



super-cpu-benchmark

2 x Intel Xeon E5-2650 v4 testing with a Supermicro X10DRi-LN4+ v1.01 (3.2 BIOS) and ASPEED on Ubuntu 21.04 via the Phoronix Test Suite.

Test Systems:

defaults

Processor: 2 x Intel Xeon E5-2650 v4 @ 2.90GHz (24 Cores / 48 Threads), Motherboard: Supermicro X10DRi-LN4+ v1.01 (3.2 BIOS), Chipset: Intel Xeon E7 v4/Xeon, Memory: 126GB, Disk: 2 x PNY CS900 240GB, Graphics: ASPEED, Monitor: E2241, Network: 4 x Intel I350

OS: Ubuntu 21.04, Kernel: 5.11.0-18-generic (x86_64), Vulkan: 1.0.2, Compiler: GCC 10.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-nvptx/usr,amdgc-nvptx=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-gcn/usr,

```
hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64
--with-arch-32=i686 --with-build-config=bootstrap-lto-lean --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_cpufreq schedutil - CPU Microcode: 0xb000038
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + 11tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear
buffers; SMT vulnerable + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs
barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Not affected +
tsx_async_abort: Mitigation of Clear buffers; SMT vulnerable
```

	defaults
Rodinia - OpenMP LavaMD (sec)	21.424
Standard Deviation	0.7%
Rodinia - OpenMP CFD Solver (sec)	13.691
Standard Deviation	0.4%
NAMD - ATPase Simulation - 327,506 Atoms (days/ns)	1.00827
Standard Deviation	0.3%
Kvazaar - Bosphorus 4K - Slow (FPS)	4.98
Standard Deviation	0.9%
Kvazaar - Bosphorus 4K - Medium (FPS)	5.08
Standard Deviation	0.7%
Kvazaar - Bosphorus 1080p - Slow (FPS)	14.11
Standard Deviation	0.4%
Kvazaar - Bosphorus 1080p - Medium (FPS)	14.56
Standard Deviation	0.3%
Kvazaar - Bosphorus 4K - Very Fast (FPS)	11.15
Standard Deviation	0.3%
Kvazaar - Bosphorus 4K - Ultra Fast (FPS)	19.48
Standard Deviation	0.3%
Kvazaar - Bosphorus 1080p - Very Fast (FPS)	28.71
Standard Deviation	0.7%
Kvazaar - Bosphorus 1080p - Ultra Fast (FPS)	53.99
Standard Deviation	0.7%
x264 - H.2.V.E (FPS)	85.92
Standard Deviation	2.1%
x265 - Bosphorus 4K (FPS)	14.44
Standard Deviation	0.2%
x265 - Bosphorus 1080p (FPS)	24.30
Standard Deviation	0.5%
Stockfish - Total Time (Nodes/s)	41839390
Standard Deviation	1.6%
asmFish - 1.H.M.2.D (Nodes/s)	46687175
Standard Deviation	1.2%
POV-Ray - Trace Time (sec)	31.635
Standard Deviation	0.3%
Radiance Benchmark - Serial (sec)	1027
Radiance Benchmark - SMP Parallel (sec)	338.561
OpenSSL - R.4.b.P (Signs/sec)	4390
Standard Deviation	0.3%
ctx_clock - C.S.T (Clocks)	955
Standard Deviation	0.2%
Sysbench - CPU (Events/sec)	31089

