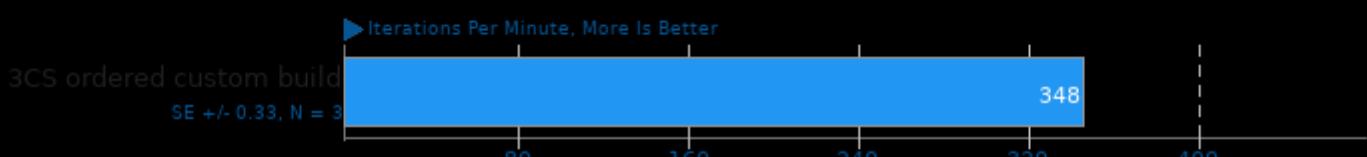
Operation: Enhanced



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -ltiff -lfreetype -ljpeg -lxml2 -lzma -lbz2 -lxml2 -lz -lm -lpthread

## GraphicsMagick 1.3.33

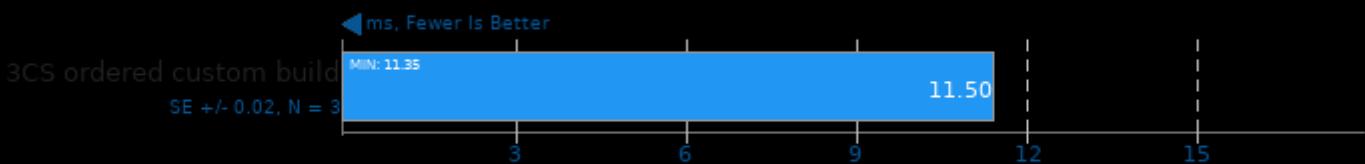
Operation: Resizing



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -ltiff -lfreetype -ljpeg -lxml2 -lzma -lbz2 -lxml2 -lz -lm -lpthread

## oneDNN MKL-DNN 1.3

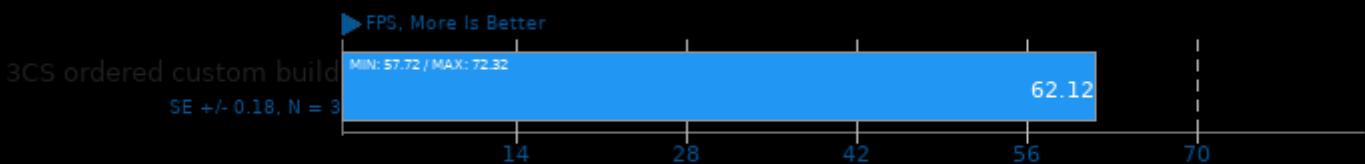
Harness: Deconvolution Batch deconv\_1d - Data Type: f32



