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tuxedo extra

AMD Ryzen 5 5500U testing with a NB01 NL5xNU (1.07.11RTR1 BIOS) and AMD RENOIR 512MB on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

5500U TUXEDO had the most wins, coming in first place for 50% of the tests.

Based on the geometric mean of all complete results, the fastest (Ubuntu 20.04 - AMD Ryzen 5 5500U) was 1.007x the speed of the slowest (5500U TUXEDO).

The results with the greatest spread from best to worst included:

Renaissance (Test: Apache Spark Bayes) at 1.074x
Renaissance (Test: Scala Dotty) at 1.038x
Renaissance (Test: Random Forest) at 1.036x
Renaissance (Test: Akka Unbalanced Cobwebbed Tree) at 1.029x
TensorFlow Lite (Model: Mobilenet Float) at 1.025x
Renaissance (Test: Genetic Algorithm Using Jenetics + Futures) at 1.025x
Renaissance (Test: Savina Reactors.IO) at 1.021x
Glibc Benchmarks (Benchmark: atanh) at 1.02x
Renaissance (Test: Finagle HTTP Requests) at 1.015x

Glibc Benchmarks (Benchmark: ffsll) at 1.014x.

Test Systems:

Ubuntu 20.04 - AMD Ryzen 5 5500U

5500U TUXEDO

Processor: AMD Ryzen 5 5500U @ 2.10GHz (6 Cores / 12 Threads), Motherboard: NB01 NL5xNU (1.07.11RTR1 BIOS), Chipset: AMD Renoir Root Complex, Memory: 16GB, Disk: Samsung SSD 970 EVO Plus 500GB, Graphics: AMD RENOIR 512MB (1800/400MHz), Audio: AMD Device 1637, Network: Realtek RTL8111/8168/8411 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.04, Kernel: 5.15.0-10025-tuxedo (x86_64), Desktop: Budgie, Display Server: X Server 1.20.13, OpenGL: 4.6 Mesa 21.2.6 (LLVM 12.0.0), Vulkan: 1.2.182, Compiler: GCC 9.4.0, 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-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,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-Av3uEd/gcc-9-9.4.0/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: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0x8608103
Java Notes: OpenJDK Runtime Environment (build 11.0.15+10-Ubuntu-0ubuntu0.20.04.1)
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + 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 Retpolines IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

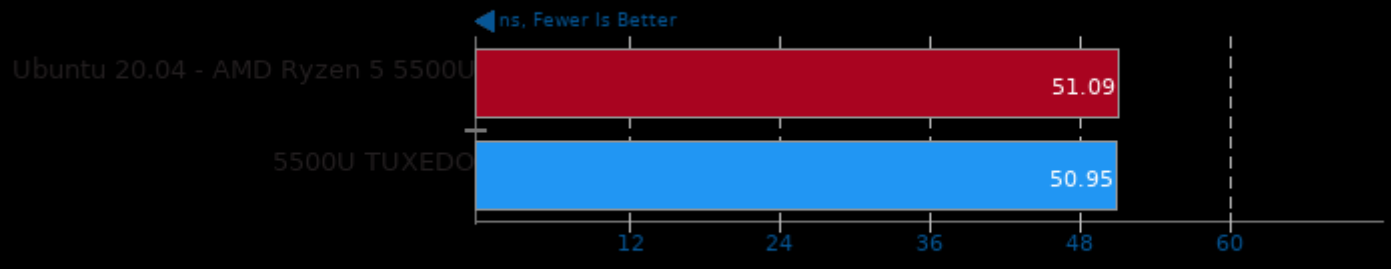
	Ubuntu 20.04 - AMD Ryzen 5 5500U	5500U TUXEDO
Glibc Benchmarks - cos (ns)	**51.0942**	**50.9456**
Normalized	99.71%	100%
Glibc Benchmarks - exp (ns)	**11.1326**	**11.1383**
Normalized	100%	99.95%
Glibc Benchmarks - ffs (ns)	**3.65304**	**3.65082**
Normalized	99.94%	100%
Glibc Benchmarks - sin (ns)	**45.5912**	**45.0301**
Normalized	98.77%	100%
Glibc Benchmarks - log2 (ns)	**12.2434**	**12.3358**
Normalized	100%	99.25%
Glibc Benchmarks - modf (ns)	**4.16979**	**4.168**
Normalized	99.96%	100%
Glibc Benchmarks - sinh (ns)	**17.0428**	**17.1369**
Normalized	100%	99.45%
Glibc Benchmarks - sqrt (ns)	**4.67879**	**4.67862**

