



slehpc-renderers-cpu-07jan2020

VMware testing on SUSE Linux Enterprise High Performance Computing 15 SP2 15.2 via the Phoronix Test Suite.

Test Systems:

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Processor: 8 x AMD Ryzen Threadripper 3960X 24-Core (16 Cores), Motherboard: Intel 440BX (6.00 BIOS), Chipset: Intel 440BX/ZX/DX, Memory: 16GB, Disk: 129GB VMware Virtual S, Graphics: SVGA3D; build: RELEASE; LLVM,, Audio: Ensoniq ES1371/ES1373, Network: 2 x Intel 82545EM + 3 x AMD 79c970

OS: SUSE Linux Enterprise High Performance Computing 15 SP2 15.2, Kernel: 5.3.18-24.9-default (x86_64), Desktop: GNOME Shell 3.34.4, Display Server: X Server, OpenGL: 2.1 Mesa 19.3.4, Compiler: GCC 7.5.0, File-System: btrfs, Screen Resolution: 1904x968, System Layer: VMware

Compiler Notes: --build=x86_64-suse-linux --disable-libcc1 --disable-libssp --disable-libstdcxx-pch --disable-libvtv --disable-plugin --disable-werror --enable-checking=release --enable-gnu-indirect-function --enable-languages=c,c++,objc,fortran,obj-c++,ada,go --enable-libstdcxx-allocator=new --enable-linux-futex --enable-multilib --enable-offload-targets=hsa,nvptx-none=/usr/nvptx-none, --enable-ssp --enable-version-specific-runtime-libs --host=x86_64-suse-linux --mandir=/usr/share/man --with-arch-32=x86-64 --with-gcc-major-version-only --with-slibdir=/lib64 --with-tune=generic --without-cuda-driver --without-system-libunwind
Processor Notes: CPU Microcode: 0x8301039

Python Notes: Python 2.7.17 + Python 3.6.10

Security Notes: itlb_multihit: Not affected + 11tf: Not affected + mds: Not affected + meltdown: Not affected + 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 AMD retpoline IBPB: conditional STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

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| | |
|---|----------|
| Rodinia - OpenMP LavaMD (sec) | 42.115 |
| Standard Deviation | 1.4% |
| Rodinia - OpenMP CFD Solver (sec) | 28.822 |
| Standard Deviation | 46.6% |
| NAMD - ATPase Simulation - 327,506 Atoms (days/ns) | 2.34153 |
| Standard Deviation | 12.7% |
| OSPray - San Miguel - SciVis (FPS) | 9.74 |
| Standard Deviation | 1.1% |
| OSPray - XFrog Forest - SciVis (FPS) | 1.97 |
| Standard Deviation | 2.6% |
| OSPray - San Miguel - Path Tracer (FPS) | 0.79 |
| Standard Deviation | 10% |
| OSPray - NASA Streamlines - SciVis (FPS) | 18.07 |
| Standard Deviation | 1% |
| OSPray - XFrog Forest - Path Tracer (FPS) | 1.18 |
| Standard Deviation | 1.5% |
| OSPray - M.R - SciVis (FPS) | 9.09 |
| Standard Deviation | 0.9% |
| OSPray - NASA Streamlines - Path Tracer (FPS) | 3.76 |
| Standard Deviation | 2.7% |
| OSPray - M.R - Path Tracer (FPS) | 166.67 |
| Standard Deviation | 0% |
| TTSIOD 3D Renderer - P.R.W.S.S.M (FPS) | 432.795 |
| Standard Deviation | 7.1% |
| LuxCoreRender - DLSC (M samples/sec) | 1.86 |
| Standard Deviation | 0.7% |
| LuxCoreRender - R.C.a.P (M samples/sec) | 2.10 |
| Standard Deviation | 1.4% |
| 7-Zip Compression - C.S.T (MIPS) | 63326 |
| Standard Deviation | 6.8% |
| Stockfish - Total Time (Nodes/s) | 30846792 |
| Standard Deviation | 0.5% |
| asmFish - 1.H.M.2.D (Nodes/s) | 30498120 |
| Standard Deviation | 1% |
| C-Ray - Total Time - 4.1.R.P.P (sec) | 56.355 |
| Standard Deviation | 0.3% |
| Smallpt - G.I.R.1.S (sec) | 9.421 |
| Standard Deviation | 0.3% |
| Tungsten Renderer - Hair (sec) | 24.0527 |
| Standard Deviation | 0.5% |
| Tungsten Renderer - Water Caustic (sec) | 26.3627 |
| Standard Deviation | 1.7% |
| Tungsten Renderer - Non-Exponential (sec) | 8.84069 |
| Standard Deviation | 1.1% |

