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Dell XPS

Intel Celeron J6412 testing with a YANLING YL-ELU3L (5.19 BIOS) and Intel UHD EHL 8GB on Fedora Linux 37 via the Phoronix Test Suite.

Automated Executive Summary

Ryzen 2600X had the most wins, coming in first place for 70% of the tests.

Based on the geometric mean of all complete results, the fastest (Ryzen 2600X) was 2.472x the speed of the slowest (Celeron J6412). Ryzen 4500U was 0.896x the speed of Ryzen 2600X, Dell XPS i5-6200U was 0.5x the speed of Ryzen 4500U, Celeron J6412 was 0.904x the speed of Dell XPS i5-6200U.

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

*OpenArena (3200 x 1800 - Total Frame Time) at 98x
Urban Terror (3200 x 1800 - Total Frame Time) at 32x
OpenArena (3200 x 1800) at 24.581x
Urban Terror (3200 x 1800) at 6.669x
C-Ray (Total Time - 4K, 16 Rays Per Pixel) at 5.502x
Smallpt (Global Illumination Renderer; 128 Samples) at 4.804x
OpenSSL (RSA 4096-bit Performance) at 4.592x
Timed PHP Compilation (Time To Compile) at 3.797x*

7-Zip Compression (Compress Speed Test) at 3.758x
dav1d (Video Input: Summer Nature 4K) at 2.97x.

Test Systems:

Dell XPS i5-6200U

Processor: Intel Core i5-6200U @ 2.80GHz (2 Cores / 4 Threads), Motherboard: Dell 07TYC2 (1.7.0 BIOS), Chipset: Intel Xeon E3-1200 v5/E3-1500, Memory: 8192MB, Disk: THNSN5256GPU7 NVMe TOSHIBA 256GB, Graphics: Intel HD 520 3GB (1000MHz), Audio: Realtek ALC3246, Network: Broadcom BCM4350 802.11ac

OS: Fedora 31, Kernel: 5.4.19-200.fc31.x86_64 (x86_64), Desktop: Cinnamon 4.4.8, Display Server: X Server 1.20.6, Display Driver: modesetting 1.20.6, OpenGL: 4.5 Mesa 19.2.8, Compiler: GCC 9.2.1 20190827, File-System: ext4, Screen Resolution: 3200x1800

Compiler Notes: --build=x86_64-redhat-linux --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,objc,obj-c++,ada,go,d,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=i686 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver

Disk Notes: NONE / relatime,rw,seclabel

Processor Notes: Scaling Governor: intel_pstate

Security Notes: SELinux + itlb_multihit: KVM: Mitigation of Split huge pages + l1tf: 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/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + tsx_async_abort: Not affected

Ryzen 2600X

Processor: AMD Ryzen 5 2600X Six-Core @ 3.60GHz (6 Cores / 12 Threads), Motherboard: ASUS PRIME B450M-A (1823 BIOS), Chipset: AMD 17h, Memory: 16384MB, Disk: 500GB Samsung SSD 850 + 3 x 8002GB Western Digital WD80EMAZ-00W + 8002GB Western Digital WD80EFZX-68U + 8002GB Seagate ST8000VN0012-1Z9 + 8002GB Seagate ST8000VN0002-1Z8 + 8002GB Western Digital WD80EFAX-68L, Graphics: NVIDIA Quadro P400 2GB, Audio: NVIDIA GP107GL HD Audio, Monitor: VE248, Network: Realtek RTL8111/8168/8411

OS: Fedora 30, Kernel: 5.4.17-100.fc30.x86_64 (x86_64), Display Server: X Server, Compiler: GCC 9.2.1 20190827, File-System: xfs, Screen Resolution: 1024x768

Compiler Notes: --build=x86_64-redhat-linux --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,objc,obj-c++,ada,go,d,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=i686 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver

Disk Notes: MQ-DEADLINE / attr2,inode64,logbsize=32k,logbufs=8,noquota,relatime,rw,seclabel

Processor Notes: Scaling Governor: acpi-cpufreq ondemand

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/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional STIBP: disabled RSB filling + tsx_async_abort: Not affected

Ryzen 4500U

Processor: AMD Ryzen 5 4500U @ 2.38GHz (6 Cores), Motherboard: ASUS UX434IQ v1.0 (UX434IQ_Q407IQ.300 BIOS), Chipset: AMD Renoir Root Complex, Memory: 8192MB, Disk: 512GB PCIe SSD, Graphics: ASUS AMD Renoir 2GB (139/405MHz), Audio: AMD Device 1637, Network: Intel Wi-Fi 6 AX200

OS: Fedora 32, Kernel: 5.6.18-300.fc32.x86_64 (x86_64), Desktop: Cinnamon 4.4.8, Display Server: X Server 1.20.8, Display Driver: NVIDIA 440.82, OpenGL: 4.6 Mesa 20.0.7 (LLVM 10.0.0), Vulkan: 1.2.128, Compiler: GCC 10.1.1 20200507, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86_64-redhat-linux --disable-libunwind-exceptions --enable-_cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,objc,obj-c++,ada,go,d,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=i686 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver

Disk Notes: NONE / relatime,rw,seclabel

Processor Notes: Scaling Governor: acpi-cpufreq ondemand

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/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retroline IBPB: conditional IBRS_FW STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Celeron J6412

Processor: Intel Celeron J6412 @ 2.00GHz (4 Cores), Motherboard: YANLING YL-ELU3L (5.19 BIOS), Chipset: Intel Device 4b7f, Memory: 8GB, Disk: 256GB SATA SSD, Graphics: Intel UHD EHL 8GB, Audio: Realtek ALC897, Monitor: VA24D, Network: 3 x Intel I225-V

OS: Fedora Linux 37, Kernel: 6.0.9-300.fc37.x86_64 (x86_64), Desktop: GNOME Shell 43.1, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.2.3, Compiler: GCC 12.2.1 20220819, File-System: btrfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise