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Normalized	100%	100%
Glibc Benchmarks - tanh (ns)	**23.6132**	**23.76**
Normalized	100%	99.38%
Glibc Benchmarks - asinh (ns)	**18.6585**	**18.6402**
Normalized	99.9%	100%
Glibc Benchmarks - atanh (ns)	**22.3623**	**22.8016**
Normalized	100%	98.07%
Glibc Benchmarks - ffsll (ns)	**3.64943**	**3.70212**
Normalized	100%	98.58%
Glibc Benchmarks - sincos (ns)	**26.3266**	**26.2912**
Normalized	99.87%	100%
Glibc Benchmarks - pthread_once (ns)	**4.17385**	**4.16468**
Normalized	99.78%	100%
Renaissance - Scala Dotty (ms)	**1082**	**1122**
Normalized	100%	96.37%
Renaissance - Rand Forest (ms)	**836.7**	**807.3**
Normalized	96.49%	100%
Renaissance - ALS Movie Lens (ms)	**8462**	**8448**
Normalized	99.83%	100%
Renaissance - Apache Spark ALS (ms)	**3246**	**3204**
Normalized	98.68%	100%
Renaissance - Apache Spark Bayes (ms)	**2333**	**2506**
Normalized	100%	93.13%
Renaissance - Savina Reactors.IO (ms)	**9336**	**9144**
Normalized	97.94%	100%
Renaissance - A.S.P (ms)	**4124**	**4068**
Normalized	98.64%	100%
Renaissance - F.H.R (ms)	**4514**	**4582**
Normalized	100%	98.53%
Renaissance - I.M.D.S (ms)	**3571**	**3564**
Normalized	99.8%	100%
Renaissance - A.U.C.T (ms)	**12200**	**12554**
Normalized	100%	97.18%
Renaissance - G.A.U.J.F (ms)	**1912**	**1961**
Normalized	100%	97.54%
GROMACS - MPI CPU - water_GMX50_bare (Ns/Day)	**0.602**	**0.604**
Normalized	99.67%	100%
TensorFlow Lite - SqueezeNet (us)	**5560**	**5561**
Normalized	100%	99.97%
TensorFlow Lite - Inception V4 (us)	**76240**	**76234**
Normalized	99.99%	100%
TensorFlow Lite - NASNet Mobile (us)	**15757**	**15941**
Normalized	100%	98.84%
TensorFlow Lite - Mobilenet Float (us)	**4163**	**4269**
Normalized	100%	97.53%
TensorFlow Lite - Mobilenet Quant (us)	**6155**	**6190**
Normalized	100%	99.44%
TensorFlow Lite - I.R.V (us)	**70466**	**70710**
Normalized	100%	99.65%