Tungsten Renderer - Volumetric Caustic (sec) 9.73286
Standard Deviation 0.3%

rays1bench - Large Scene (mrays/s) 77.12
Standard Deviation 1.7%

AOBench - 2048 x 2048 - Total Time (sec) 32.226
Standard Deviation 0.1%

Radiance Benchmark - Serial (sec) 645.947

Radiance Benchmark - SMP Parallel (sec) 200.885

Tachyon - Total Time (sec) 77.5509
Standard Deviation 2%

OpenSSL - R.4.b.P (Signs/sec) 3090
Standard Deviation 2.5%

ctx_clock - C.S.T (Clocks) 190

Sysbench - CPU (Events/sec) 24322
Standard Deviation 4.4%

Blender - Barbershop - CPU-Only (sec) 1583

Blender - BMW27 - OpenCL (sec) 433.08
Standard Deviation 2.5%

Blender - BMW27 - CPU-Only (sec) 183.67
Standard Deviation 6.8%

Blender - Classroom - OpenCL (sec) 573.05
Standard Deviation 10.6%

Blender - Fishy Cat - OpenCL (sec) 1044
Standard Deviation 8.7%

Blender - Classroom - CPU-Only (sec) 529.43
Standard Deviation 6.5%

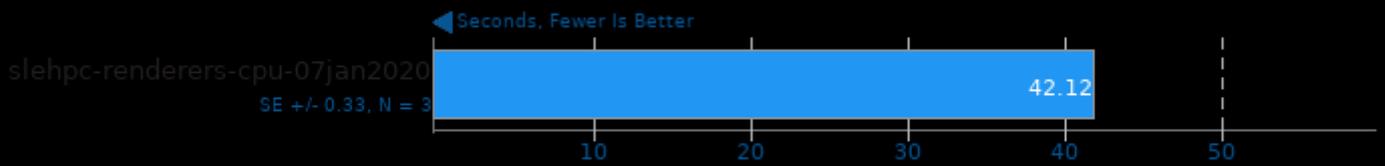
Blender - Fishy Cat - CPU-Only (sec) 246.56
Standard Deviation 5.5%