Compiler Notes: --build=x86_64-redhat-linux --disable-libunwind-exceptions --enable-_cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,objc,obj-c++,ada,go,d,lto --enable-libstdcxx-backtrace --enable-link-serialization=1 --enable-multilib --enable-offload-defaulted --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=i686 --with-build-config=bootstrap-lto --with-gcc-major-version-only --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver

Disk Notes: BFQ / compress=zstd:1,relatime,rw,seclabel,space_cache=v2,ssd,subvol=/home,subvolid=256 / Block Size: 4096

Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0x16

Security Notes: SELinux + itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + mmio_stale_data: Mitigation of Clear buffers; SMT disabled + rebleed: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling PBRSB-eIBRS: Not affected + srbds: Vulnerable: No microcode + tsx_async_abort: Not affected

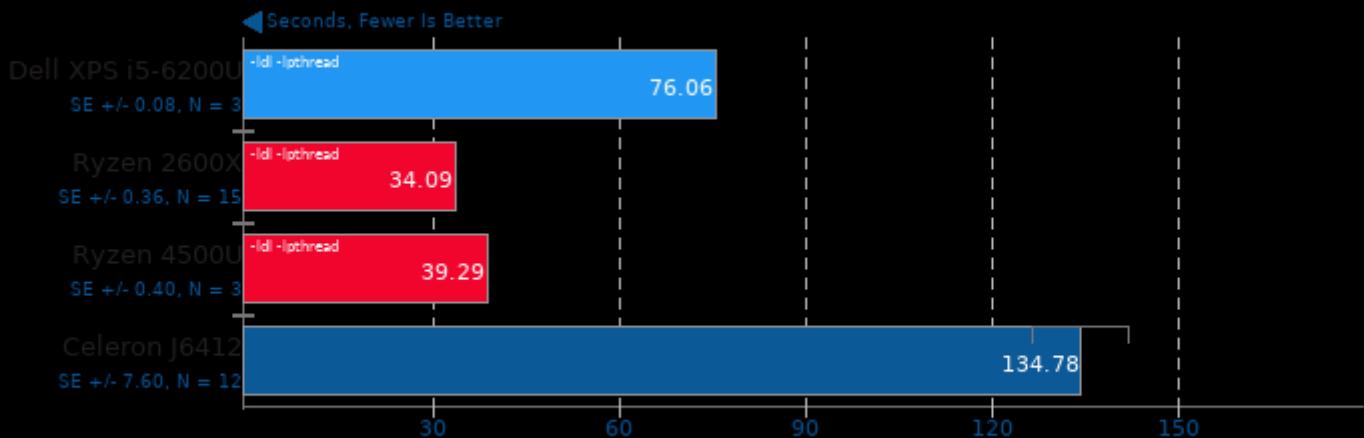
	Dell XPS i5-6200U	Ryzen 2600X	Ryzen 4500U	Celeron J6412
SQLite - T.S.I (sec)	76.06	34.09	39.29	134.777
Normalized	44.82%	100%	86.77%	25.29%
Standard Deviation	0.2%	4%	1.7%	19.5%
Dbench - 1 Client (MB/s)	65.67	74.83	84.82	56.3759
Normalized	77.42%	88.22%	100%	66.47%
Standard Deviation	0.7%	26.2%	8.2%	0.4%
Unpacking The Linux Kernel - linux-4.15.tar.xz (sec)	11.09	6.45	6.46	9.449
Normalized	58.16%	100%	99.85%	68.26%
Standard Deviation	1.7%	1.2%	2.9%	2.3%
PostMark - D.T.P (TPS)	3606	6819	5557	2622
Normalized	52.88%	100%	81.49%	38.45%
Standard Deviation	0.8%	1.6%	2.2%	0.6%
OpenArena - 3200 x 1800 (FPS)	16.70		221.23	9
Normalized	7.55%		100%	4.07%
Standard Deviation	1.6%		0.8%	0%
Urban Terror - 3200 x 1800 (FPS)	108.13		545.53	81.8

	Normalized	19.82%		100%	14.99%
	Standard Deviation	0.8%		1.8%	1.8%
libgav1 - Chimera 1080p (FPS)	11.29	29.08	23.16		
	Normalized	38.82%	100%	79.64%	
	Standard Deviation	0.5%	0.9%	2.2%	
libgav1 - Summer Nature 4K (FPS)	4.32	12.65	9.03		
	Normalized	34.15%	100%	71.38%	
	Standard Deviation	0.9%	2.9%	1.9%	
libgav1 - S.N.1 (FPS)	19.46	46.76	38.90		
	Normalized	41.62%	100%	83.19%	
	Standard Deviation	1.1%	1.8%	3.1%	
libgav1 - C.1.1.b (FPS)	5.79	12.39	11.14		
	Normalized	46.73%	100%	89.91%	
	Standard Deviation	0.7%	0.7%	1.2%	
Crafty - Elapsed Time (Nodes/s)	5315174	7445339	7495904	4885683	
	Normalized	70.91%	99.33%	100%	65.18%
	Standard Deviation	1.1%	0.4%	0.1%	0.1%
John The Ripper - Blowfish (Real C/S)	2294	9987	7720		
	Normalized	22.97%	100%	77.3%	
	Standard Deviation	1.6%	7.4%	0.8%	
John The Ripper - MD5 (Real C/S)	135324	295761	364296		
	Normalized	37.15%	81.19%	100%	
	Standard Deviation	1.6%	16.6%	5.3%	
GraphicsMagick - HWB Color Space	267	748	660	336	
(Iterations/min)					
	Normalized	35.7%	100%	88.24%	44.92%
	Standard Deviation		0.1%	1.1%	1%
GraphicsMagick - L.A.T	50	115	111	68	
	Normalized	43.48%	100%	96.52%	59.13%
	Standard Deviation		0.5%		0%
dav1d - Chimera 1080p (FPS)	113.75	269.42	220.04		
	Normalized	42.22%	100%	81.67%	
	Standard Deviation	0.2%	1.3%	0.1%	
dav1d - Summer Nature 4K (FPS)	29.18	86.66	61.08		
	Normalized	33.67%	100%	70.48%	
	Standard Deviation	0.4%	1.1%	3%	
dav1d - S.N.1 (FPS)	104.23	268.87	211.60		
	Normalized	38.77%	100%	78.7%	
	Standard Deviation	0.3%	2%	1.9%	
dav1d - C.1.1.b (FPS)	21.29	59.66	51.60		
	Normalized	35.69%	100%	86.49%	
	Standard Deviation	0.1%	2%	5.9%	
7-Zip Compression - C.S.T (MIPS)	8073	30336		9423	
	Normalized	26.61%	100%		31.06%
	Standard Deviation	2.8%	0.2%		0.5%
Timed PHP Compilation - Time To	251.78	83.74	120.89	317.986	
Compile (sec)					
	Normalized	33.26%	100%	69.27%	26.33%
	Standard Deviation	0.2%	2.9%	4.3%	2.7%
C-Ray - Total Time - 4.1.R.P.P (sec)	491.75	89.38	143.53	482.536	
	Normalized	18.18%	100%	62.27%	18.52%
	Standard Deviation	0.1%	0.8%	4%	1%
Smallpt - G.I.R.1.S (sec)	72.58	15.80	28.65	75.906	
	Normalized	21.77%	100%	55.15%	20.82%
	Standard Deviation	0.1%	2%	1.9%	0.5%