Standard Deviation 0.1%
Blender - Barbershop - CPU-Only (sec) 606.98

Rodinia 2.4

Test: OpenMP LavaMD



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

Rodinia 2.4

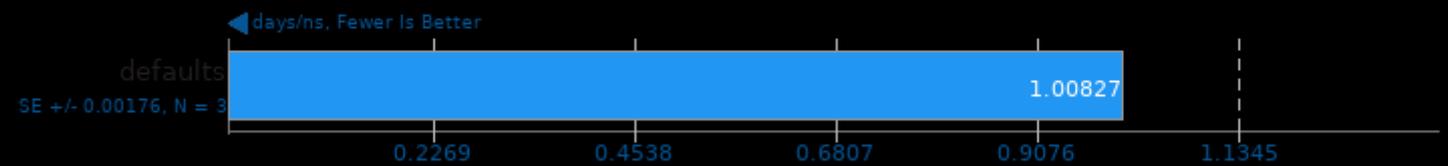
Test: OpenMP CFD Solver



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

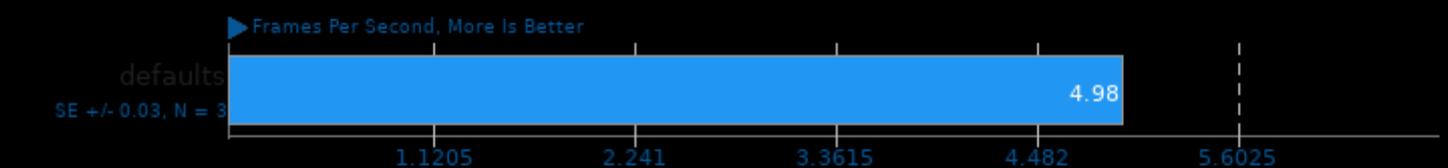
NAMD 2.13b1

ATPase Simulation - 327,506 Atoms



Kvazaar 2.0

Video Input: Bosphorus 4K - Video Preset: Slow



1. (C) gcc options: -pthread -fthread-local-executors -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.0

Video Input: Bosphorus 4K - Video Preset: Medium



1. (C) gcc options: -pthread -fthread-local-executors -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.0

Video Input: Bosphorus 1080p - Video Preset: Slow



Kvazaar 2.0

Video Input: Bosphorus 1080p - Video Preset: Medium



Kvazaar 2.0

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



Kvazaar 2.0

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



Kvazaar 2.0

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



Kvazaar 2.0

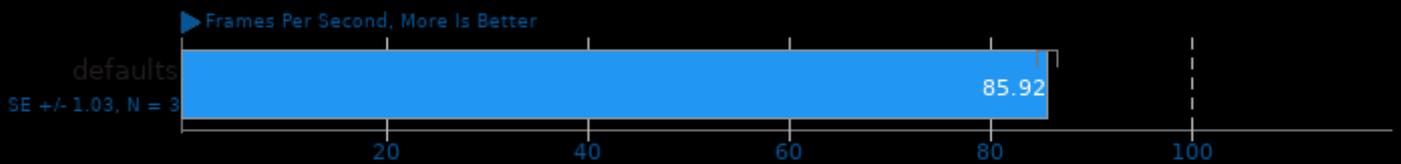
Video Input: Bosphorus 1080p - Video Preset: Ultra Fast



1. (GCC) gcc options: -pthread -free-vectorize -fvisibility=hidden -O2 -lthread -lm -lrt

x264 2018-09-25

H.264 Video Encoding



1. (GCC) gcc options: -ldl -m64 -lm -lthread -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 -lthread -lrt -ldl -lnuma