Blender - Pabellon Barcelona - OpenCL (sec) 1303
Standard Deviation 5.6%

Blender - Pabellon Barcelona - CPU-Only (sec) 639.85
Standard Deviation 4.2%

Rodinia 2.4

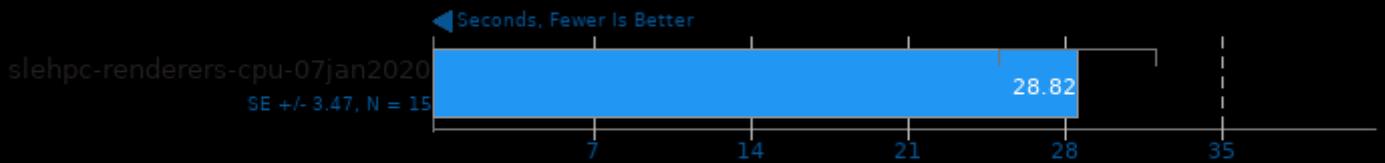
Test: OpenMP LavaMD



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

Rodinia 2.4

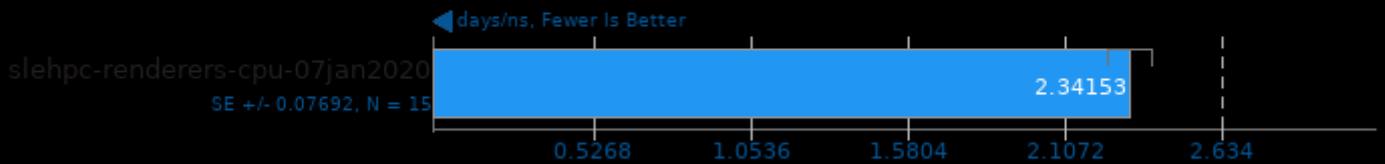
Test: OpenMP CFD Solver



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

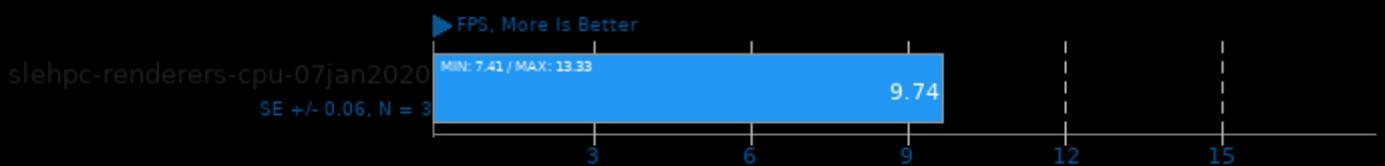
NAMD 2.13b1

ATPase Simulation - 327,506 Atoms



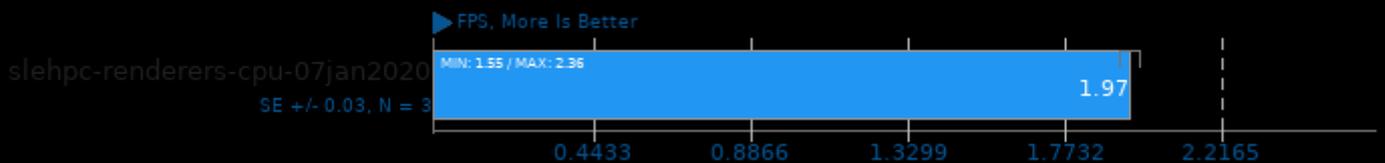
OSPray 1.8.5

Demo: San Miguel - Renderer: SciVis



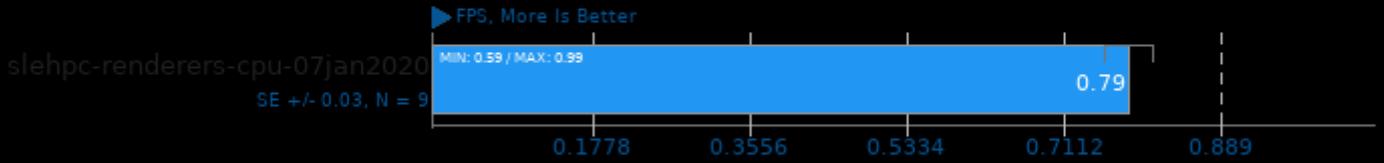
OSPray 1.8.5

Demo: XFrog Forest - Renderer: SciVis