ddraw - R.T.P.I.C (sec)	60.50	41.42	35.10	76.226
Normalized	58.02%	84.74%	100%	46.05%
Standard Deviation	0.2%	0.7%	0.4%	0.7%
FLAC Audio Encoding - WAV To FLAC (sec)	13.74	9.83	8.50	19.030
Normalized	61.86%	86.47%	100%	44.67%
Standard Deviation	0.5%	2.4%	0.2%	1.2%
LAME MP3 Encoding - WAV To MP3 (sec)	13.46	8.34	8.01	15.035
Normalized	59.51%	96.04%	100%	53.28%
Standard Deviation	0.9%	0.5%	0.1%	0.3%
FFmpeg - H.2.H.T.N.D (sec)	14.22	4.93	6.61	12.890
Normalized	34.67%	100%	74.58%	38.25%
Standard Deviation	1.1%	1.6%	1%	1%
GnuPG - 2.F.E (sec)	23.07	13.23		23.294
Normalized	57.35%	100%		56.8%
Standard Deviation	2.8%	0.4%		2.4%
OpenSSL - R.4.b.P (Signs/sec)	390.03	1254	1387	302.0
Normalized	28.12%	90.41%	100%	21.78%
Standard Deviation	0.3%	1.8%	1.8%	1.5%
Apache Benchmark - S.W.P.S (Req/sec)	9573	15150		8673
Normalized	63.19%	100%		57.25%
Standard Deviation	0.5%	0.4%		0.6%

