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10700t july

Intel Core i7-10700T testing with a Logic Supply RXM-181 (Z01-0002A026 BIOS) and Intel UHD 630 CML GT2 30GB on Ubuntu 22.04 via the Phoronix Test Suite.

Automated Executive Summary

A had the most wins, coming in first place for 85% of the tests.

Based on the geometric mean of all complete results, the fastest (A) was 1.027x the speed of the slowest (B). C was 0.995x the speed of A and B was 0.978x the speed of C.

Test Systems:

A

B

C

Processor: Intel Core i7-10700T @ 4.50GHz (8 Cores / 16 Threads), Motherboard: Logic Supply RXM-181 (Z01-0002A026 BIOS), Chipset: Intel Comet Lake PCH, Memory: 32GB, Disk: 256GB TS256GMTS800, Graphics: Intel UHD 630 CML GT2 30GB (1200MHz), Audio: Realtek ALC233, Monitor: DELL P2415Q, Network: Intel I219-LM + Intel I210

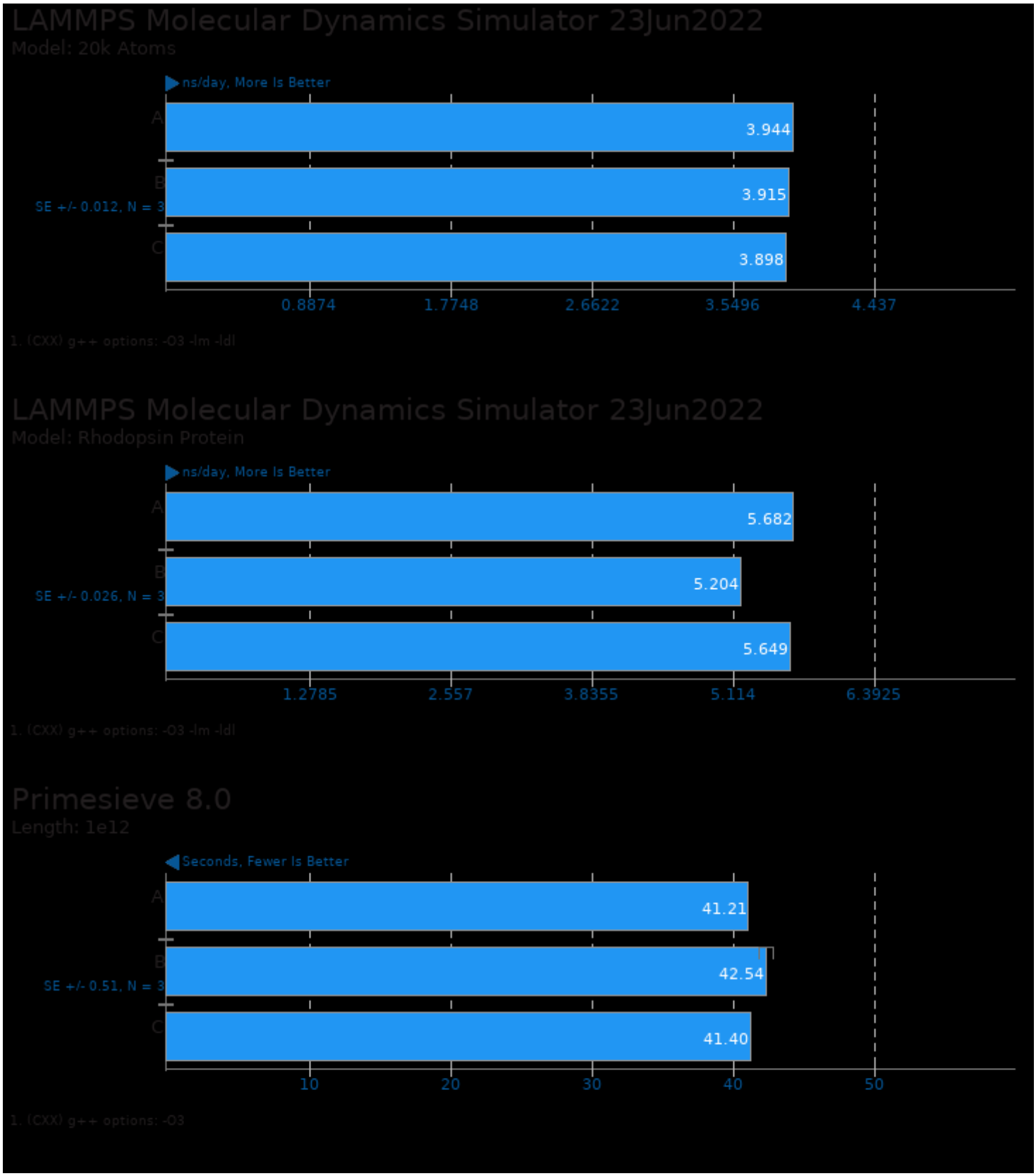
OS: Ubuntu 22.04, Kernel: 5.15.0-40-generic (x86_64), Desktop: GNOME Shell 42.2, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.0.1, Vulkan: 1.3.204, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --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-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-gBFGDP/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-gBFGDP/gcc-11-11.2.0/debian/tmp-gcn/usr --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_pstate powersave (EPP: balance_performance) - CPU Microcode: 0xf0 - Thermald 2.4.9
Python Notes: Python 3.10.4
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Mitigation of Clear buffers; SMT vulnerable + 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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Mitigation of Microcode + tsx_async_abort: Not affected