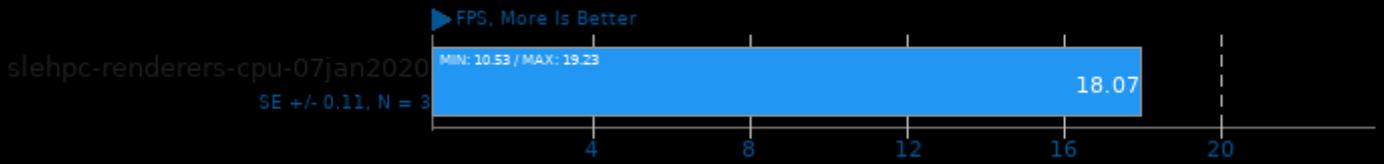
OSPray 1.8.5

Demo: San Miguel - Renderer: Path Tracer



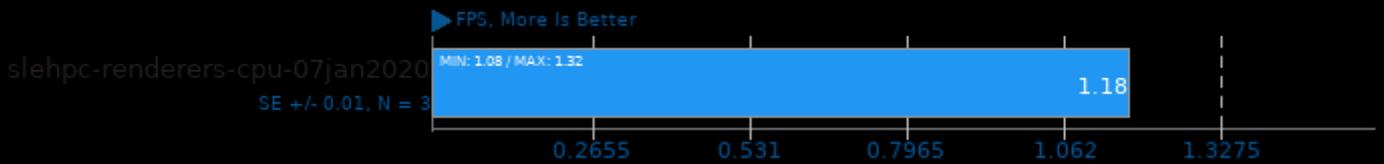
OSPray 1.8.5

Demo: NASA Streamlines - Renderer: SciVis



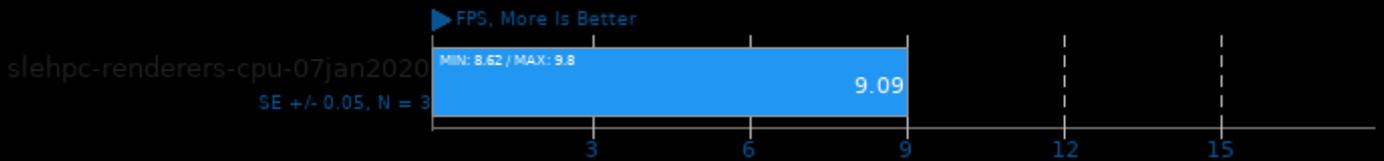
OSPray 1.8.5

Demo: XFrog Forest - Renderer: Path Tracer



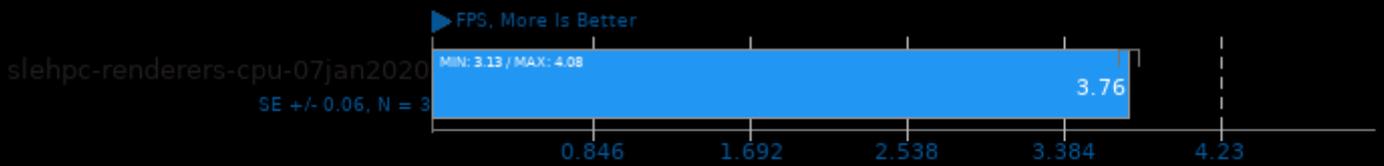
OSPray 1.8.5

Demo: Magnetic Reconnection - Renderer: SciVis



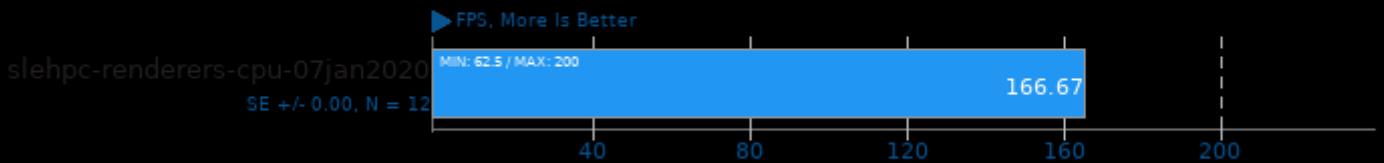
OSPray 1.8.5

Demo: NASA Streamlines - Renderer: Path Tracer



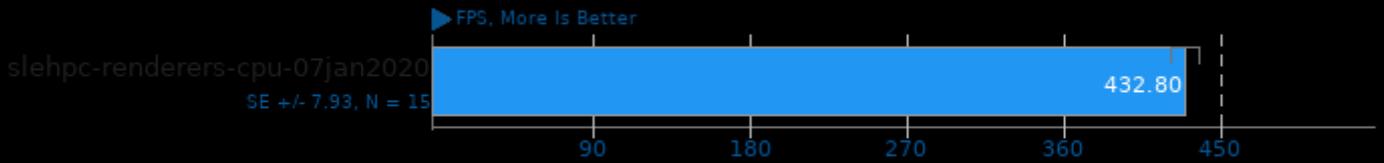
OSPray 1.8.5

Demo: Magnetic Reconnection - Renderer: Path Tracer



TTSIOD 3D Renderer 2.3b

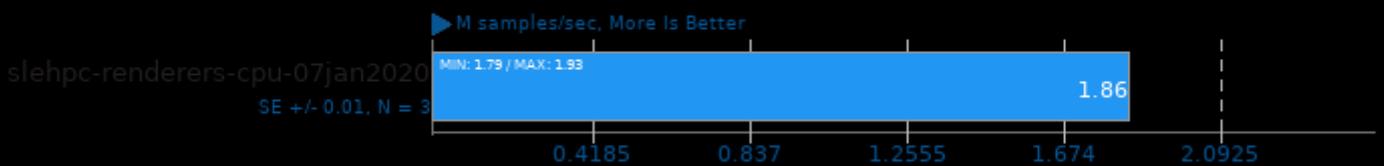
Phong Rendering With Soft-Shadow Mapping