Glibc Benchmarks

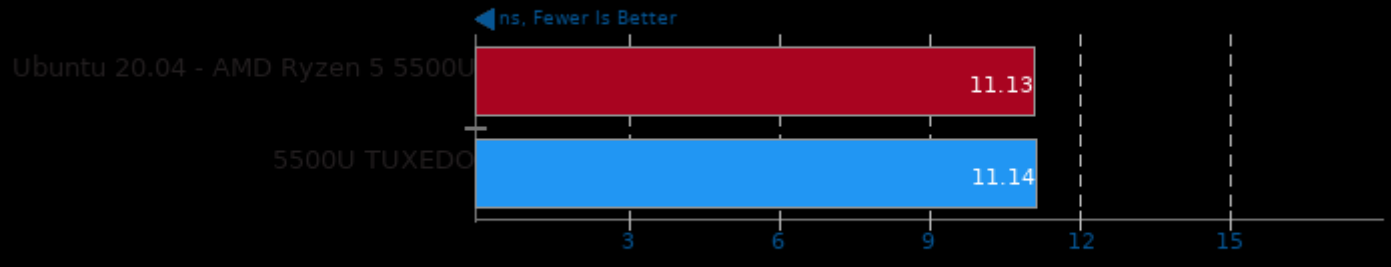
Benchmark: cos



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

Glibc Benchmarks

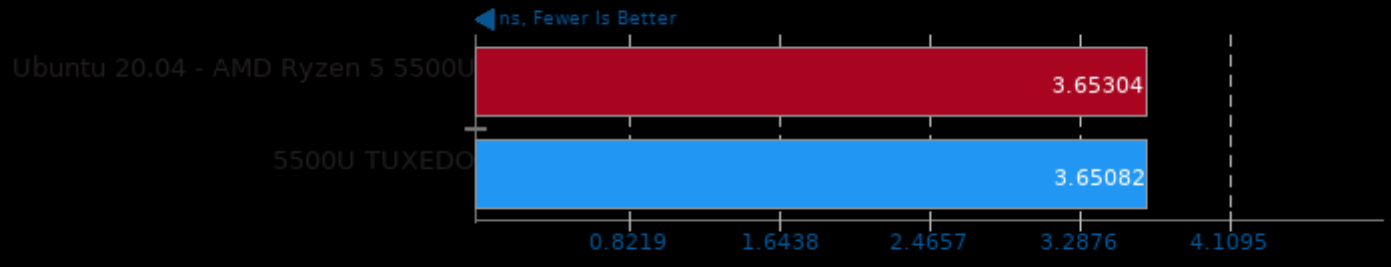
Benchmark: exp



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

Glibc Benchmarks

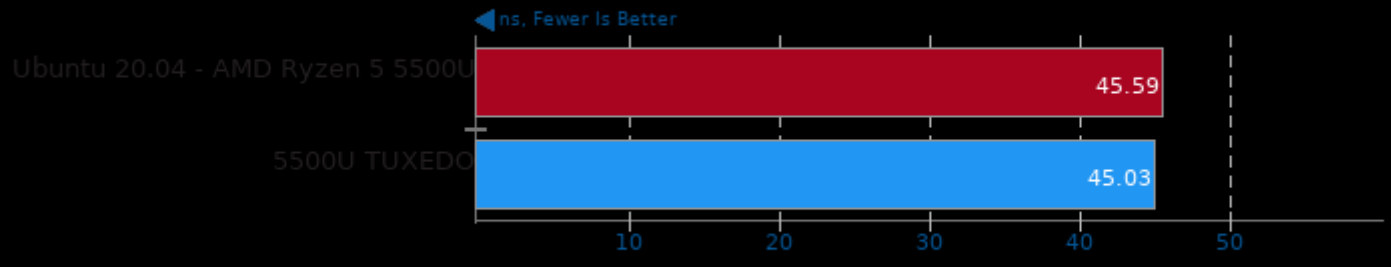
Benchmark: ffs



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

Glibc Benchmarks

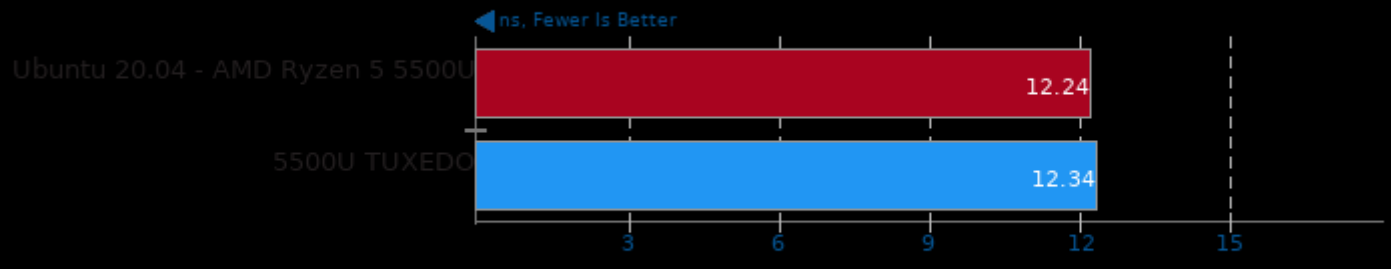
Benchmark: sin



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

Glibc Benchmarks

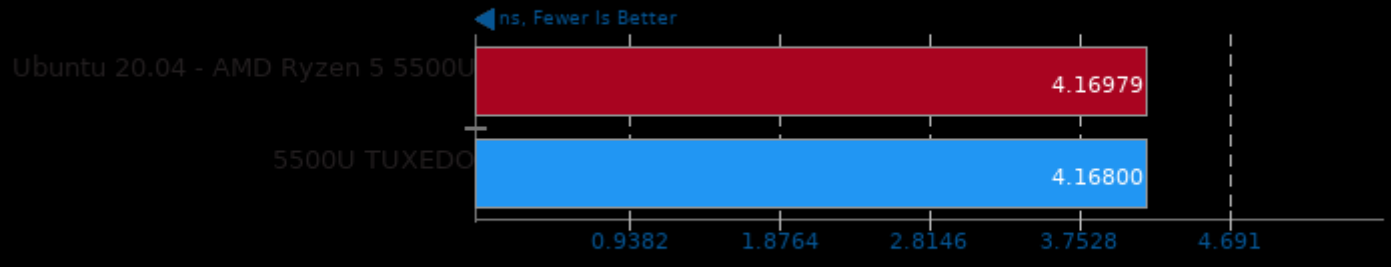
Benchmark: log2