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

## dav1d 0.8.2

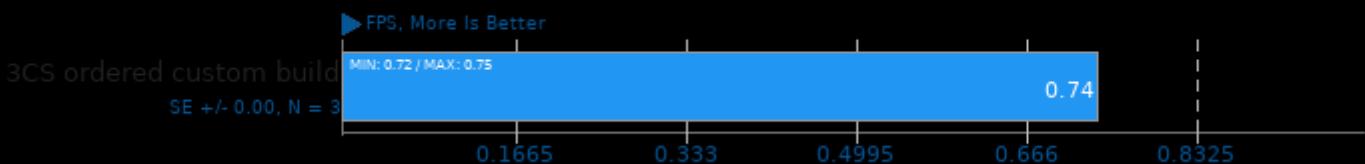
Video Input: Summer Nature 4K



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

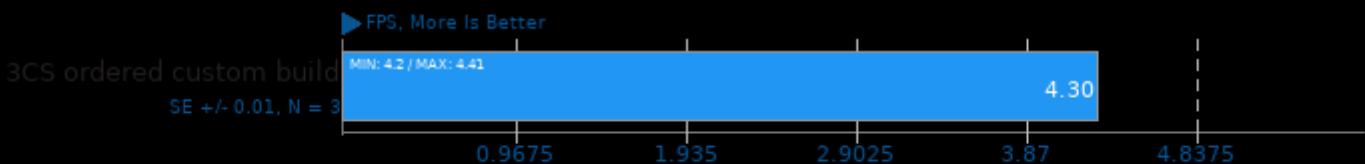
## OSPray 1.8.5

Demo: XFrog Forest - Renderer: SciVis



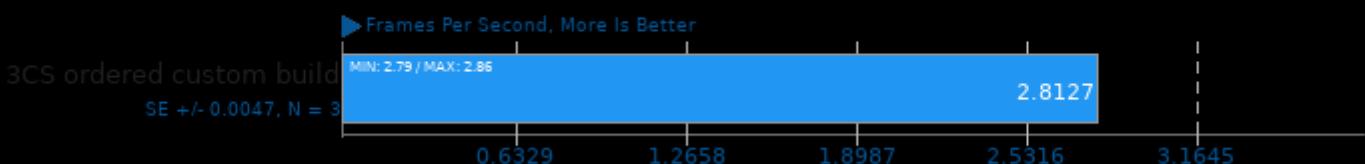
## OSPray 1.8.5

Demo: Magnetic Reconnection - Renderer: SciVis



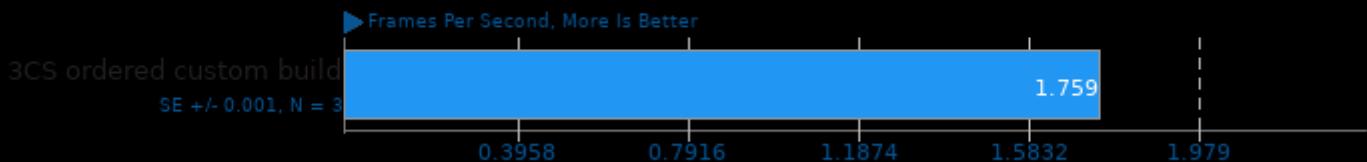
## Embree 3.9.0

Binary: Pathtracer - Model: Crown

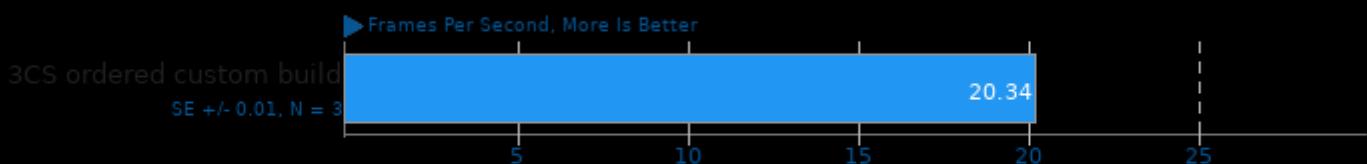


**rav1e 0.4**

Speed: 9

**VP9 libvpx Encoding 1.8.2**

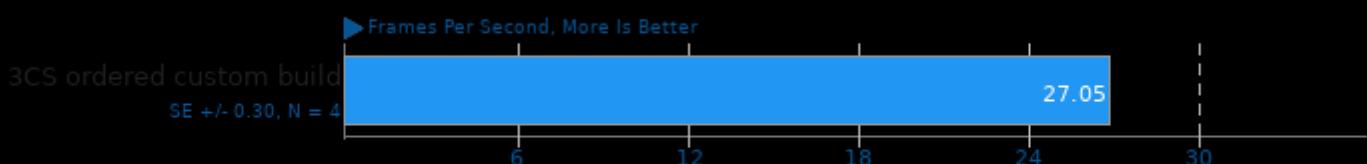
Speed: Speed 5



1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U\_FORTIFY\_SOURCE -std=c++11