	A	B	C
LAMMPS Molecular Dynamics Simulator - 20k Atoms (ns/day)	**3.944**	3.915	**3.898**
Normalized	100%	99.26%	98.83%
Standard Deviation		0.5%	
LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein (ns/day)	**5.682**	**5.204**	5.649
Normalized	100%	91.59%	99.42%
Standard Deviation		0.9%	
Primesieve - 1e12 (sec)	**41.21**	**42.539**	41.404
Normalized	100%	96.88%	99.53%
Standard Deviation		2.1%	
Primesieve - 1e13 (sec)	**538.902**	543.622	**545.43**
Normalized	100%	99.13%	98.8%
Standard Deviation		0.7%	
Aircrack-ng (k/s)	**27088**	**26387**	27022
Normalized	100%	97.41%	99.76%
Standard Deviation		1.4%	
Node.js V8 Web Tooling Benchmark (runs/s)	**10.34**	10.29	**10.24**
Normalized	100%	99.52%	99.03%
Standard Deviation		1.8%	
ASTC Encoder - Fast (MT/s)	111.549	**111.0741**	**111.588**
Normalized	99.97%	99.54%	100%
Standard Deviation		0.1%	
ASTC Encoder - Medium (MT/s)	**41.9498**	**41.4851**	41.6287
Normalized	100%	98.89%	99.23%
Standard Deviation		0.1%	
ASTC Encoder - Thorough (MT/s)	**4.7957**	**4.1187**	4.7374
Normalized	100%	85.88%	98.78%

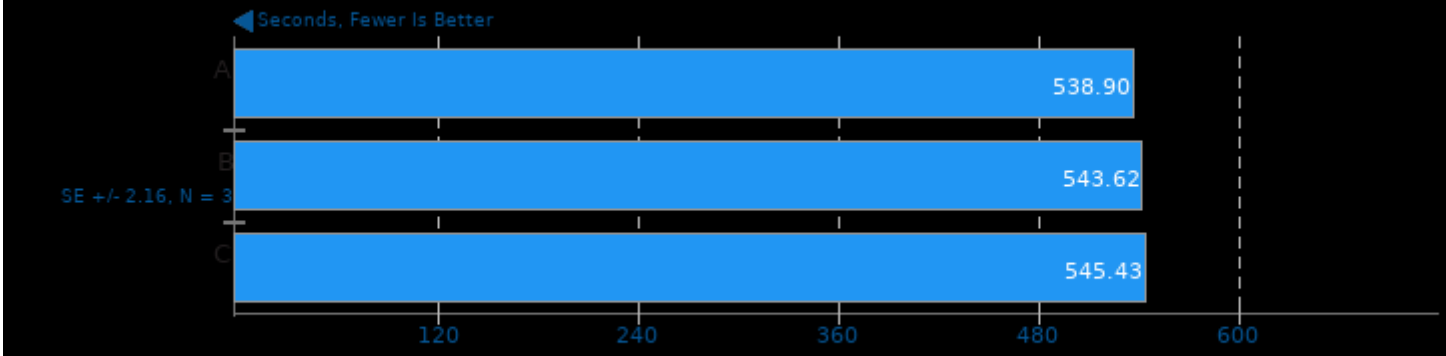
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Standard Deviation		4.2%	
ASTC Encoder - Exhaustive (MT/s)	**0.3513**	**0.3441**	0.3504
Normalized	100%	97.95%	99.74%
Standard Deviation		1.3%	
Inkscape - SVG Files To PNG (sec)	**28.3**	28.171	**28.096**
Normalized	99.28%	99.73%	100%
Standard Deviation		0.2%	
AI Benchmark Alpha - D.I.S (Score)	**729**	**724**	**729**
Normalized	100%	99.31%	100%
AI Benchmark Alpha - D.T.S (Score)	**818**	**812**	817
Normalized	100%	99.27%	99.88%
AI Benchmark Alpha - Device AI Score	**1547**	**1536**	1546
Normalized	100%	99.29%	99.94%