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

Glibc Benchmarks

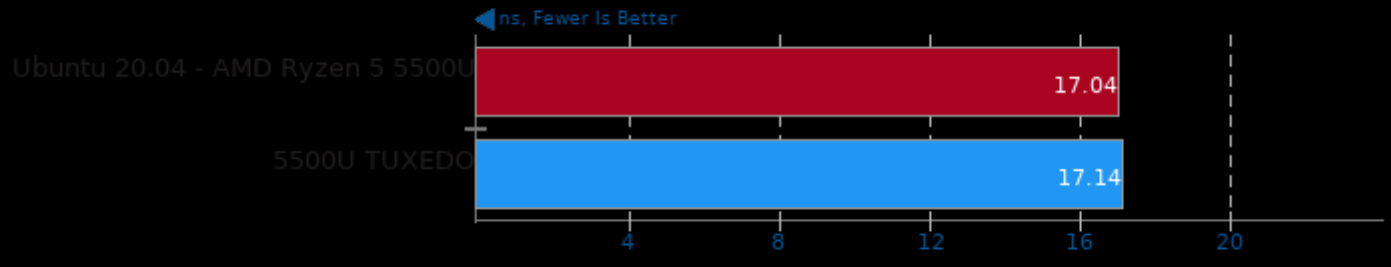
Benchmark: modf



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

Glibc Benchmarks

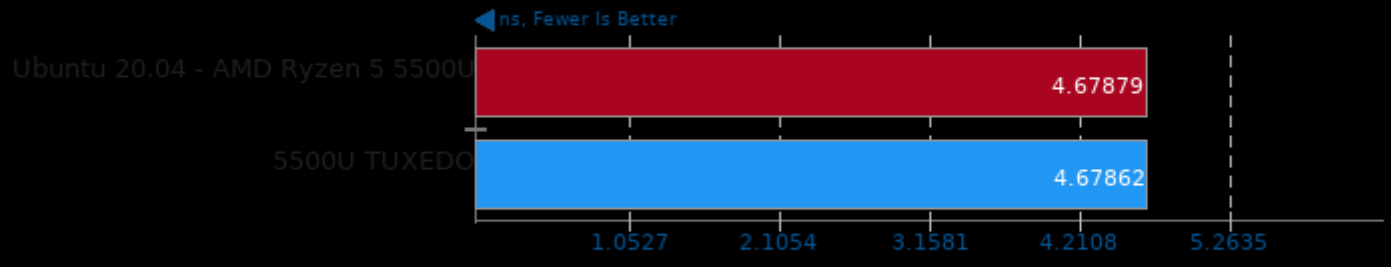
Benchmark: sinh



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

Glibc Benchmarks

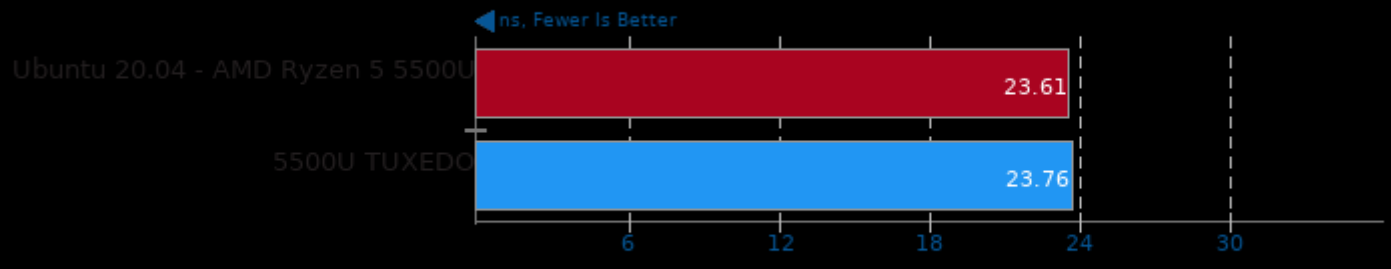
Benchmark: sqrt



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

Glibc Benchmarks

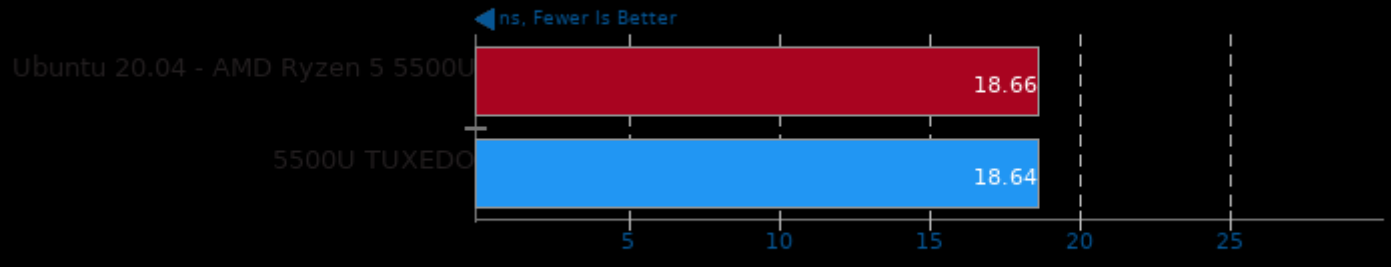
Benchmark: tanh



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

Glibc Benchmarks