SQLite 3.30.1

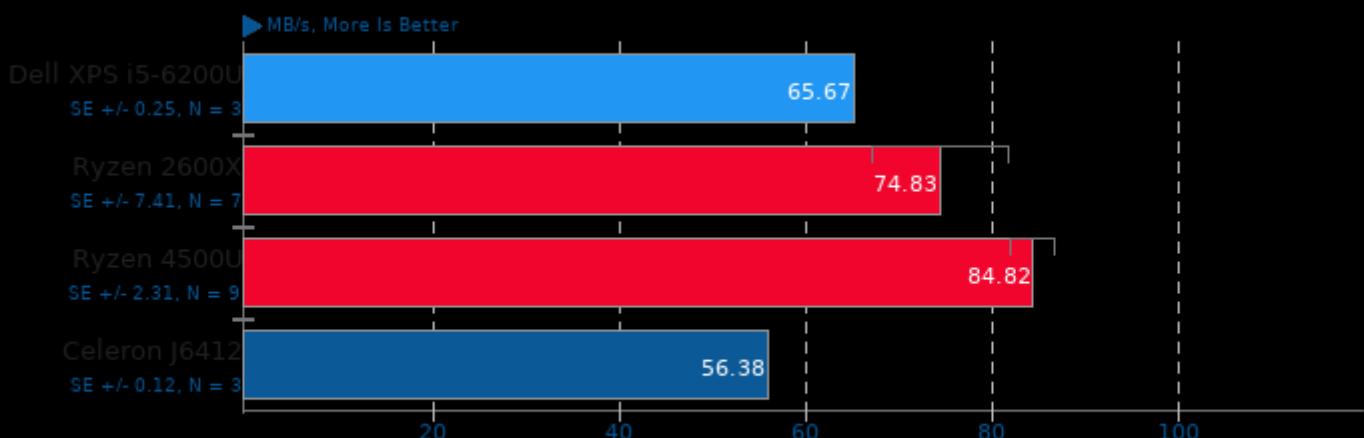
Timed SQLite Insertions



1. (CC) gcc options: -O2 -fz -lm

Dbench 4.0

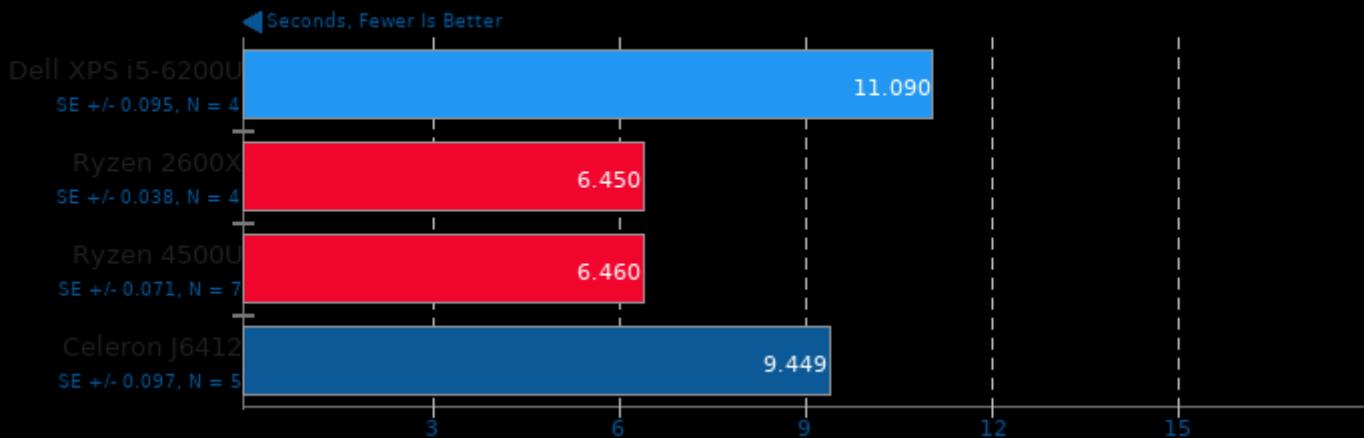
1 Client



1. (CC) gcc options: -fno-optimize-sibling-calls

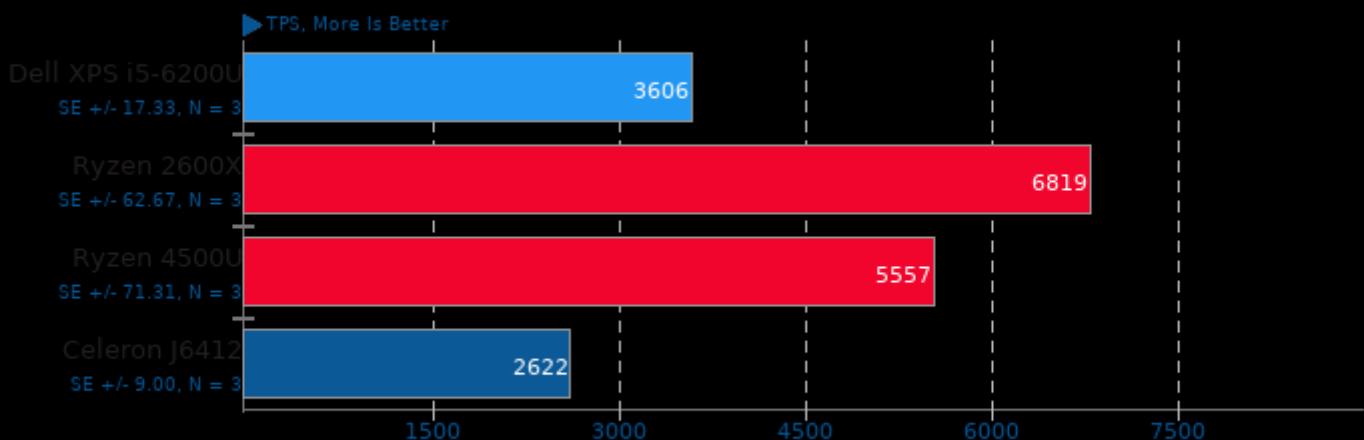
Unpacking The Linux Kernel

linux-4.15.tar.xz



PostMark 1.51

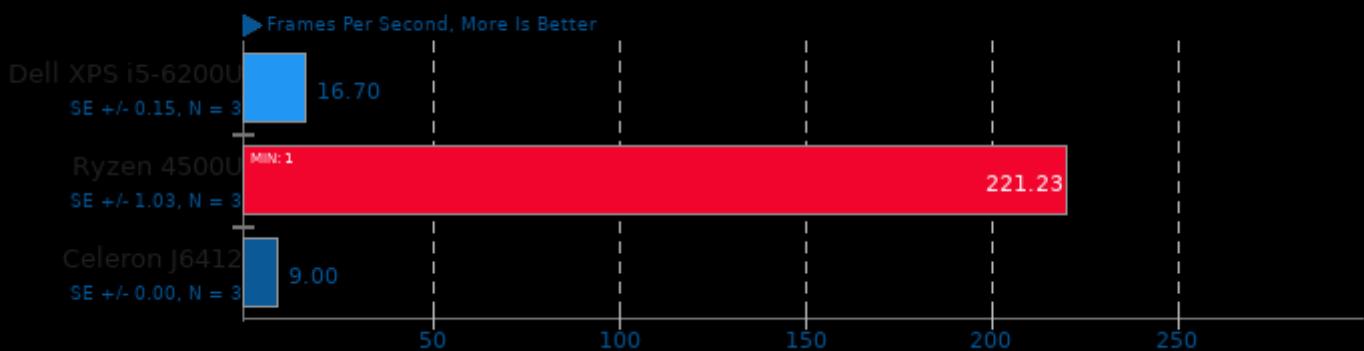
Disk Transaction Performance



1. (CC) gcc options: -O3

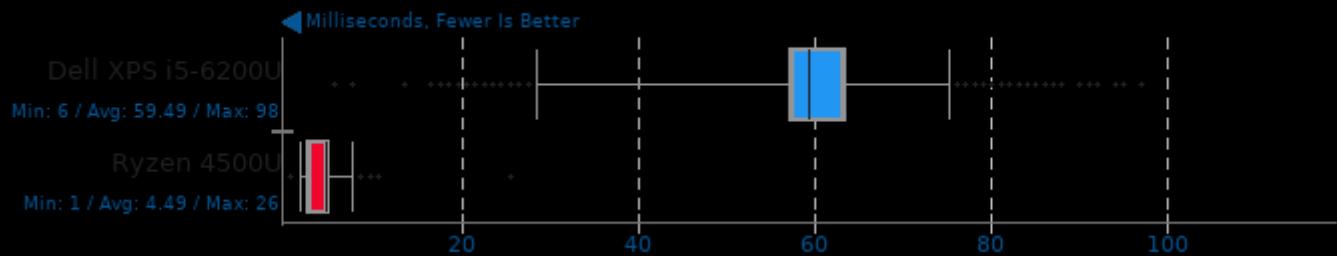