**x264 2019-12-17**

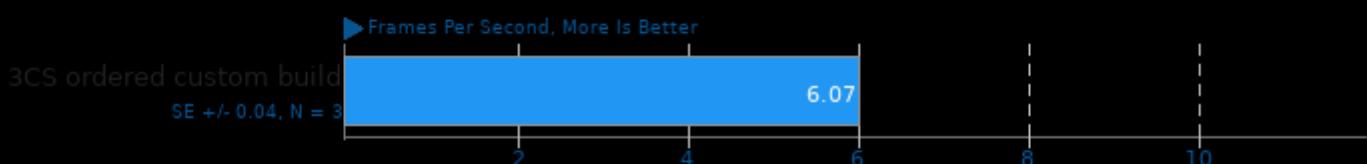
H.264 Video Encoding



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

**x265 3.4**

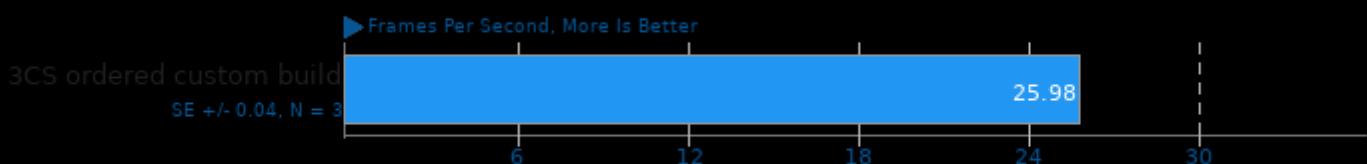
Video Input: Bosphorus 4K



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

**x265 3.4**

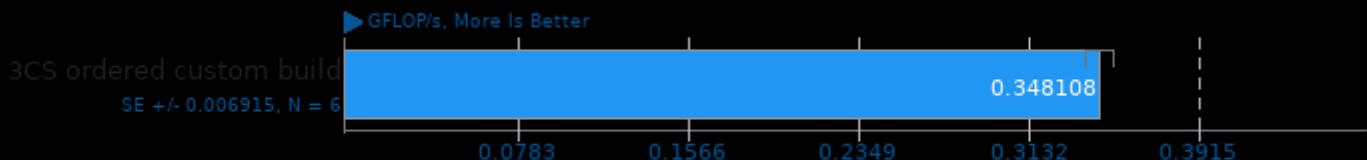
Video Input: Bosphorus 1080p



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

## ACES DGEMM 1.0

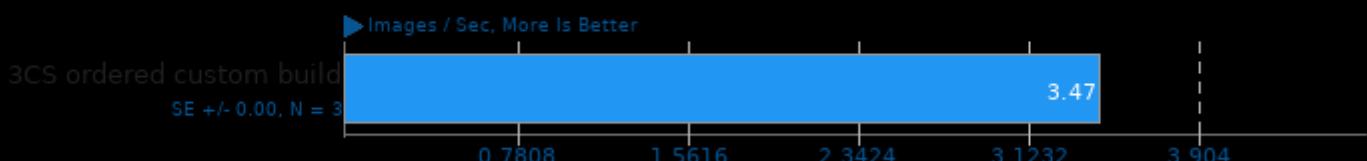
Sustained Floating-Point Rate



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

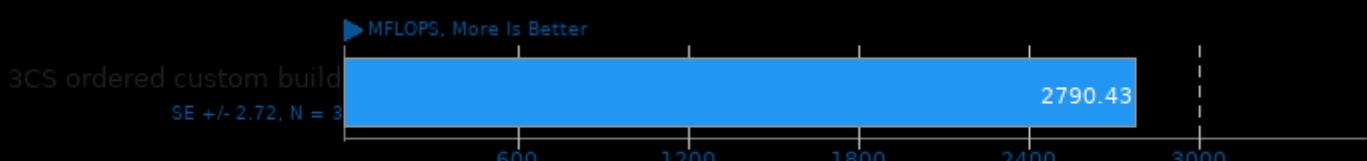
## Intel Open Image Denoise 1.2.0

Scene: Memorial



## Himeno Benchmark 3.0

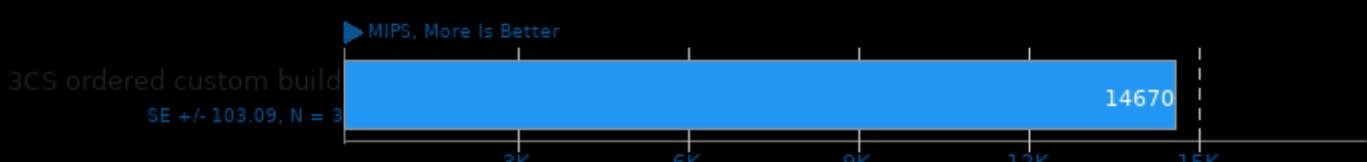
Poisson Pressure Solver



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

## 7-Zip Compression 16.02

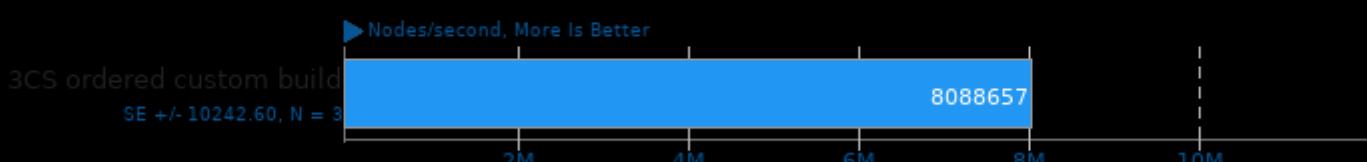
Compress Speed Test



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

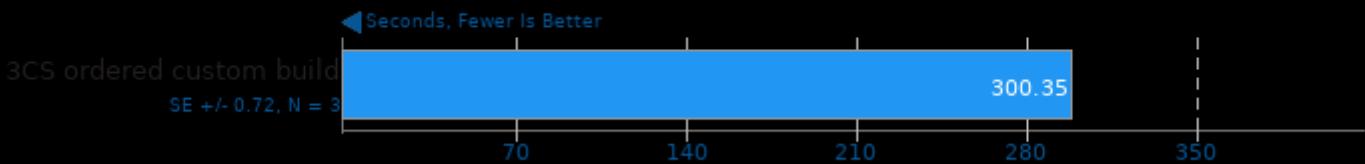
## asmFish 2018-07-23

1024 Hash Memory, 26 Depth



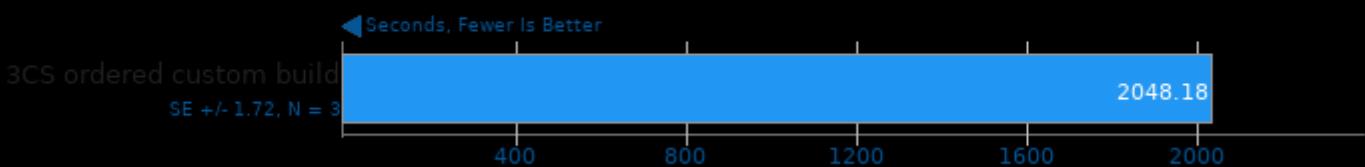
## Timed Linux Kernel Compilation 5.10.20