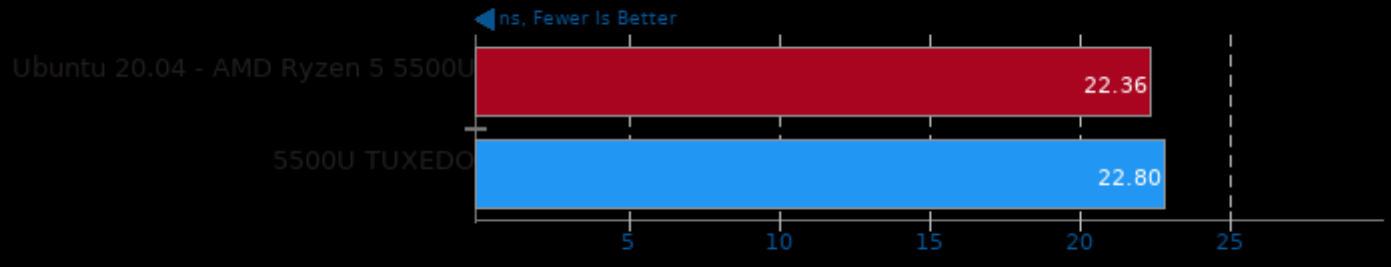
Benchmark: asinh



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

Glibc Benchmarks

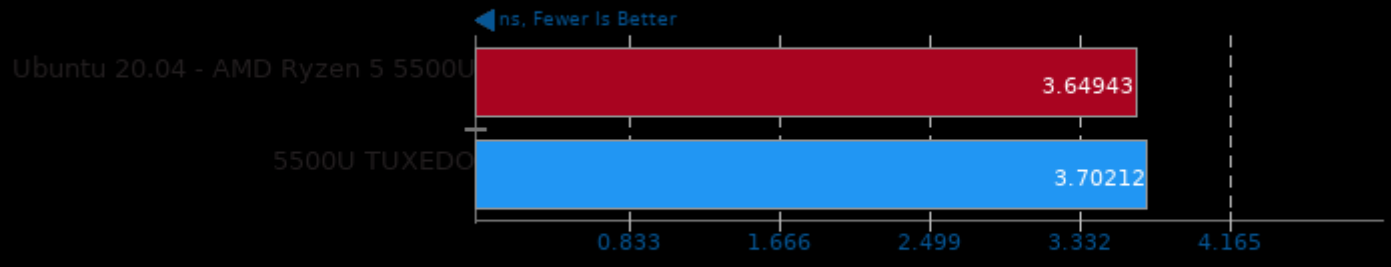
Benchmark: atanh



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

Glibc Benchmarks

Benchmark: ffsll

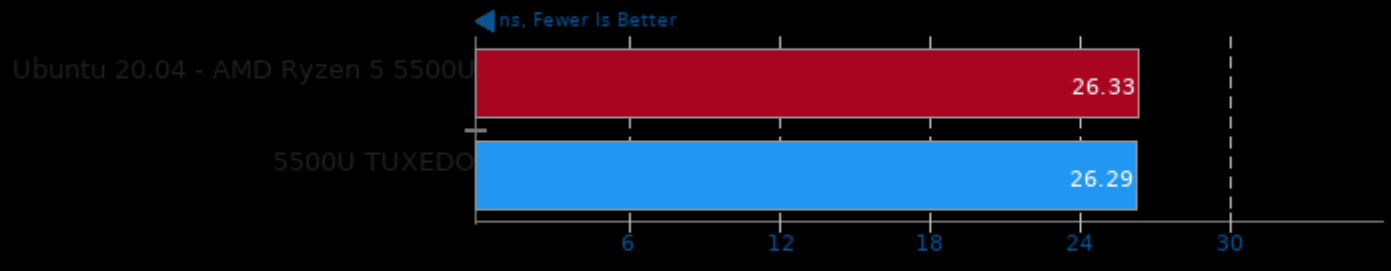


1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

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Glibc Benchmarks

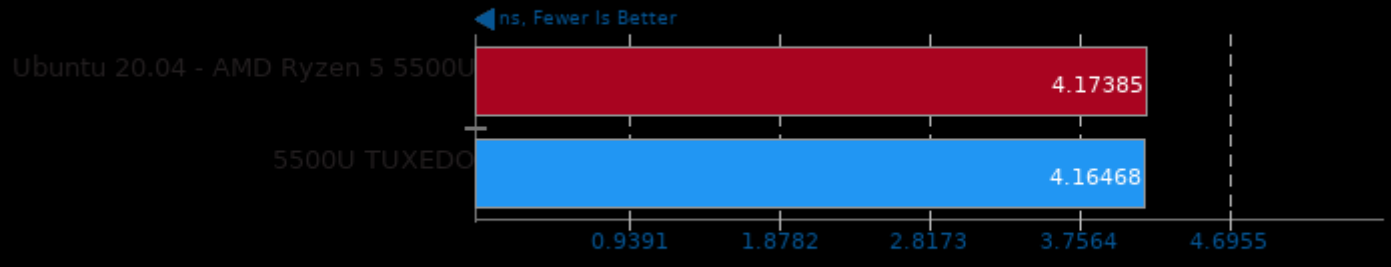
Benchmark: sincos



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

Glibc Benchmarks

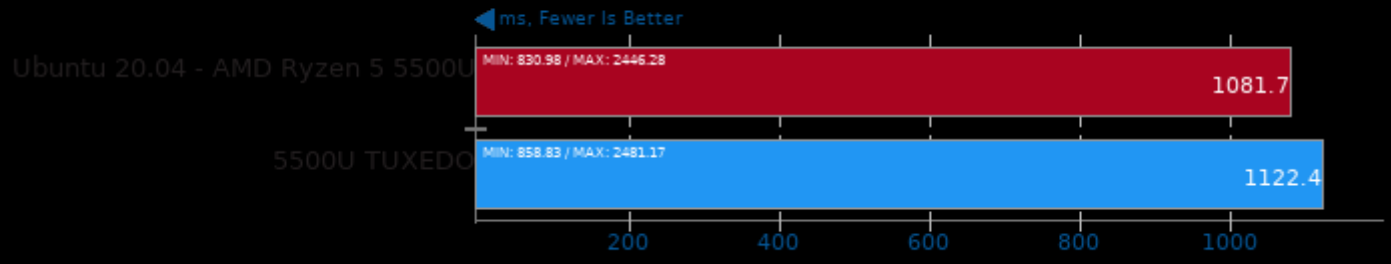