OpenArena 0.8.8

3200 x 1800



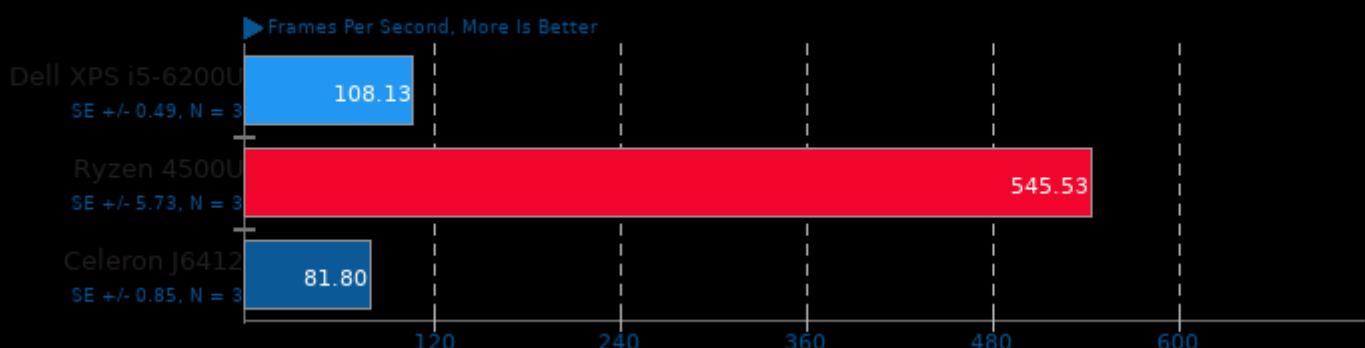
OpenArena 0.8.8

3200 x 1800 - Total Frame Time



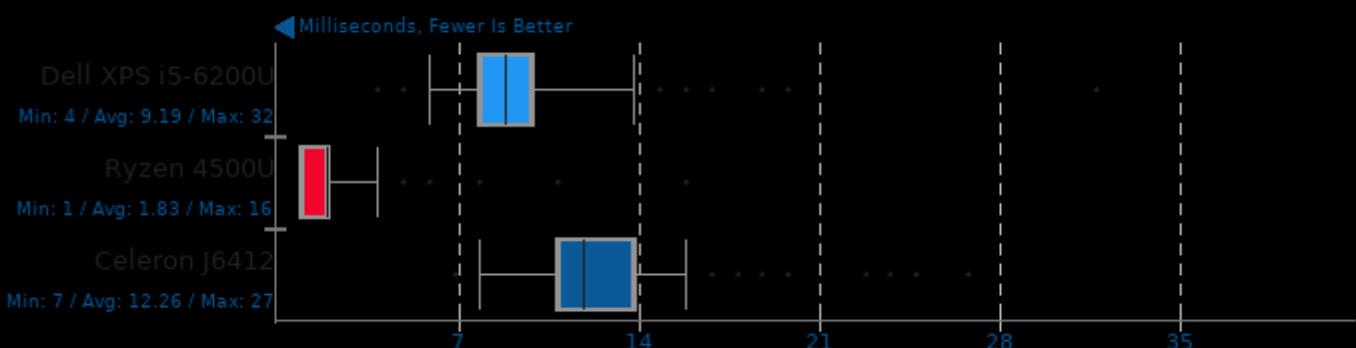
Urban Terror 4.3.2

3200 x 1800



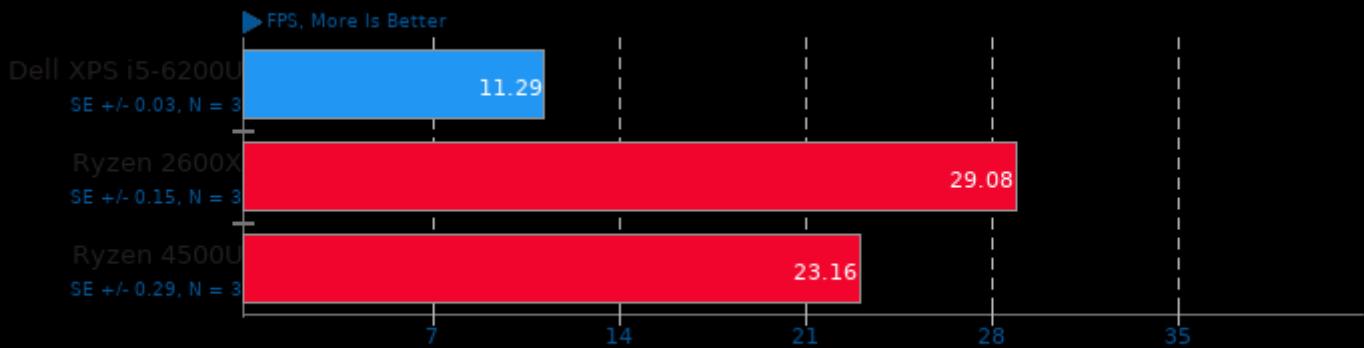
Urban Terror 4.3.2

3200 x 1800 - Total Frame Time



libgav1 2019-10-05

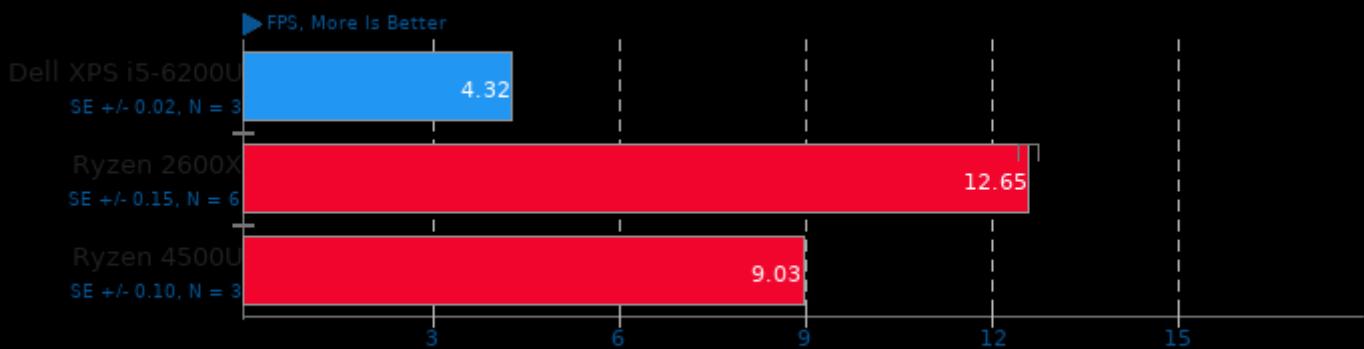
Video Input: Chimera 1080p



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

libgav1 2019-10-05