Time To Compile



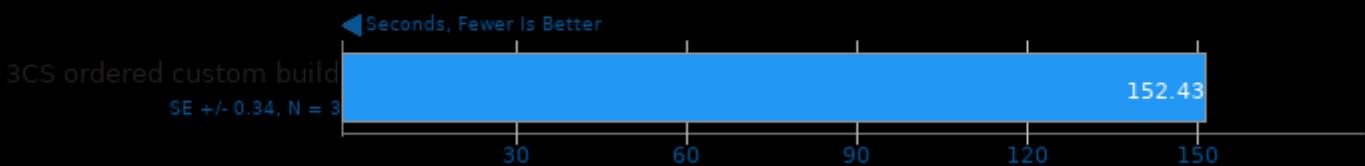
## Timed LLVM Compilation 10.0

Time To Compile



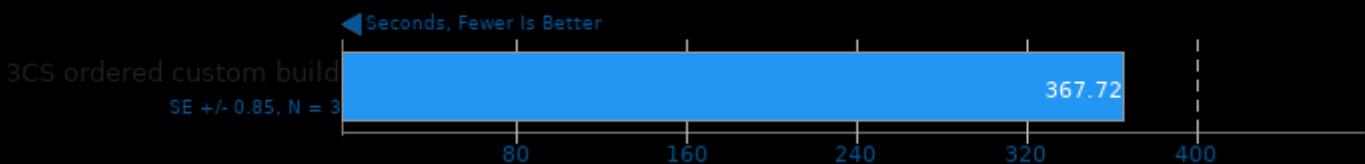
## Timed PHP Compilation 7.4.2

Time To Compile



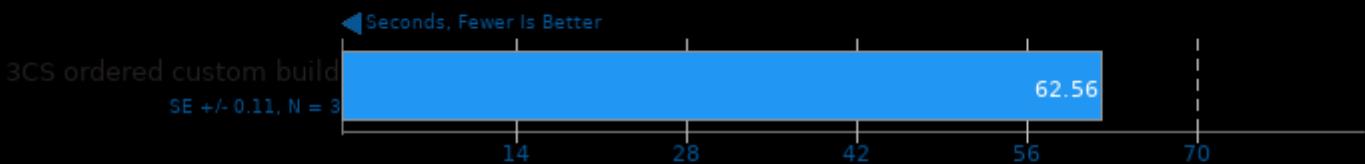
## Build2 0.13

Time To Compile



## Tungsten Renderer 0.2.2

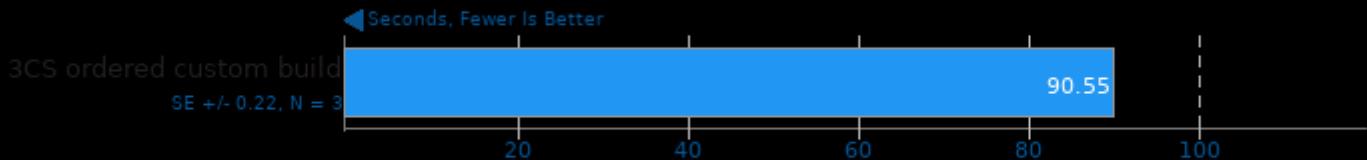
Scene: Water Caustic



1. (CXX) g++ options: -std=c++0x -march=skylake -msse2 -msse3 -mssse3 -msse4.1 -msse4.2 -mfma -mbmi2 -mno-sse4a -mno-avx -mno-avx2 -mno-xo

## XZ Compression 5.2.4

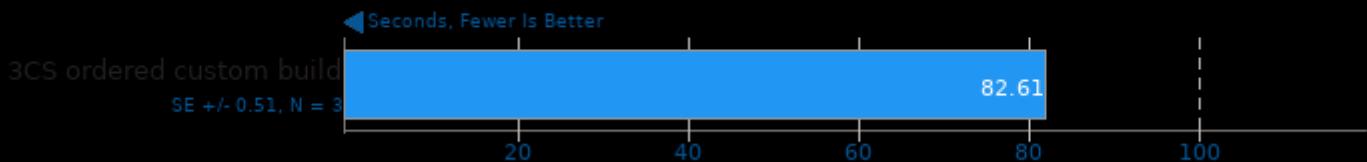
Compressing ubuntu-16.04.3-server-i386.img, Compression Level 9