Benchmark: pthread_once



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

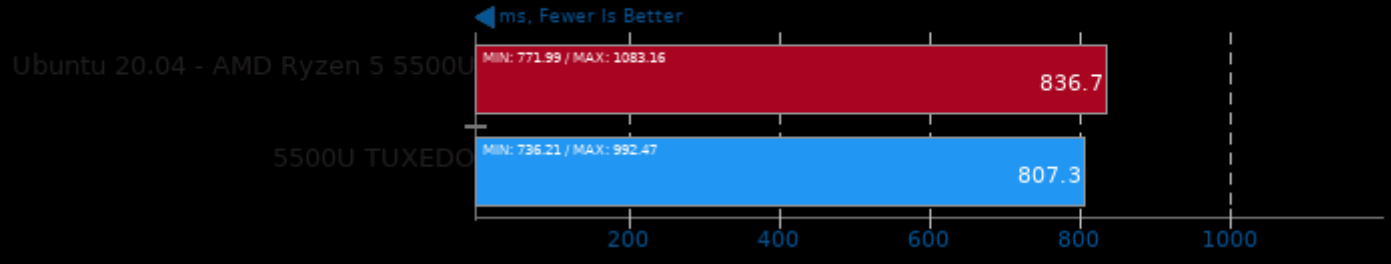
Renaissance 0.14

Test: Scala Dotty

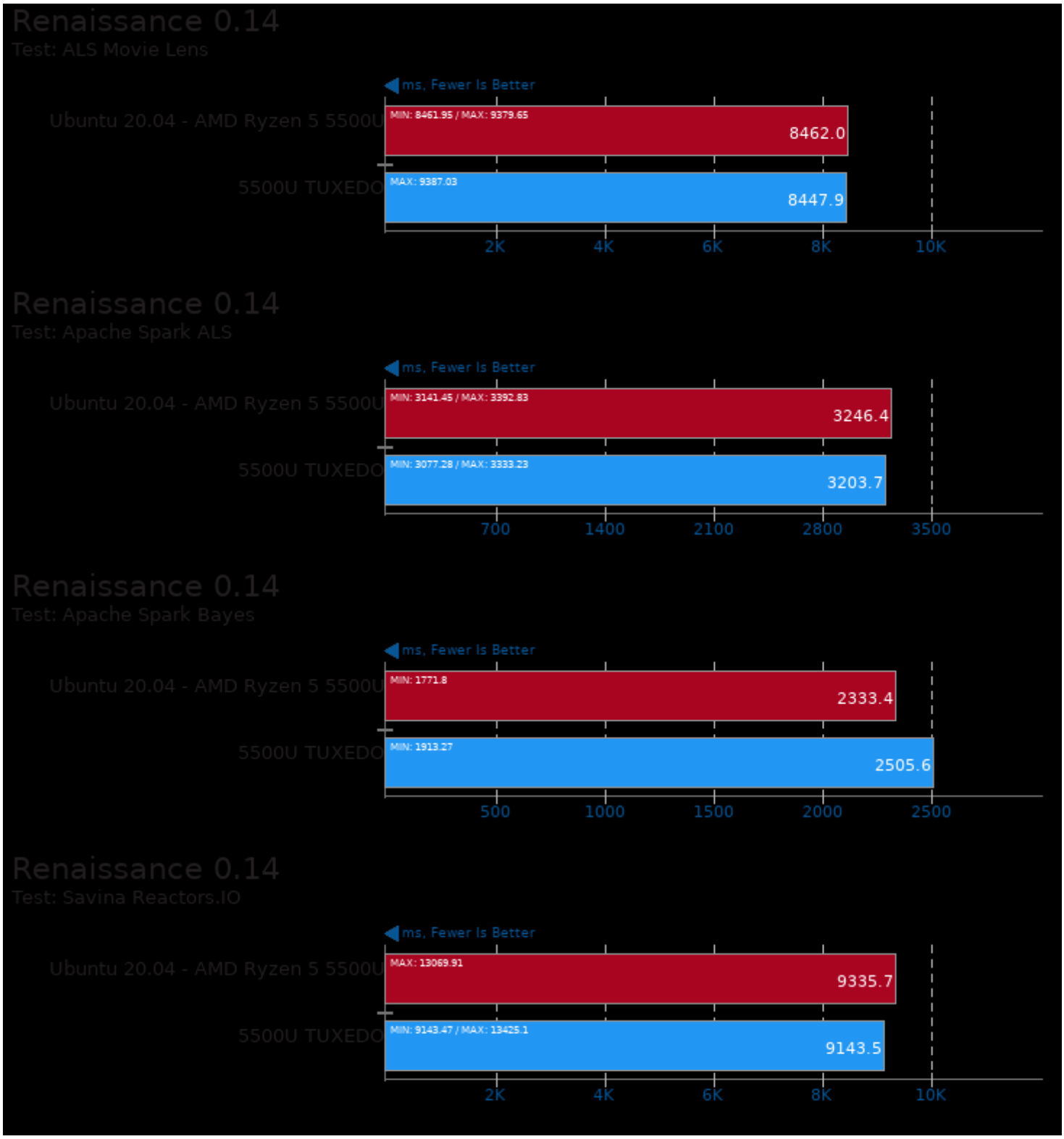


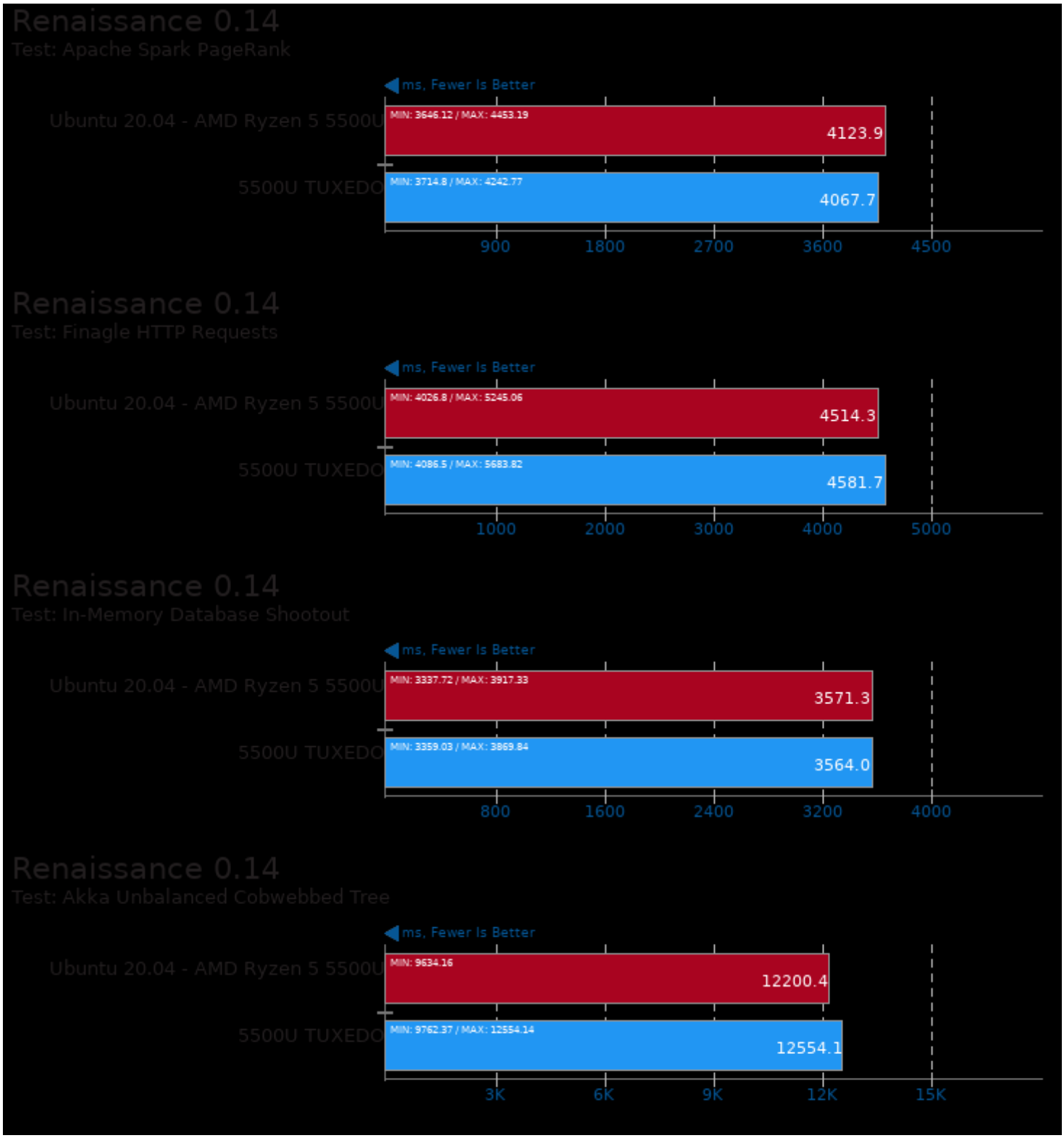
Renaissance 0.14

Test: Random Forest



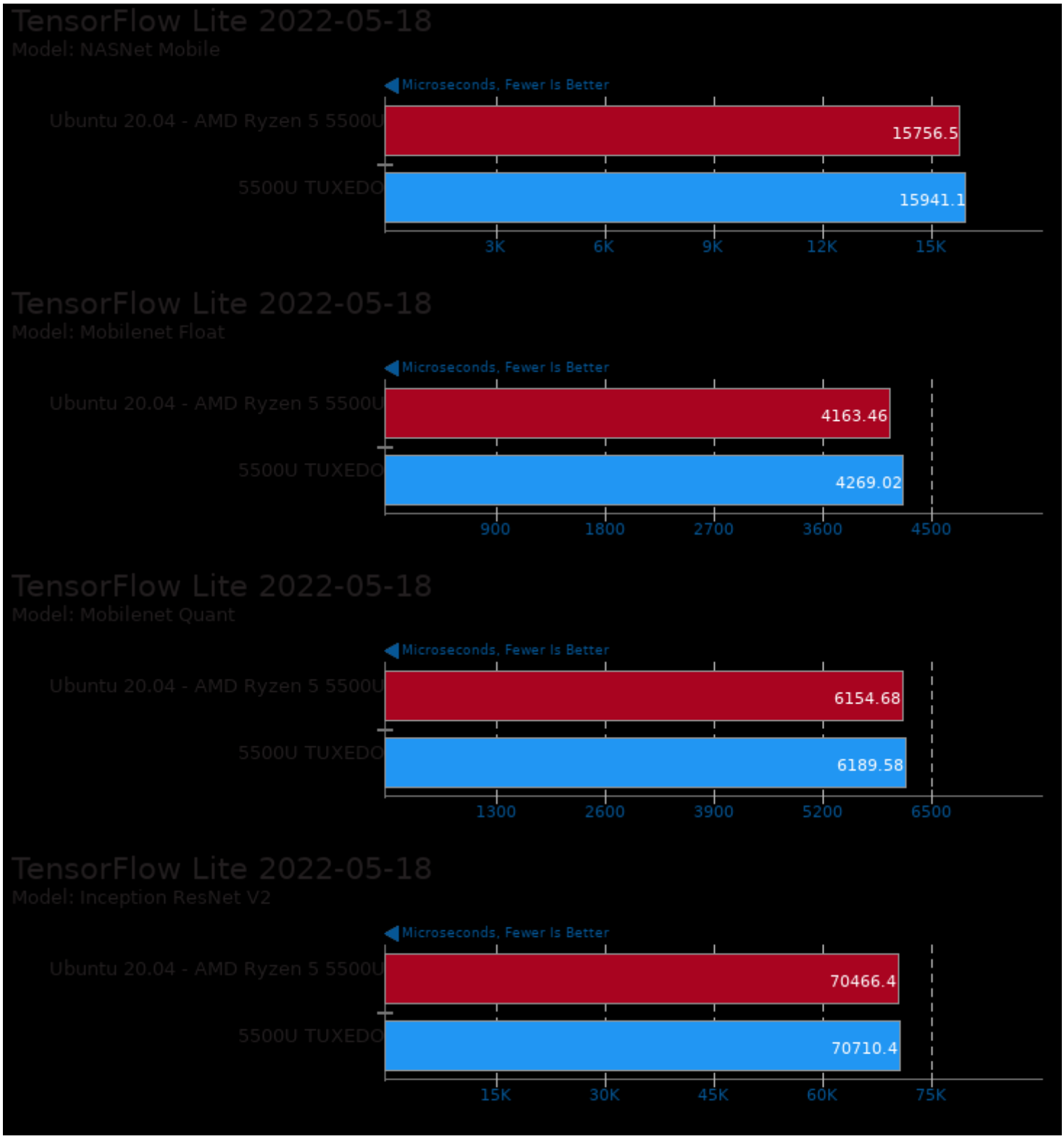
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Renaissance 0.14
Test: Apache Spark PageRank
ms, Fewer Is Better
Ubuntu 20.04 - AMD Ryzen 5 5500U
MIN: 3646.12 / MAX: 4453.19
4123.9
5500U TUXEDO
MIN: 3714.8 / MAX: 4242.77
4067.7
900
1800
2700
3600
4500
Renaissance 0.14
Test: Finagle HTTP Requests
ms, Fewer Is Better
Ubuntu 20.04 - AMD Ryzen 5 5500U
MIN: 4026.8 / MAX: 5245.06
4514.3
5500U TUXEDO
MIN: 4086.5 / MAX: 5683.82
4581.7
1000
2000
3000
4000
5000
Renaissance 0.14
Test: In-Memory Database Shootout
ms, Fewer Is Better
Ubuntu 20.04 - AMD Ryzen 5 5500U
MIN: 3337.72 / MAX: 3917.33
3571.3
5500U TUXEDO
MIN: 3359.03 / MAX: 3869.84
3564.0
800
1600
2400
3200
4000
Renaissance 0.14
Test: Akka Unbalanced Cobwebbed Tree
ms, Fewer Is Better
Ubuntu 20.04 - AMD Ryzen 5 5500U
MIN: 9634.16
12200.4
5500U TUXEDO
MIN: 9762.37 / MAX: 12554.14
12554.1
3K
6K
9K
12K
15K