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

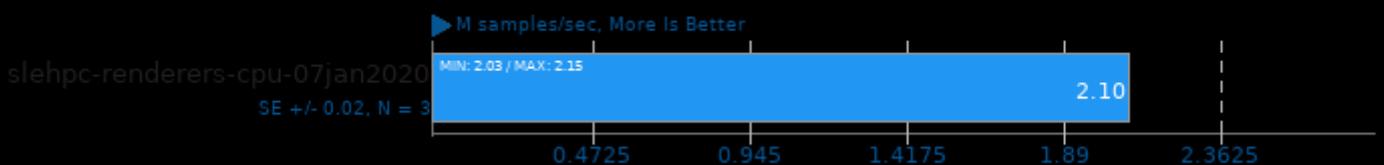
LuxCoreRender 2.3

Scene: DLSC



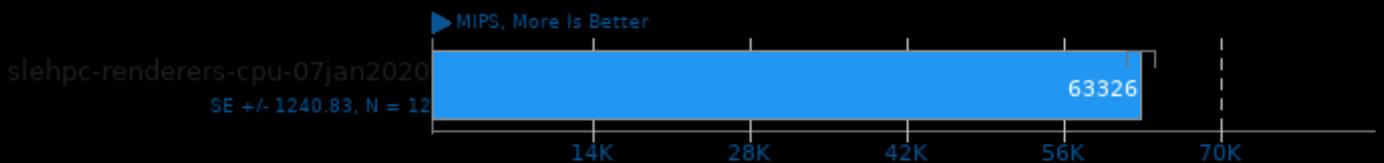
LuxCoreRender 2.3

Scene: Rainbow Colors and Prism



7-Zip Compression 16.02

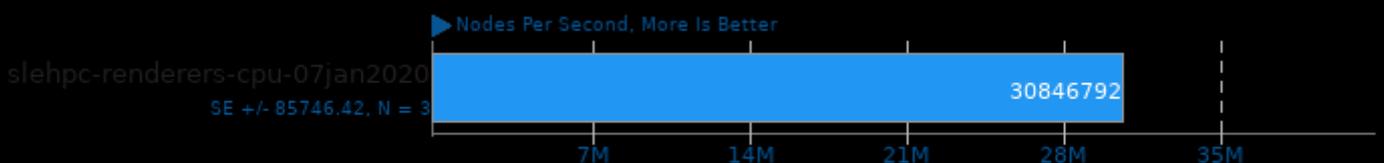
Compress Speed Test



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

Stockfish 9

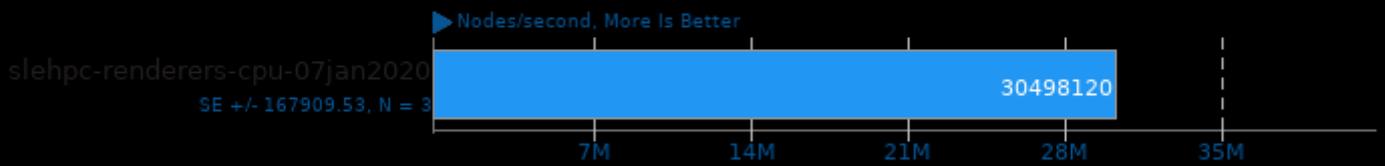
Total Time



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

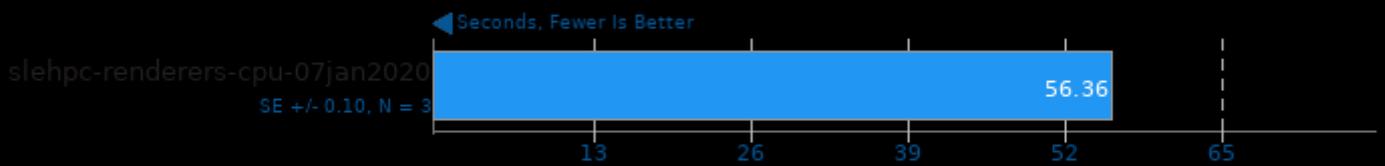
asmFish 2018-07-23

1024 Hash Memory, 26 Depth



C-Ray 1.1

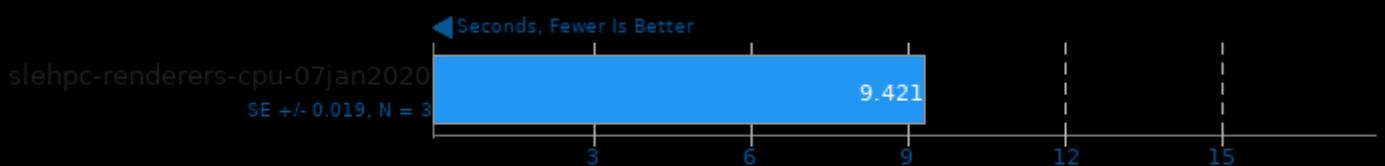
Total Time - 4K, 16 Rays Per Pixel



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

Smallpt 1.0

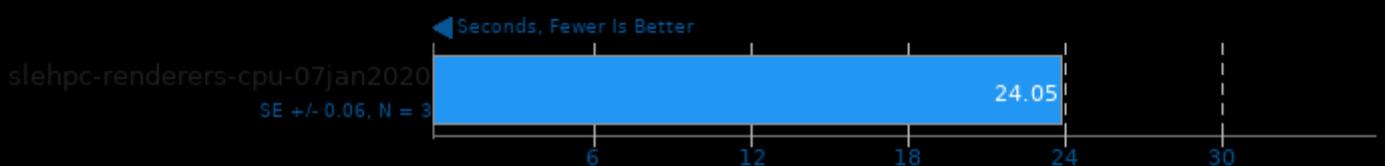
Global Illumination Renderer; 128 Samples