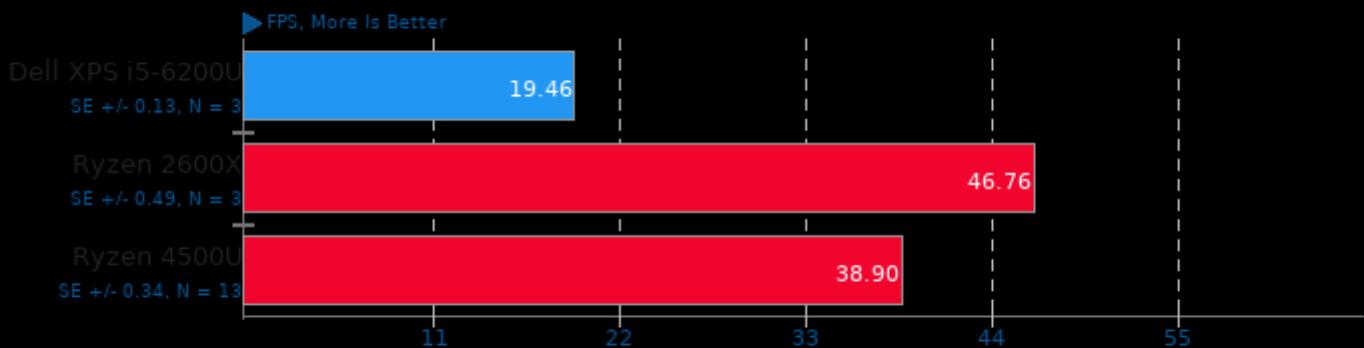
Video Input: Summer Nature 4K



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

libgav1 2019-10-05

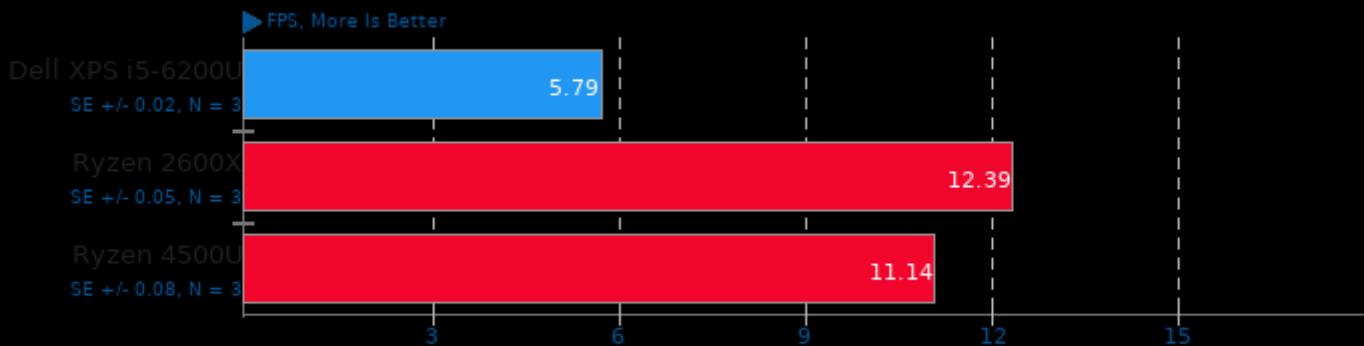
Video Input: Summer Nature 1080p



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

libgav1 2019-10-05

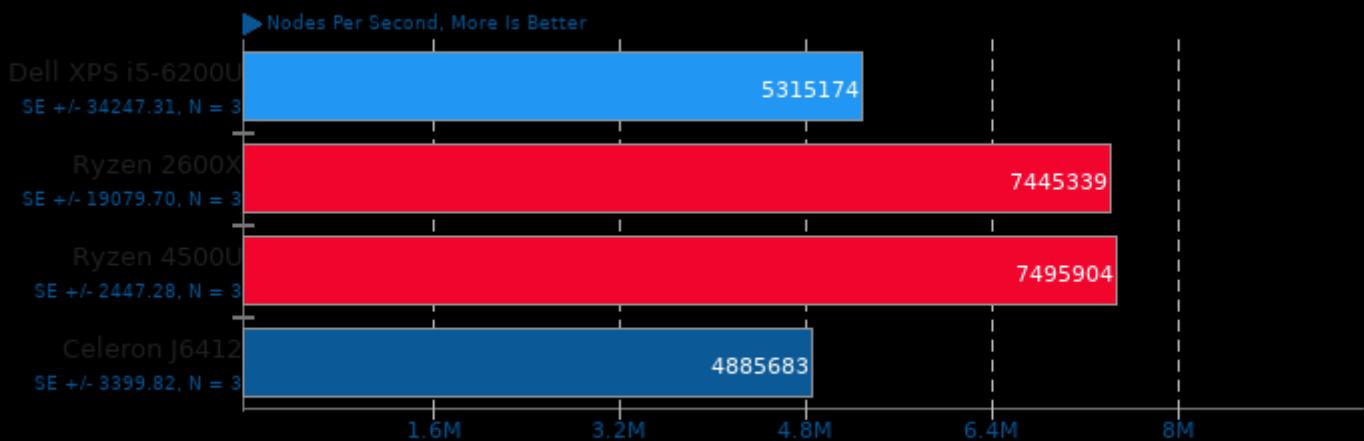
Video Input: Chimera 1080p 10-bit



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

Crafty 25.2

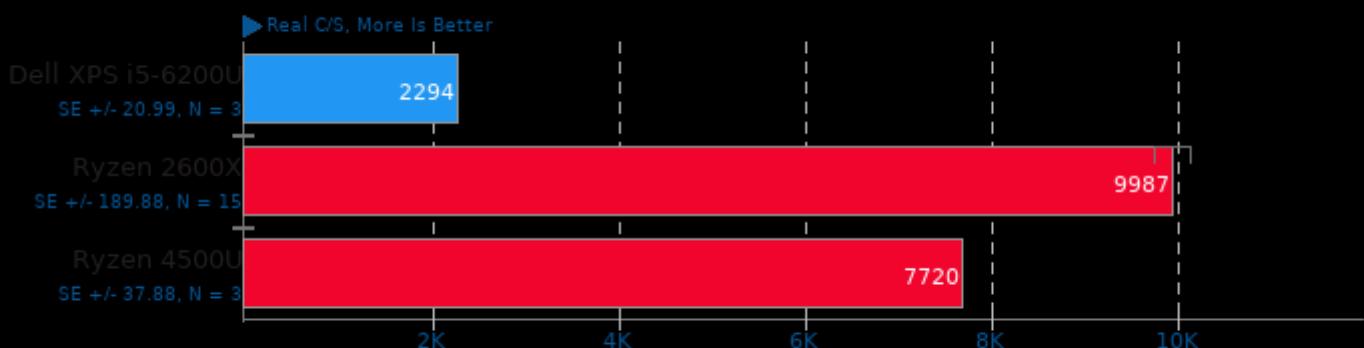