LAMMPS Molecular Dynamics Simulator 23Jun2022
Model: 20k Atoms
ns/day, More Is Better
A
B
C
3.944
3.915
3.898
SE +/- 0.012, N = 3
0.8874
1.7748
2.6622
3.5496
4.437
1. (CXX) g++ options: -O3 -lm -ldl
LAMMPS Molecular Dynamics Simulator 23Jun2022
Model: Rhodopsin Protein
ns/day, More Is Better
A
B
C
5.682
5.204
5.649
SE +/- 0.026, N = 3
1.2785
2.557
3.8355
5.114
6.3925
1. (CXX) g++ options: -O3 -lm -ldl
Primesieve 8.0
Length: 1e12
Seconds, Fewer Is Better
A
B
C
41.21
42.54
41.40
SE +/- 0.51, N = 3
10
20
30
40
50
1. (CXX) g++ options: -O3

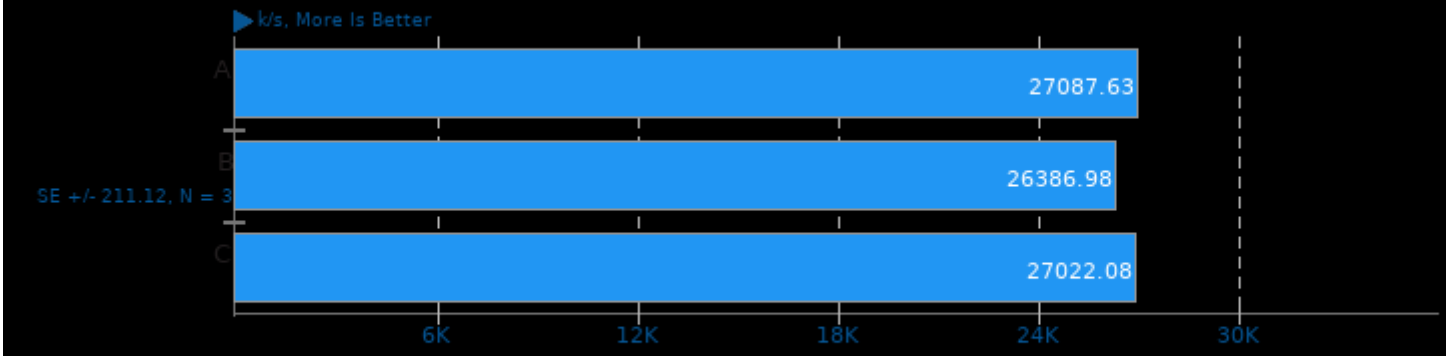
Primesieve 8.0

Length: 1e13



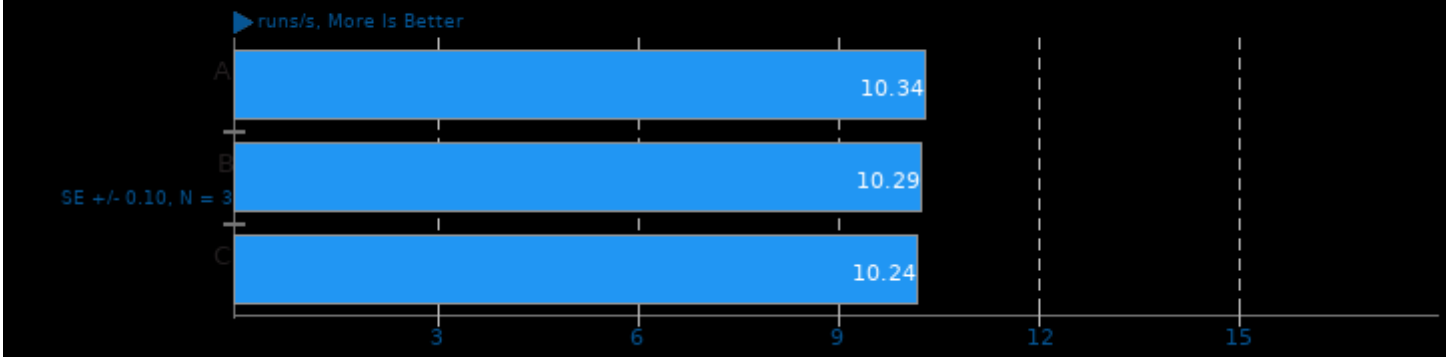
1. (CXX) g++ options: -O3

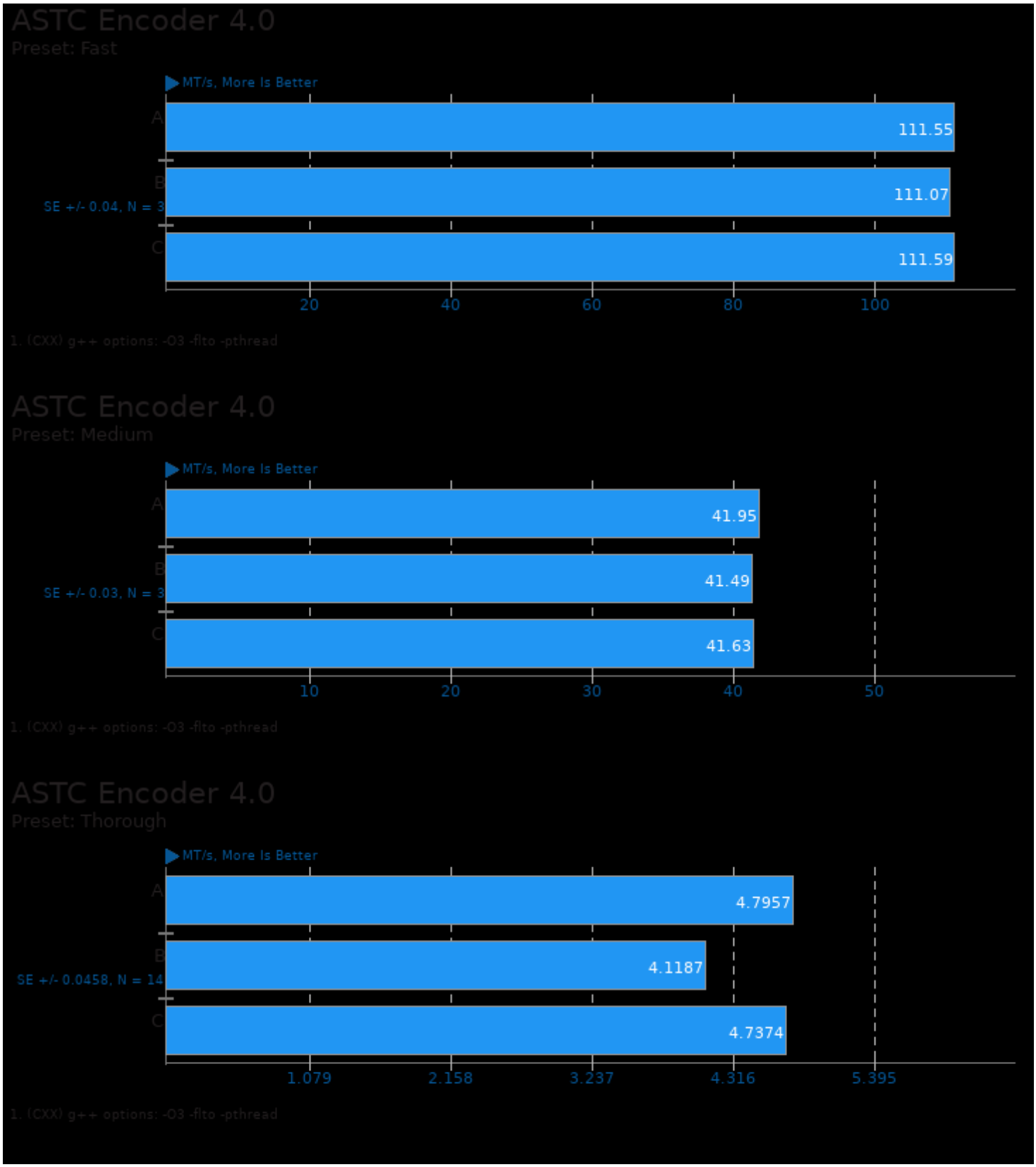
Aircrack-ng 1.7



1. (CXX) g++ options: -std=gnu++17 -O3 -fvisibility=hidden -fcommon -rdynamic -lnl-3 -lnl-genl-3 -lpcre -lpthread -lz -lssl -lcrypto -lhwloc -ldl -lm -pthre

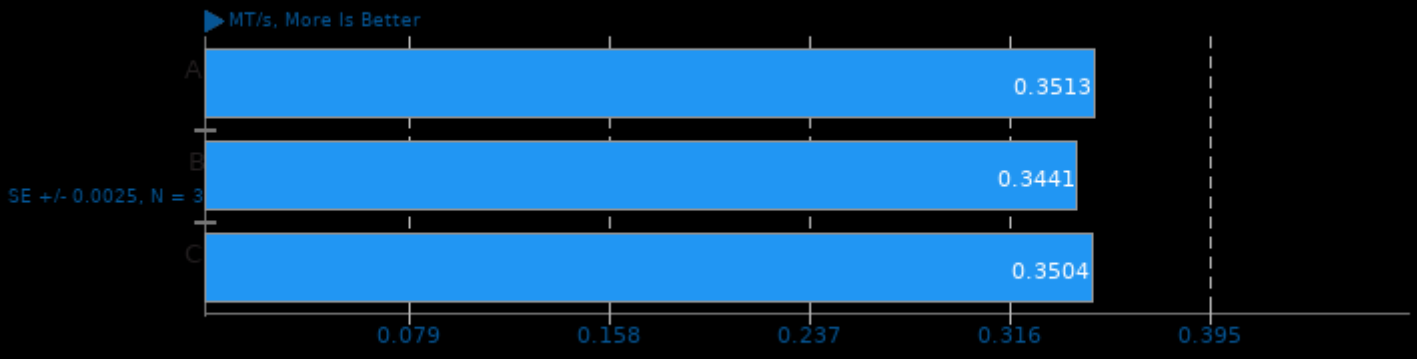
Node.js V8 Web Tooling Benchmark




ASTC Encoder 4.0
Preset: Fast
MT/s, More Is Better
A
111.55
B
111.07
SE +/- 0.04, N = 3
C
111.59
20
40
60
80
100
1. (CXX) g++ options: -O3 -flto -pthread
ASTC Encoder 4.0
Preset: Medium
MT/s, More Is Better
A
41.95
B
41.49
SE +/- 0.03, N = 3
C
41.63
10
20
30
40
50
1. (CXX) g++ options: -O3 -flto -pthread
ASTC Encoder 4.0
Preset: Thorough
MT/s, More Is Better
A
4.7957
B
4.1187
SE +/- 0.0458, N = 14
C
4.7374
1.079
2.158
3.237
4.316
5.395
1. (CXX) g++ options: -O3 -flto -pthread