x265 3.4

Video Input: Bosphorus 1080p



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

Stockfish 9

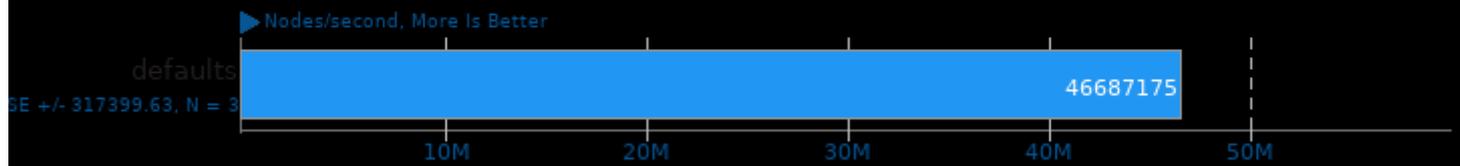
Total Time



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

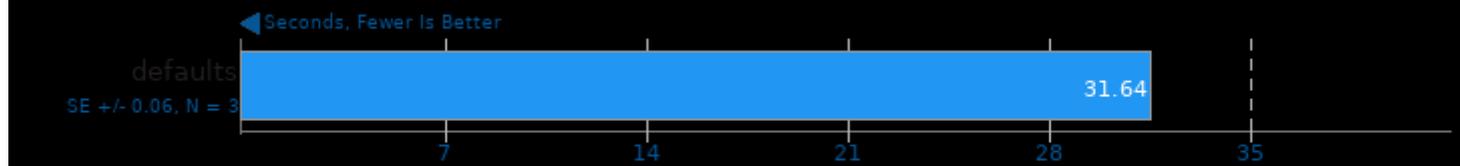
asmFish 2018-07-23

1024 Hash Memory, 26 Depth



POV-Ray 3.7.0.7

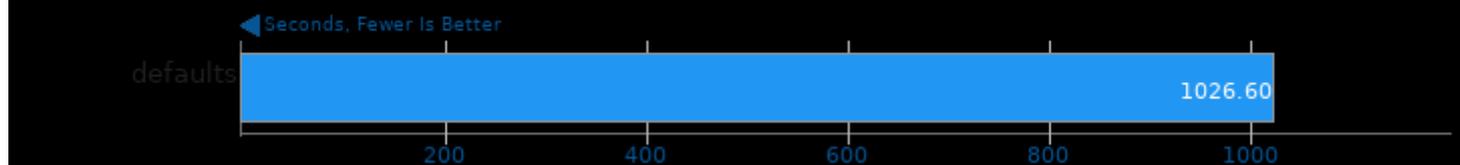
Trace Time



1. (CXX) g++ options: -pipe -O3 -ffast-math -march=native -pthread -lXpm -lSM -lICE -lX11 -ltiff -ljpeg -lpng -lz -lrt -lrm -lboost_thread -lboost_system