Renaissance 0.14
Test: Genetic Algorithm Using Jenetics + Futures
ms, Fewer Is Better
Ubuntu 20.04 - AMD Ryzen 5 5500U
MIN: 1846.44 / MAX: 1962.47
1912.3
5500U TUXEDO
MIN: 1920.74 / MAX: 1991.24
1960.6
400
800
1200
1600
2000
GROMACS 2022.1
Implementation: MPI CPU - Input: water_GMX50_bare
Ns Per Day, More Is Better
Ubuntu 20.04 - AMD Ryzen 5 5500U
0.602
5500U TUXEDO
0.604
0.1359
0.2718
0.4077
0.5436
0.6795
1. (CXX) g++ options: -O3 -pthread
TensorFlow Lite 2022-05-18
Model: SqueezeNet
Microseconds, Fewer Is Better
Ubuntu 20.04 - AMD Ryzen 5 5500U
5559.60
5500U TUXEDO
5561.11
1200
2400
3600
4800
6000
TensorFlow Lite 2022-05-18
Model: Inception V4
Microseconds, Fewer Is Better
Ubuntu 20.04 - AMD Ryzen 5 5500U
76240.2
5500U TUXEDO
76234.4
16K
32K
48K
64K
80K

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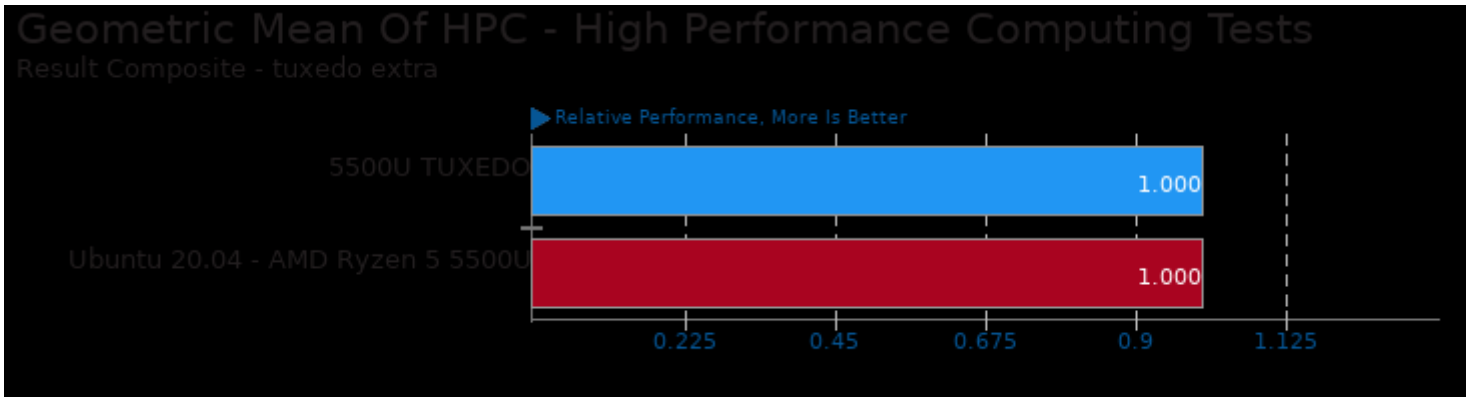


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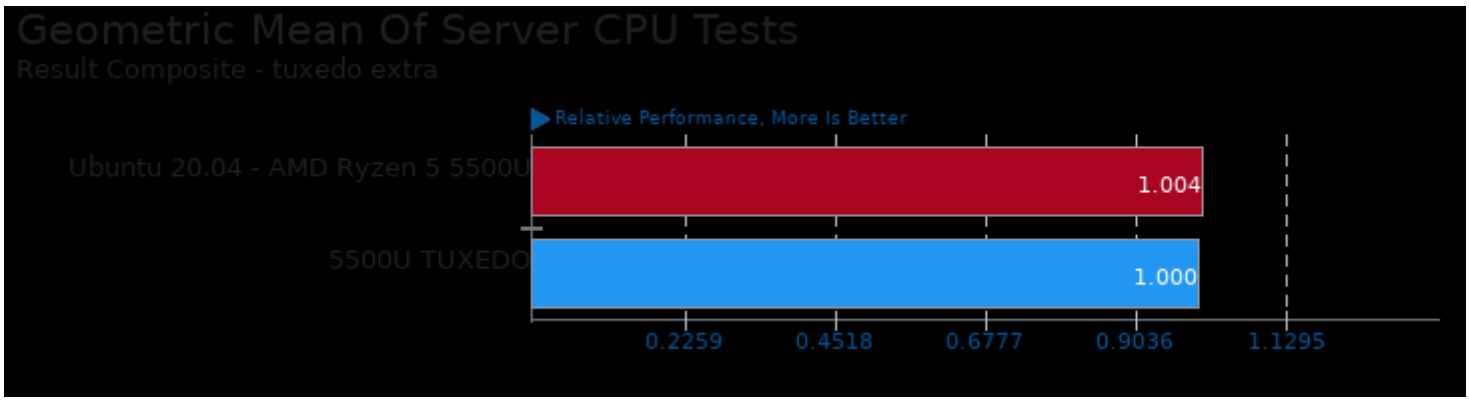
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/glibc-bench and pts/renaissance



Geometric mean based upon tests: pts/gromacs and pts/tensorflow-lite



Geometric mean based upon tests: pts/renaissance and pts/glibc-bench

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 06:48.