ASTC Encoder 4.0

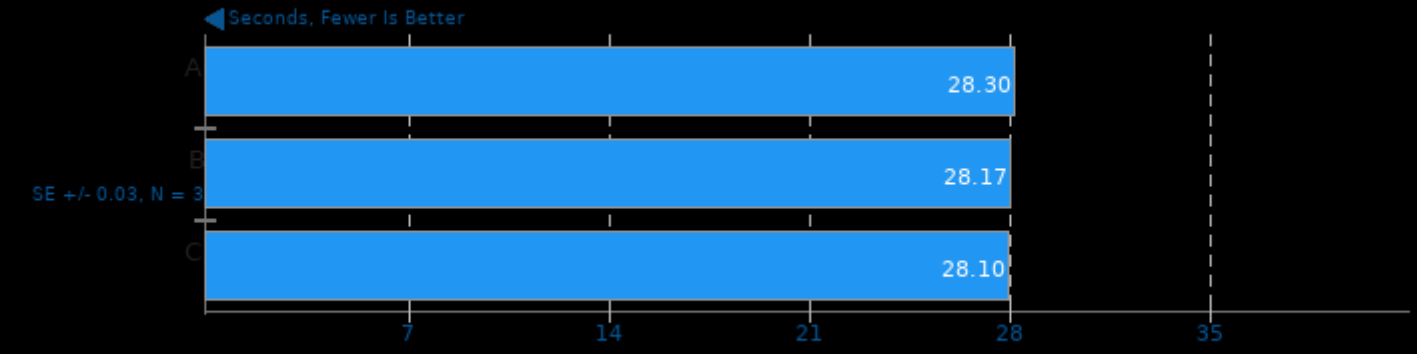
Preset: Exhaustive



1. (CXX) g++ options: -O3 -flto -pthread

Inkscape

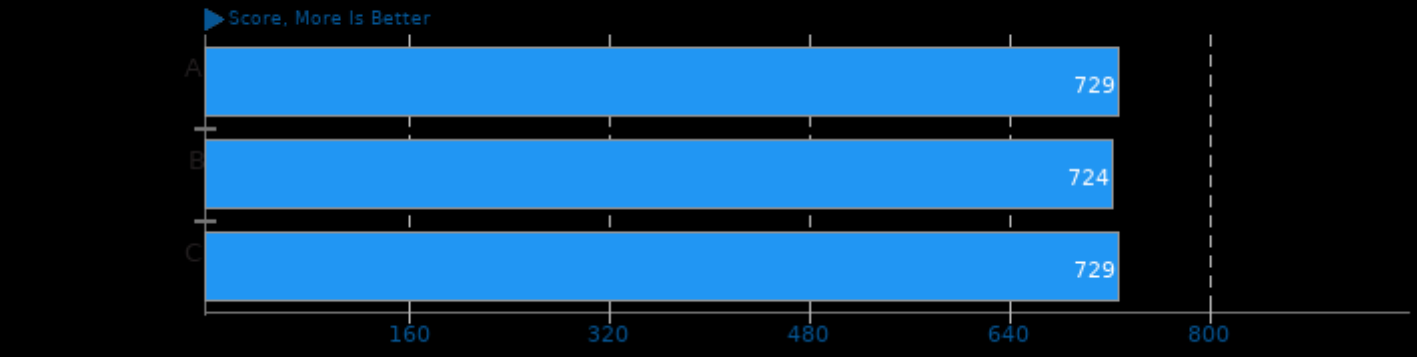
Operation: SVG Files To PNG

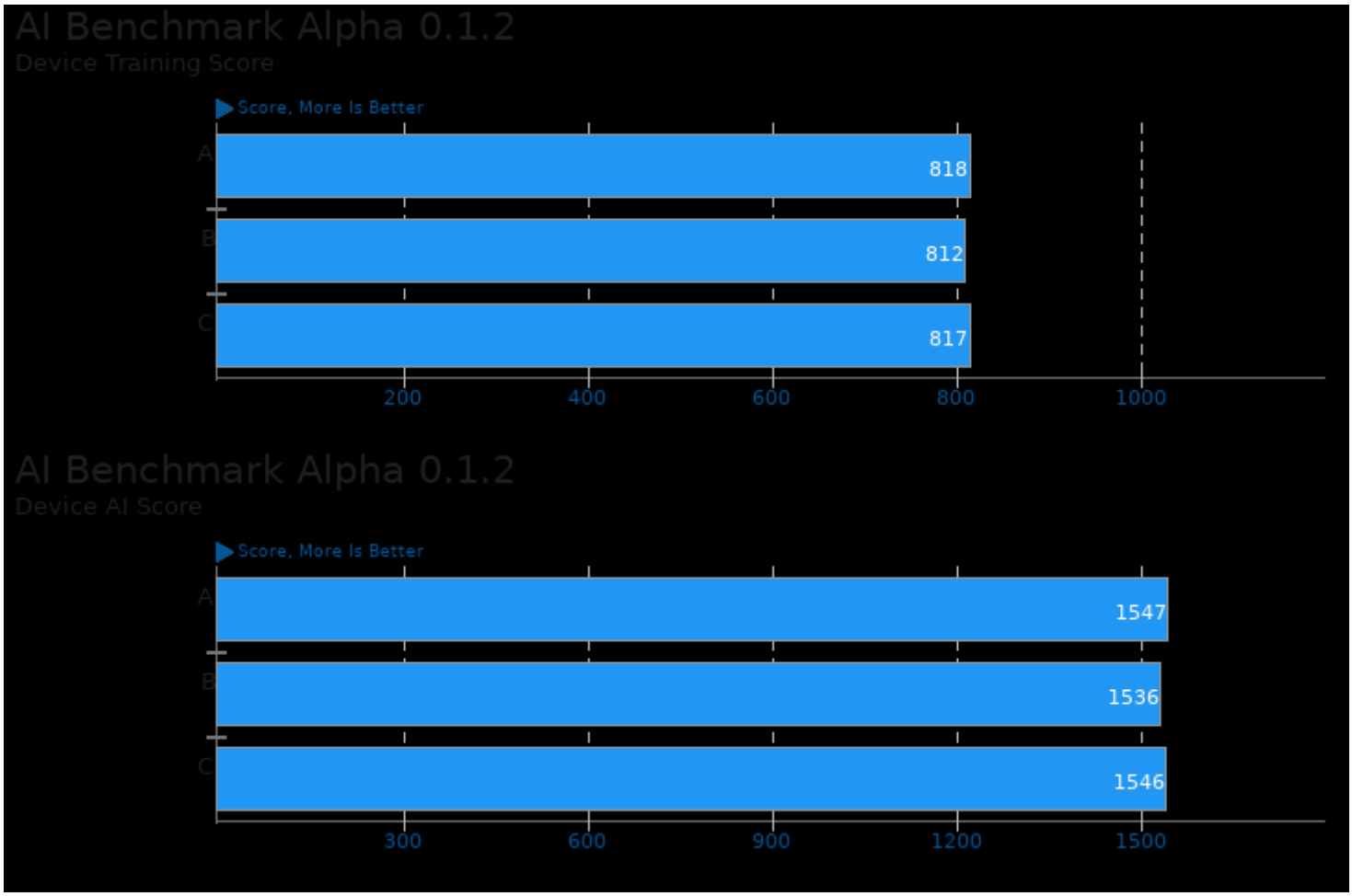


1. Inkscape 1.1.2 (0a00cf5339, 2022-02-04)

AI Benchmark Alpha 0.1.2

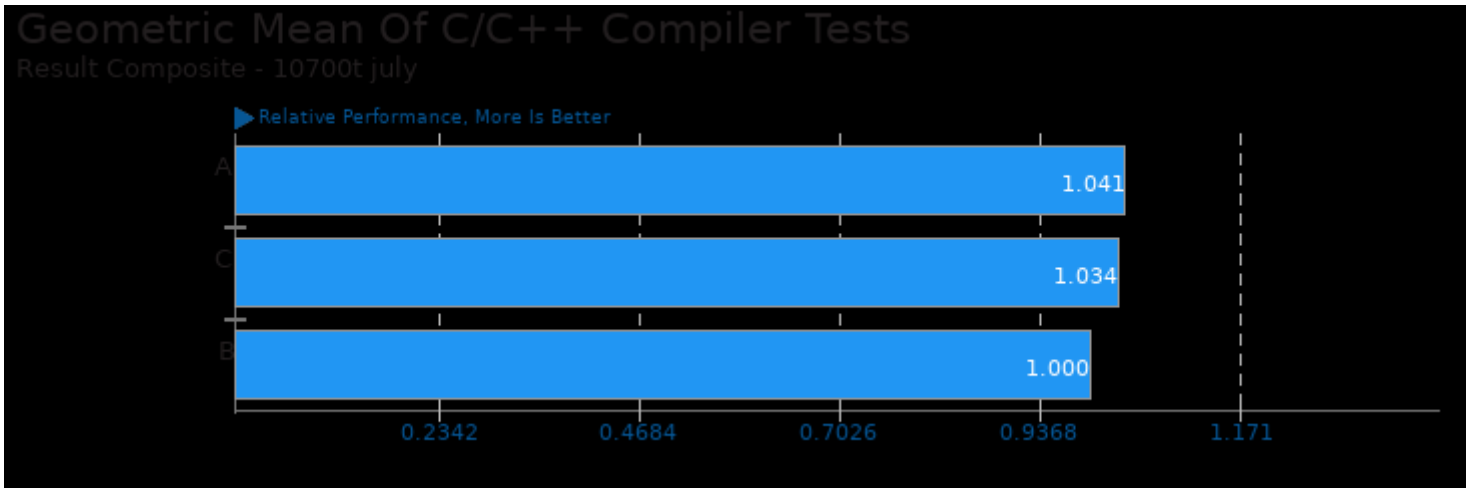
Device Inference Score