Elapsed Time



1. (CC) gcc options: -pthread -lstdc++ -fprofile-use -lm

John The Ripper 1.9.0-jumbo-1

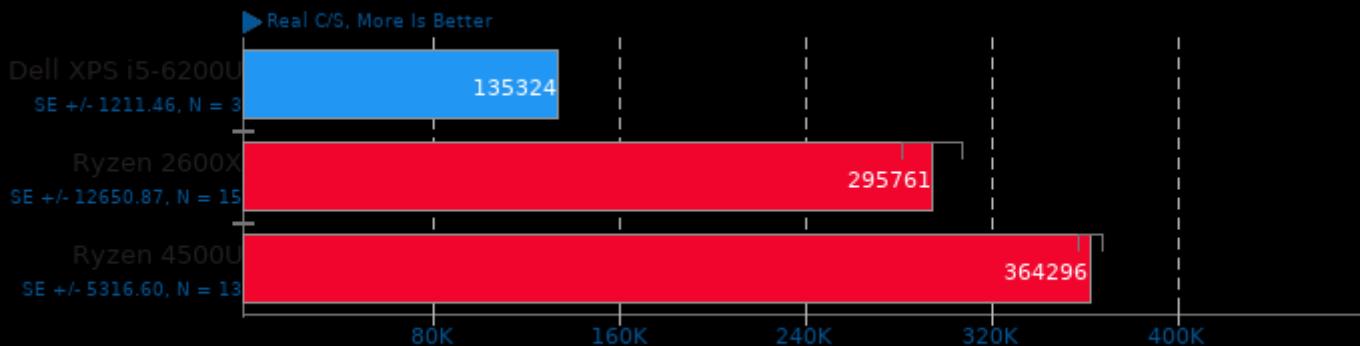
Test: Blowfish



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

John The Ripper 1.9.0-jumbo-1

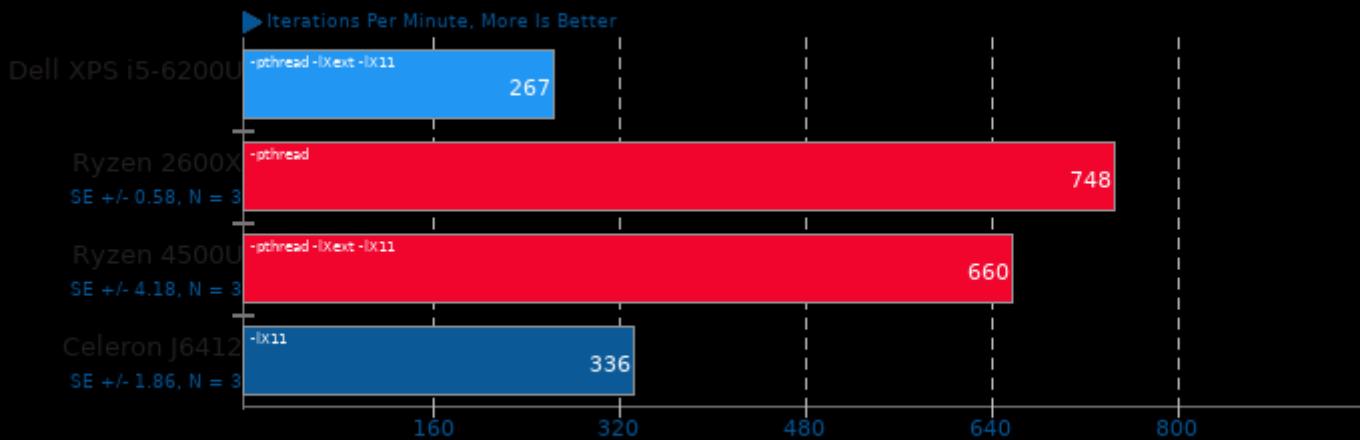
Test: MD5



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

GraphicsMagick 1.3.33

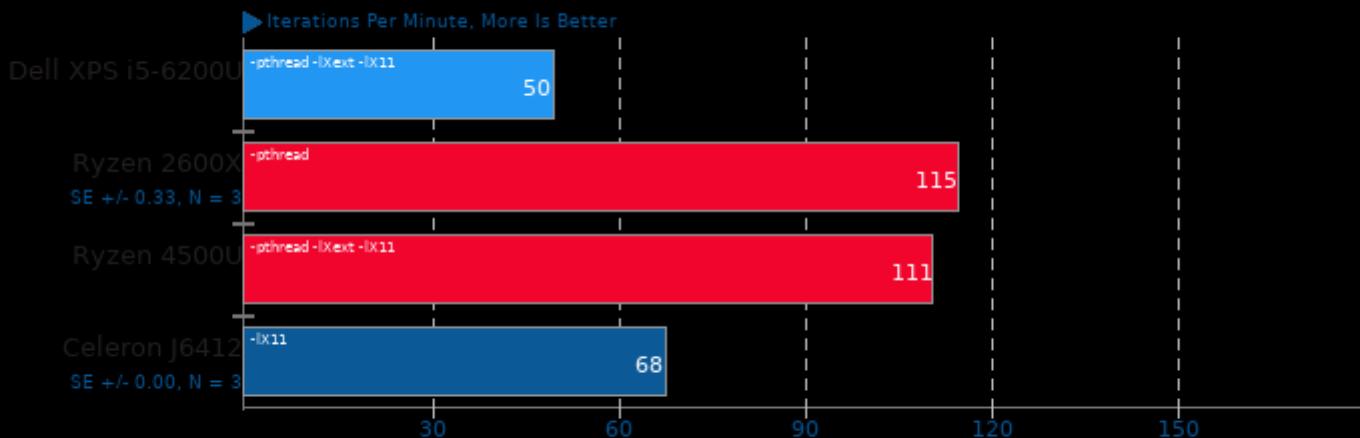
HWB Color Space