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

Tungsten Renderer 0.2.2

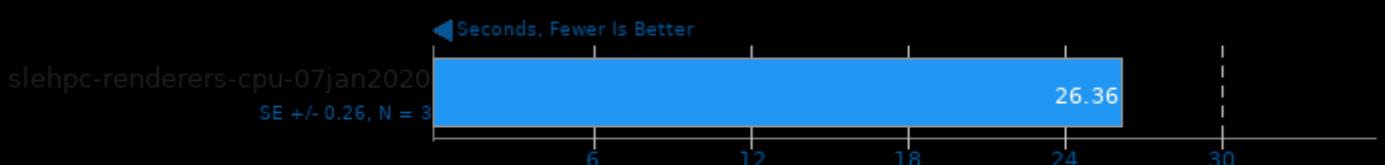
Scene: Hair



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

Tungsten Renderer 0.2.2

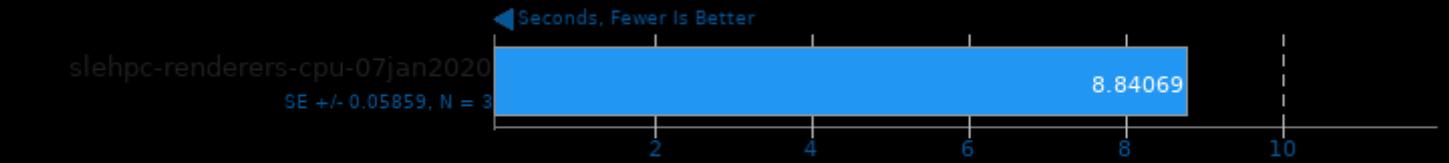
Scene: Water Caustic



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

Tungsten Renderer 0.2.2

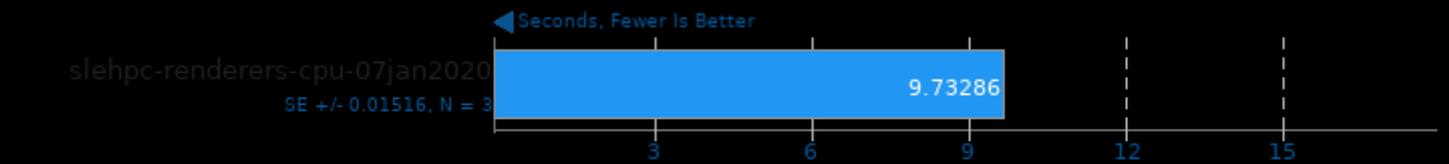
Scene: Non-Exponential



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

Tungsten Renderer 0.2.2

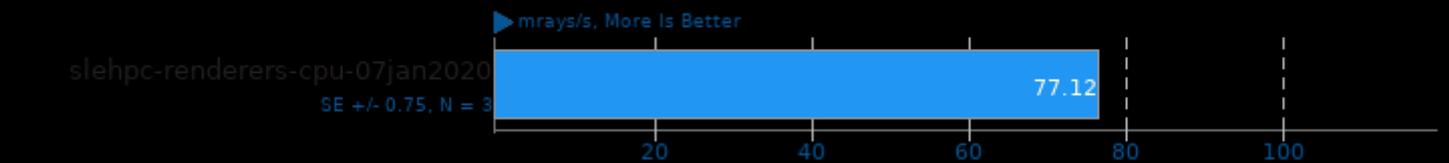
Scene: Volumetric Caustic



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

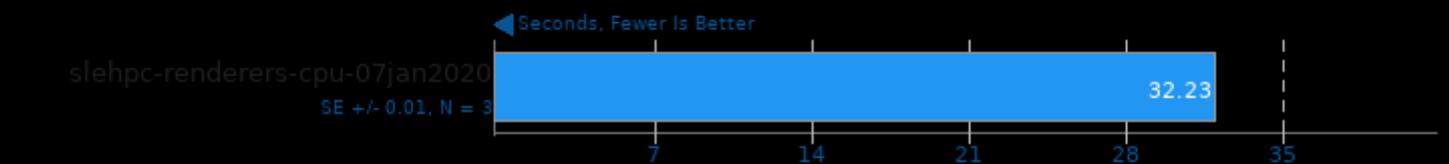
rays1bench 2020-01-09

Large Scene



AOBench

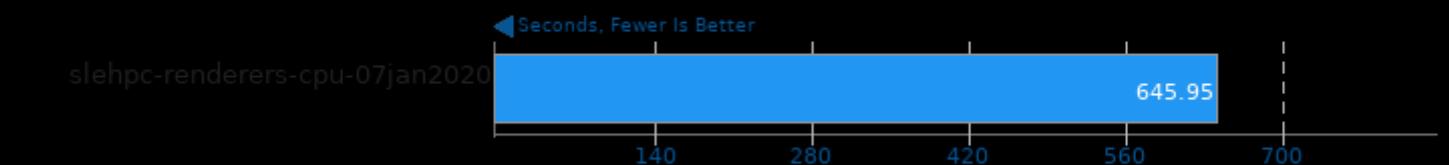
Size: 2048 x 2048 - Total Time