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

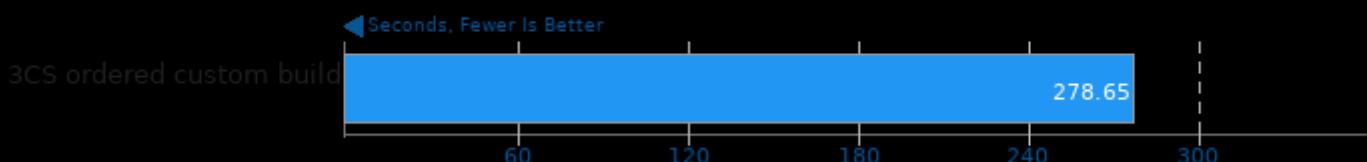
## DeepSpeech 0.6

Acceleration: CPU



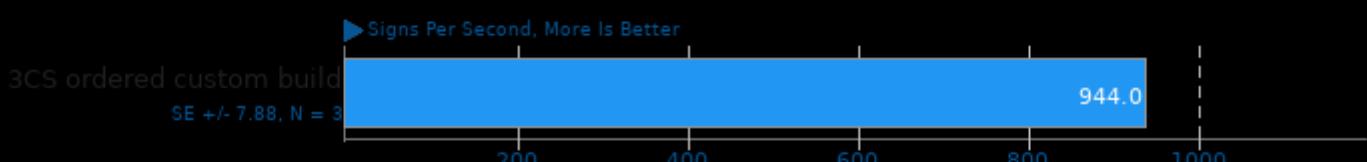
## Radiance Benchmark 5.0

Test: SMP Parallel



## OpenSSL 1.1.1

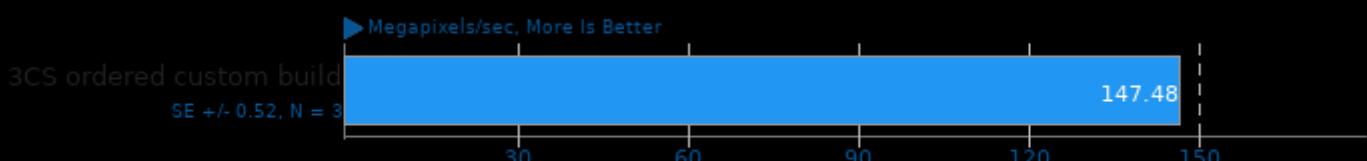
RSA 4096-bit Performance



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

## libjpeg-turbo tjbench 2.0.2

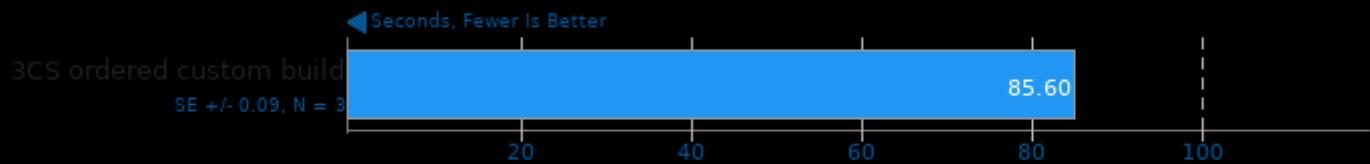
Test: Decompression Throughput



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

## SQLite Speedtest 3.30

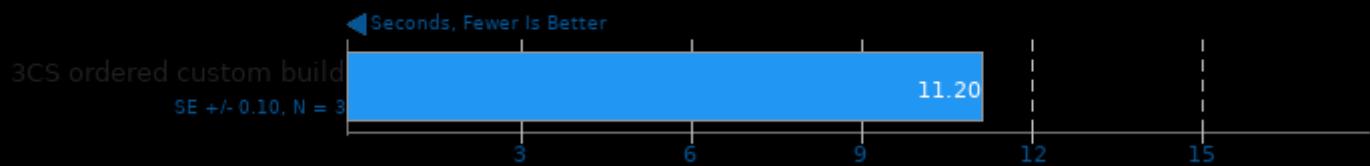
Timed Time - Size 1,000



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

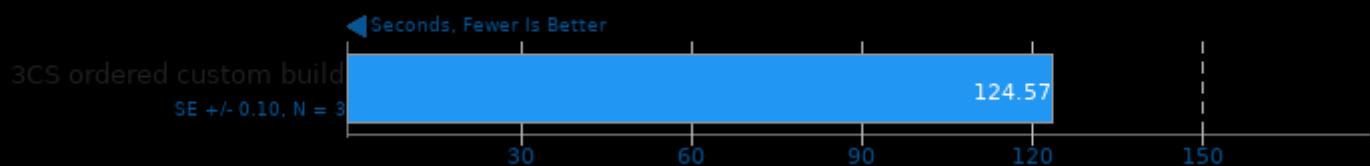
## GEGL

Operation: Crop



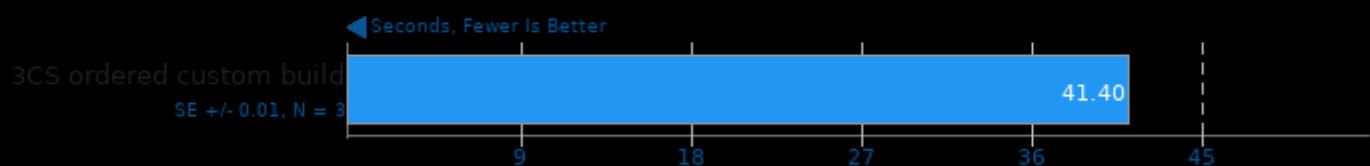
## GEGL

Operation: Cartoon



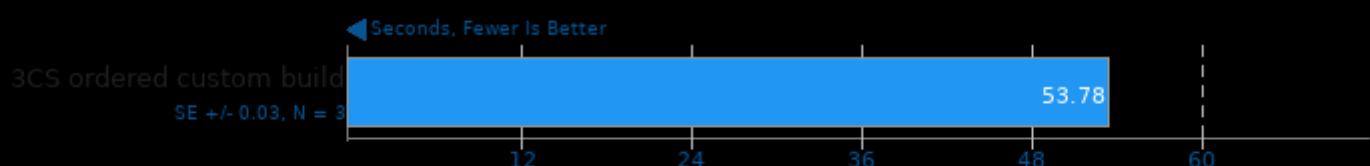
## GEGL

Operation: Reflect



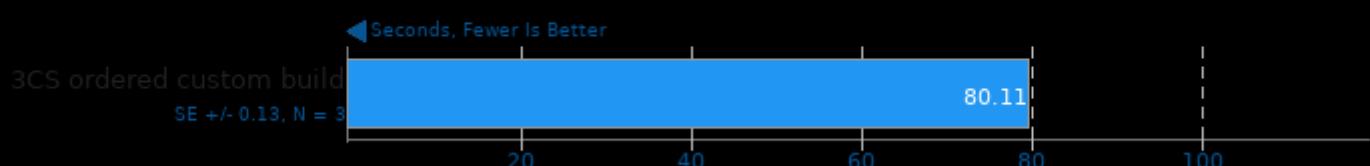