AI Benchmark Alpha 0.1.2
Device Training Score
Score, More Is Better
A
B
C
818
812
817
200
400
600
800
1000
AI Benchmark Alpha 0.1.2
Device AI Score
Score, More Is Better
A
B
C
1547
1536
1546
300
600
900
1200
1500

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These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/lammps and pts/aircrack-ng

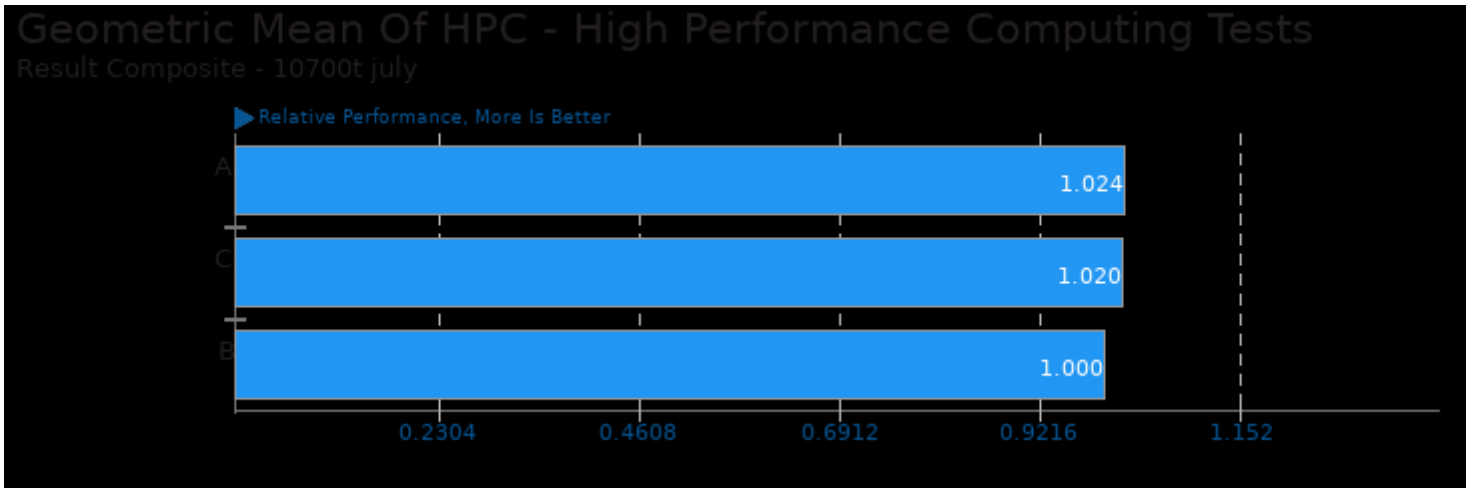


Geometric mean based upon tests: pts/lammps and pts/primesieve



Geometric mean based upon tests: system/inkscape and pts/astcenc

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Geometric mean based upon tests: pts/lammps and pts/ai-benchmark



Geometric mean based upon tests: pts/aircrack-ng, pts/primesieve and pts/lammps

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