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

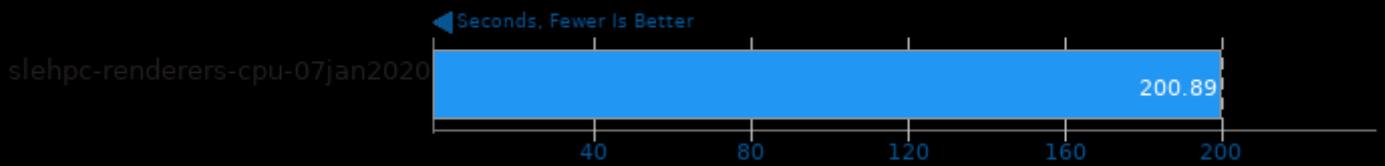
Radiance Benchmark 5.0

Test: Serial



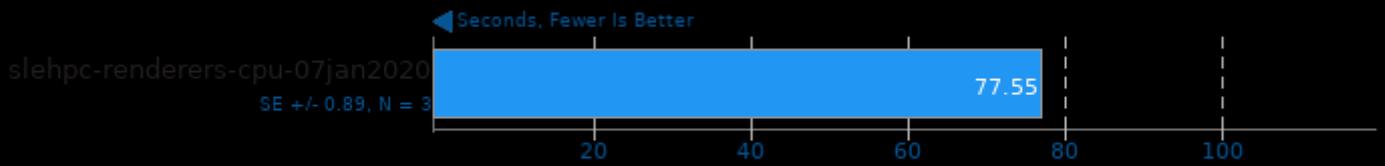
Radiance Benchmark 5.0

Test: SMP Parallel



Tachyon 0.99b6

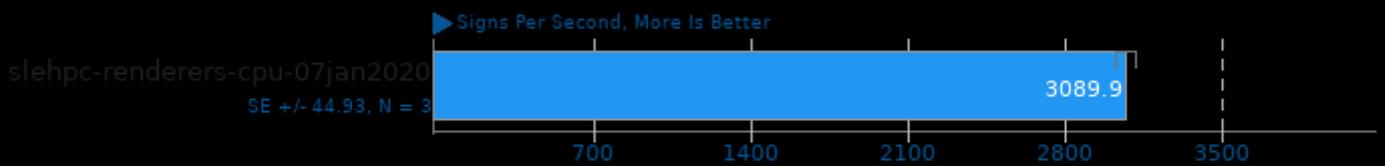
Total Time



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

OpenSSL 1.1.1

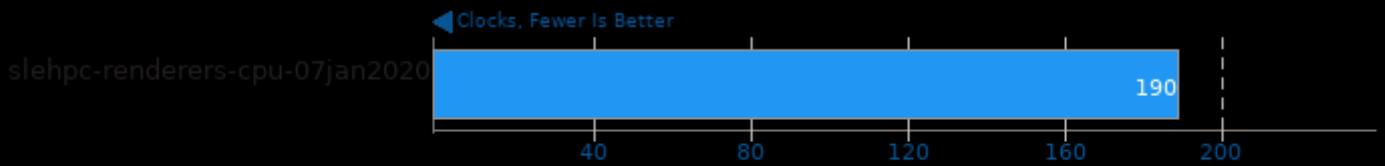
RSA 4096-bit Performance



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

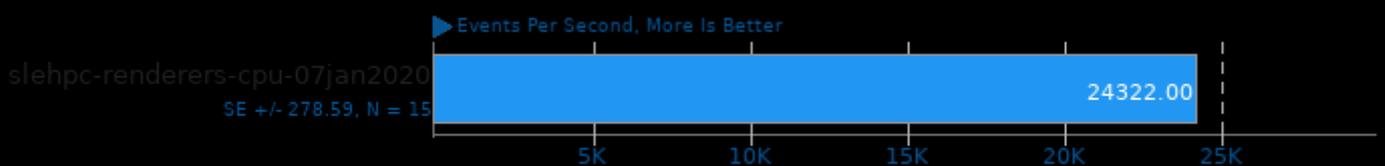
ctx_clock

Context Switch Time



Sysbench 2018-07-28

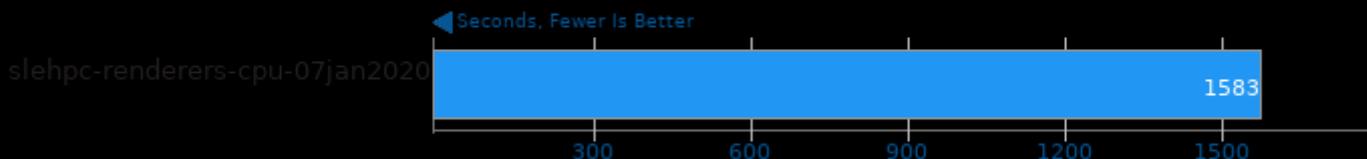
Test: CPU



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

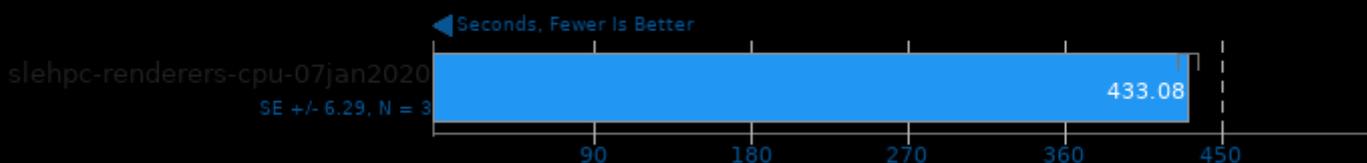
Blender 2.79a

Blend File: Barbershop - Compute: CPU-Only