## GEGL

Operation: Antialias



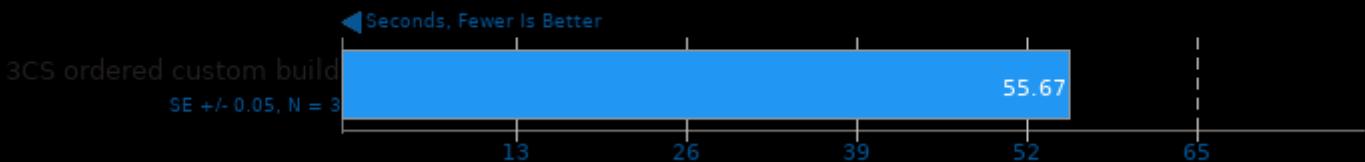
## GEGL

Operation: Color Enhance



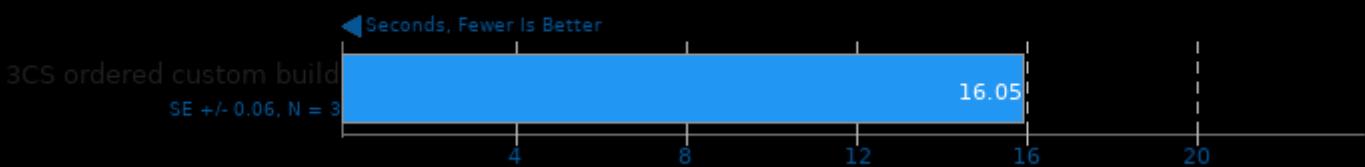
## GEGL

Operation: Rotate 90 Degrees



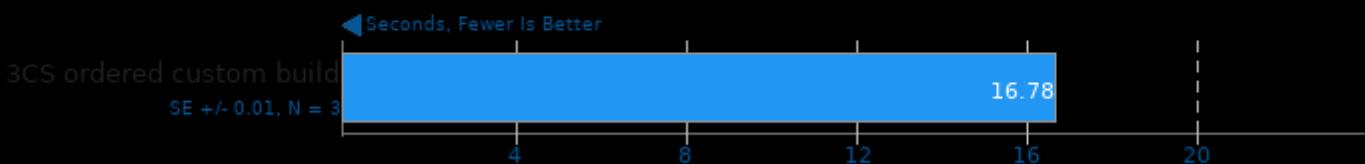
## GIMP 2.10.18

Test: rotate



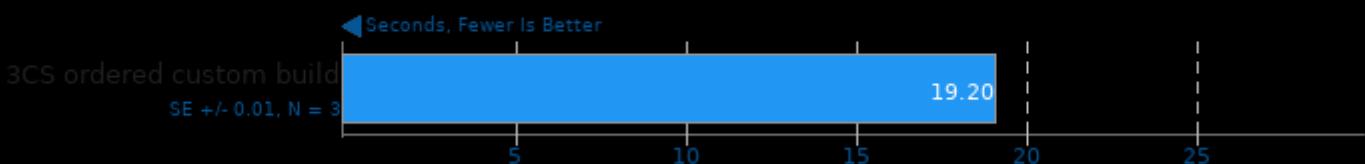
## GIMP 2.10.18

Test: auto-levels

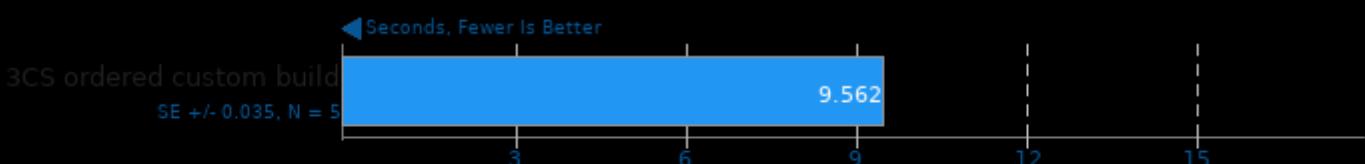


## GIMP 2.10.18

Test: unsharp-mask



## GNU Octave Benchmark 5.2.0



## Redis 6.0.9

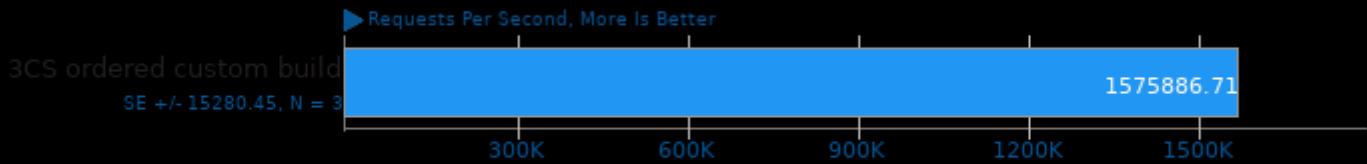
Test: GET



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

## Redis 6.0.9

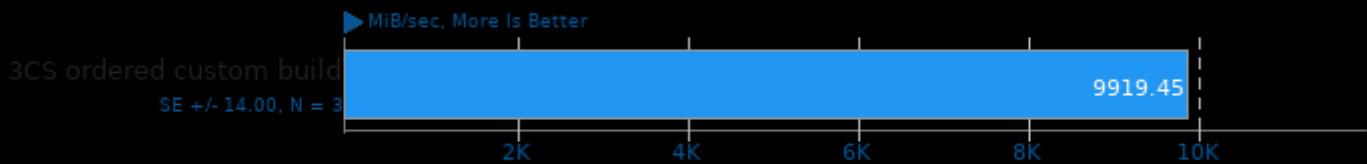
Test: SET



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

## Sysbench 1.0.20

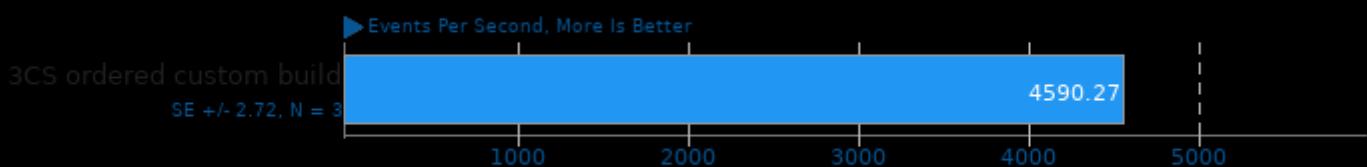
Test: Memory



1. (CC) gcc options: -pthread -O2 -funroll-loops -rdynamic -ldl -laio -lm

## Sysbench 1.0.20

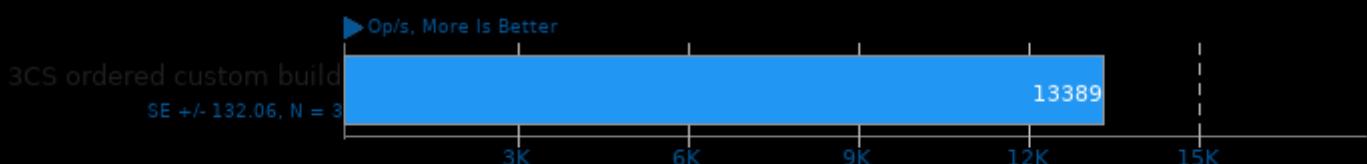