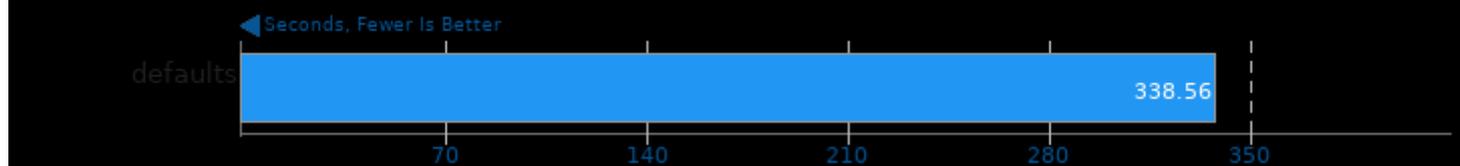
Radiance Benchmark 5.0

Test: Serial



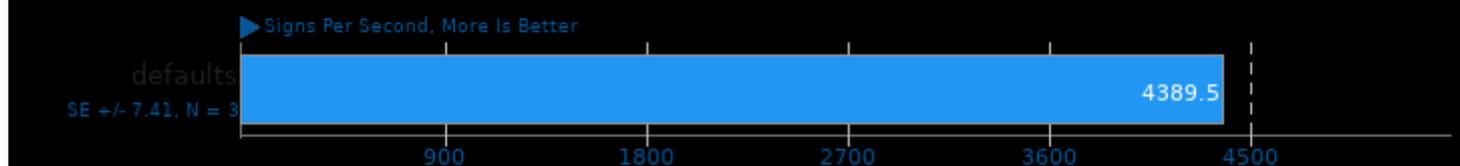
Radiance Benchmark 5.0

Test: SMP Parallel

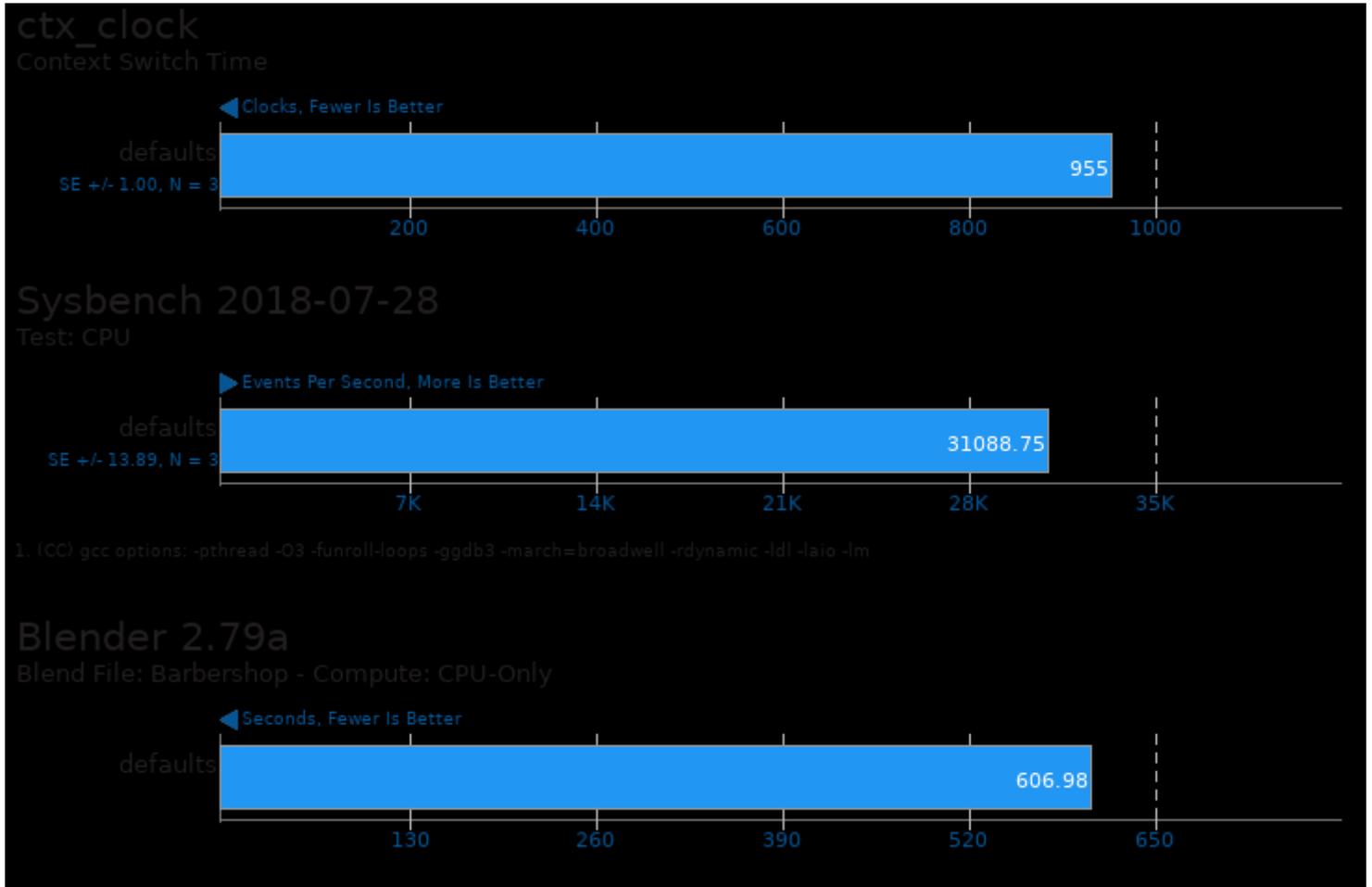


OpenSSL 1.1.1

RSA 4096-bit Performance



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



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