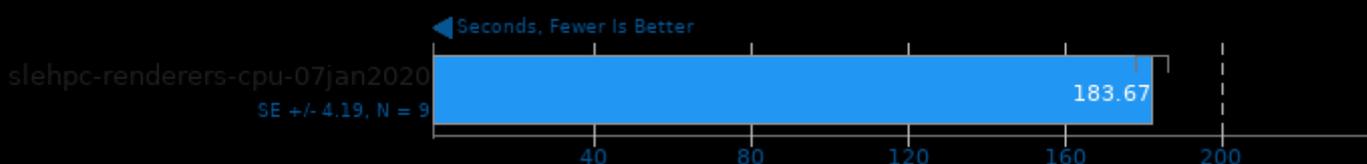
Blender 2.90

Blend File: BMW27 - Compute: OpenCL



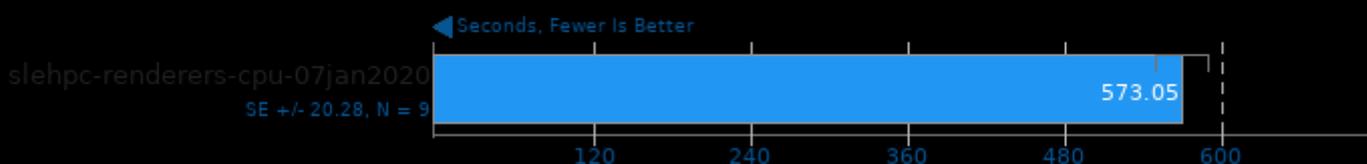
Blender 2.90

Blend File: BMW27 - Compute: CPU-Only



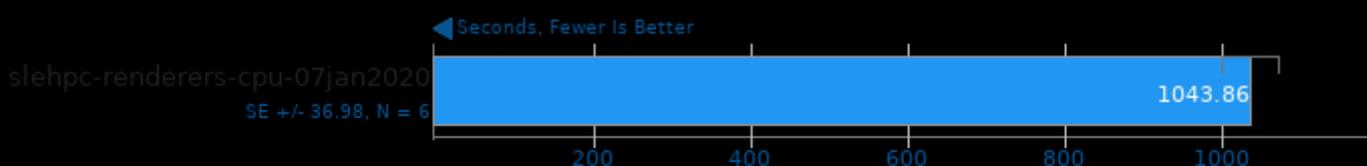
Blender 2.90

Blend File: Classroom - Compute: OpenCL



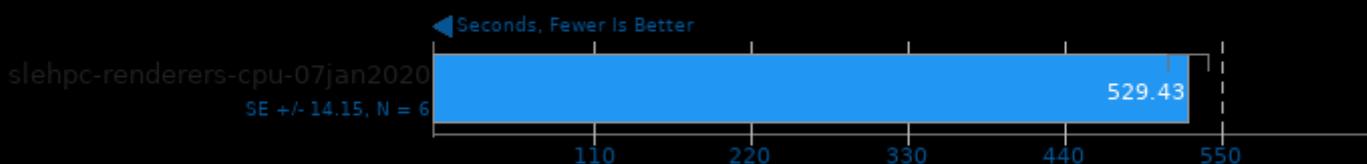
Blender 2.90

Blend File: Fishy Cat - Compute: OpenCL



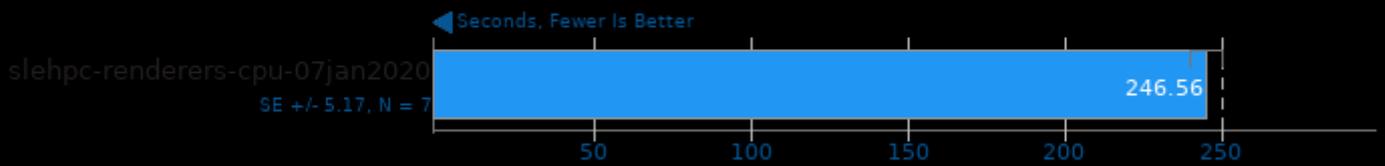
Blender 2.90

Blend File: Classroom - Compute: CPU-Only



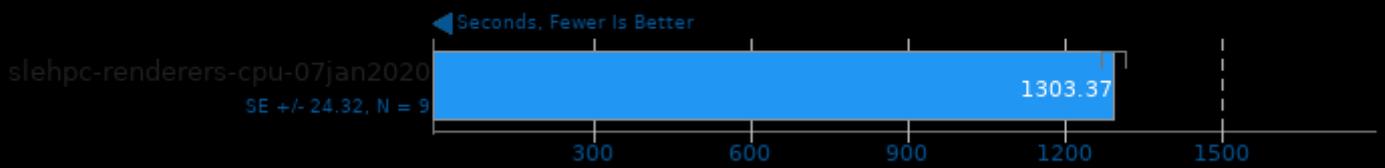
Blender 2.90

Blend File: Fishy Cat - Compute: CPU-Only



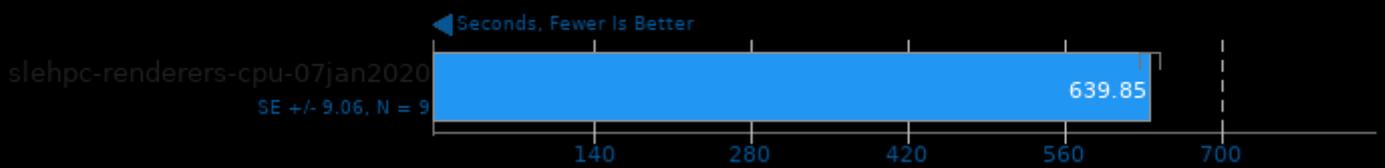
Blender 2.90

Blend File: Pabellon Barcelona - Compute: OpenCL



Blender 2.90

Blend File: Pabellon Barcelona - Compute: CPU-Only



This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 13:00.