Test: CPU



1. (CC) gcc options: -pthread -O2 -funroll-loops -rdynamic -ldl -laio -lm

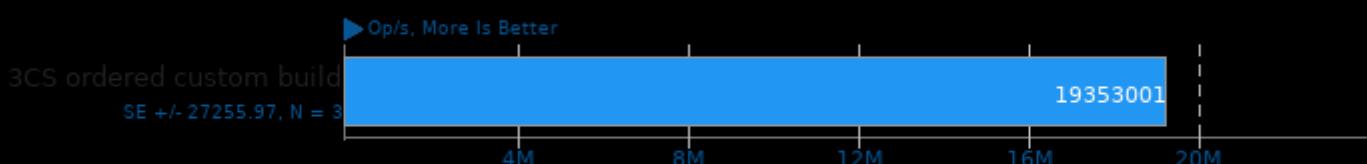
## Apache Cassandra 3.11.4

Test: Writes



## Facebook RocksDB 6.3.6

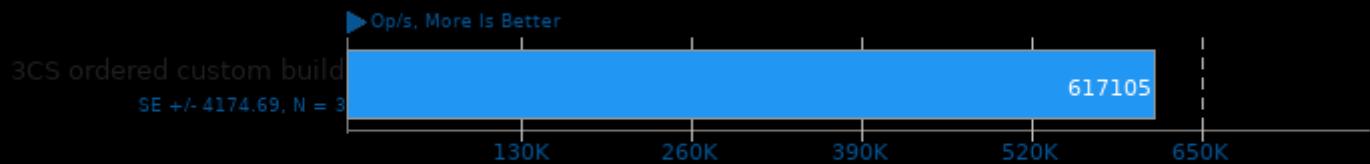
Test: Random Read



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

## Facebook RocksDB 6.3.6

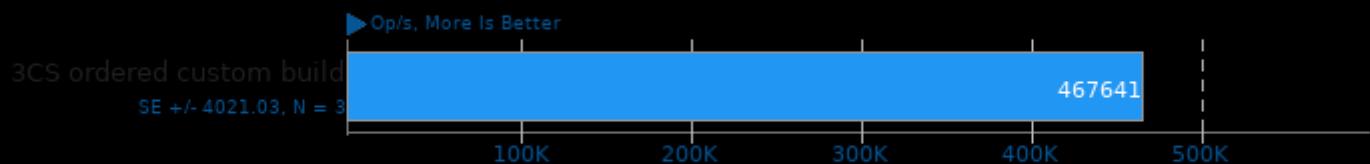
Test: Sequential Fill



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

## Facebook RocksDB 6.3.6

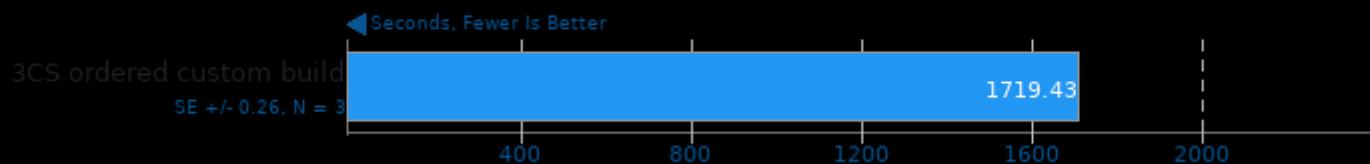
Test: Read While Writing



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

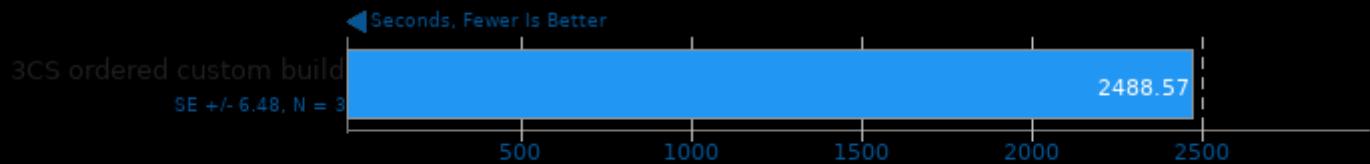
## Blender 2.92

Blend File: Classroom - Compute: CPU-Only



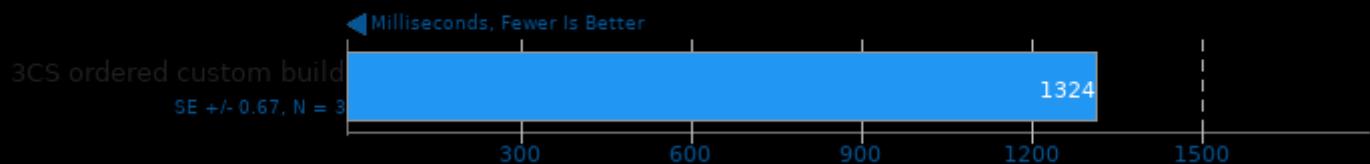
## Blender 2.92

Blend File: Barbershop - Compute: CPU-Only



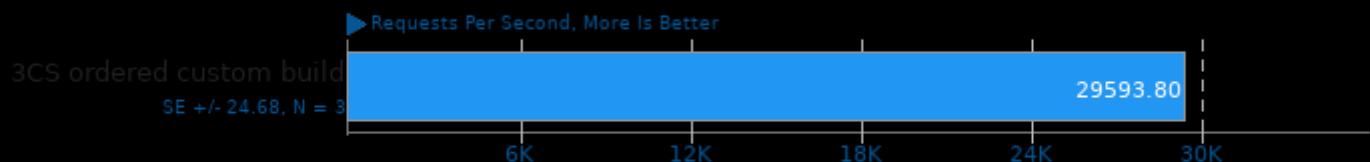
## PyBench 2018-02-16

Total For Average Test Times



## NGINX Benchmark 1.9.9

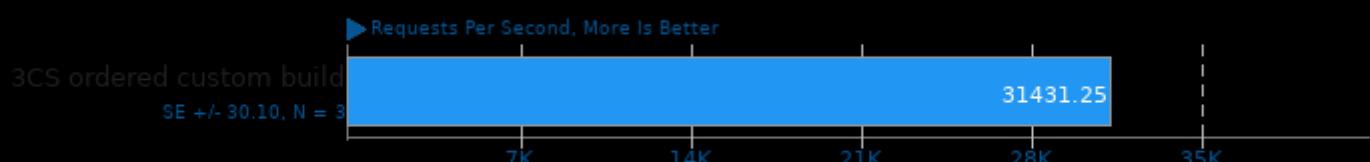
Static Web Page Serving



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

## Apache Benchmark 2.4.29

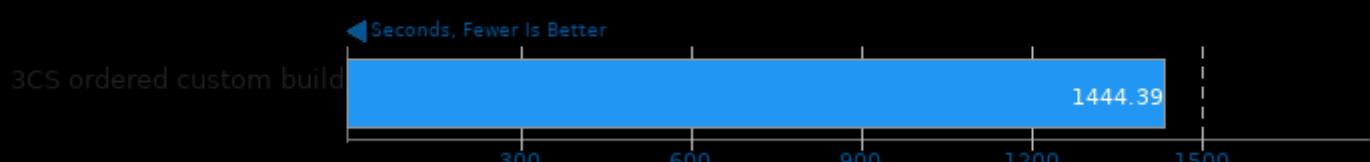
Static Web Page Serving



1. (CC) gcc options: -fPIC -O2 -pthread

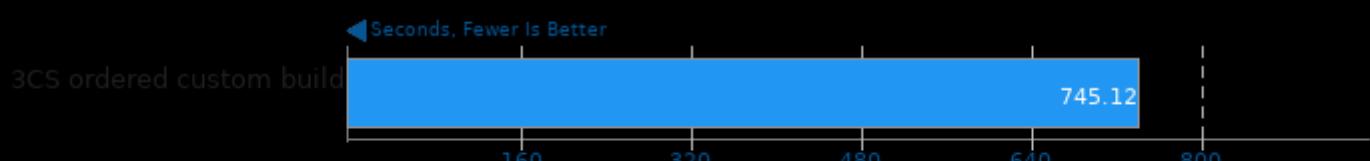
## Appleseed 2.0 Beta

Scene: Emily



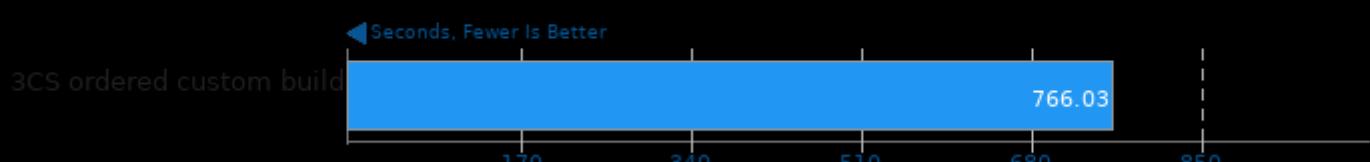
## Appleseed 2.0 Beta

Scene: Disney Material



## Appleseed 2.0 Beta

Scene: Material Tester



## Apache Siege 2.4.29

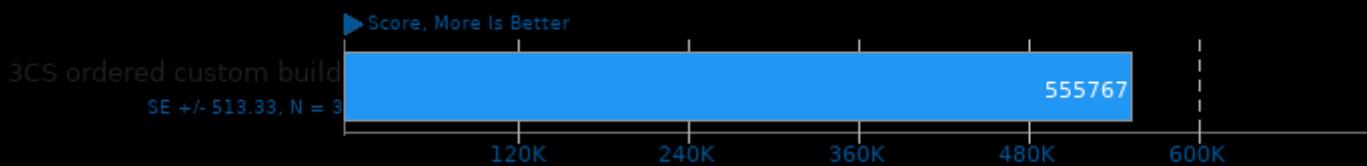
Concurrent Users: 100



1. (CC) gcc options: -O2 -lpthread -ldl -lssl -lcrypto

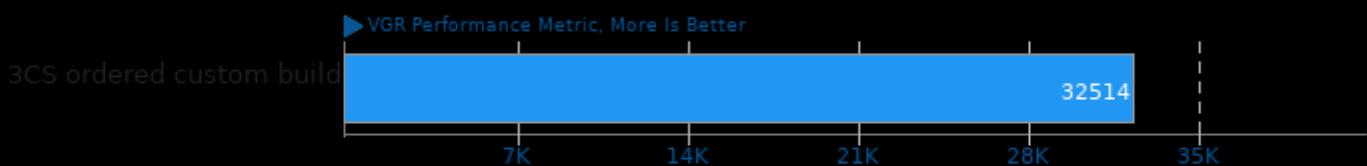
## PHPBench 0.8.1

PHP Benchmark Suite



## BRL-CAD 7.30.8

VGR Performance Metric



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

*This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 22:23.*