1. (CC) gcc options: -fopenmp -O2 -jpeg -ljpeg -lxml2 -lz -lm -pthread

GraphicsMagick 1.3.33

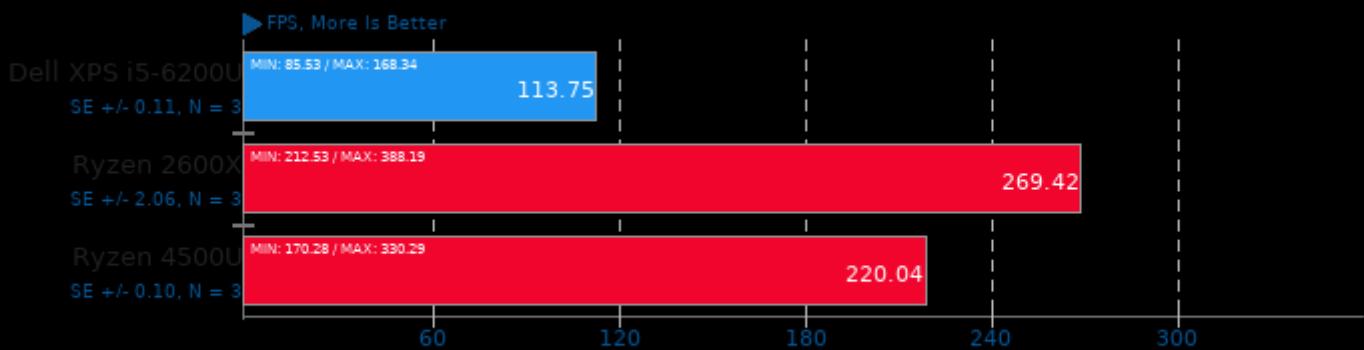
Local Adaptive Thresholding



1. (CC) gcc options: -fopenmp -O2 -jpeg -ljpeg -lxml2 -lz -lm -pthread

dav1d 0.5.0

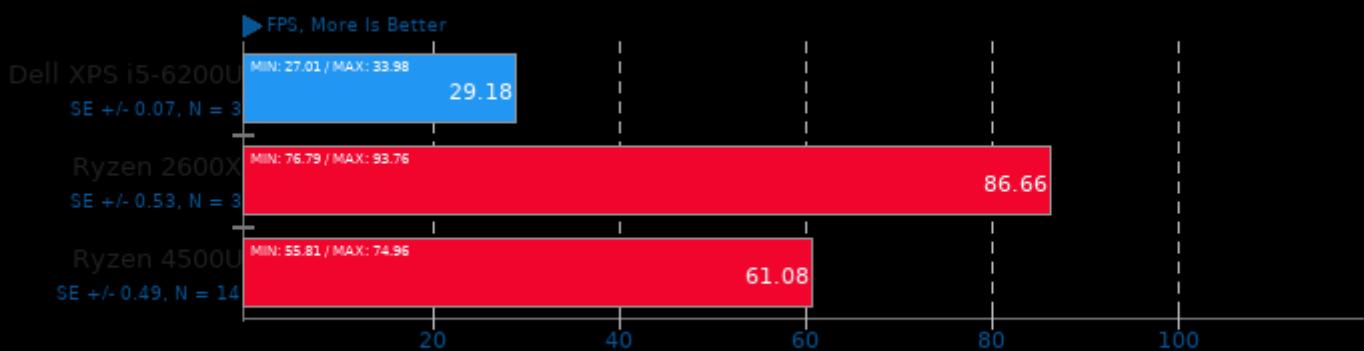
Video Input: Chimera 1080p



1. (CC) gcc options: -pthread

dav1d 0.5.0

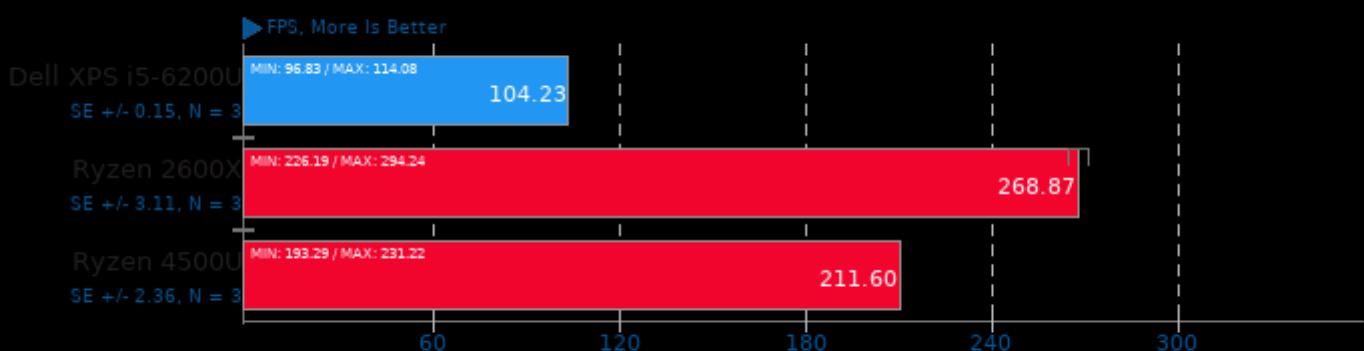
Video Input: Summer Nature 4K



1. (CC) gcc options: -pthread

dav1d 0.5.0

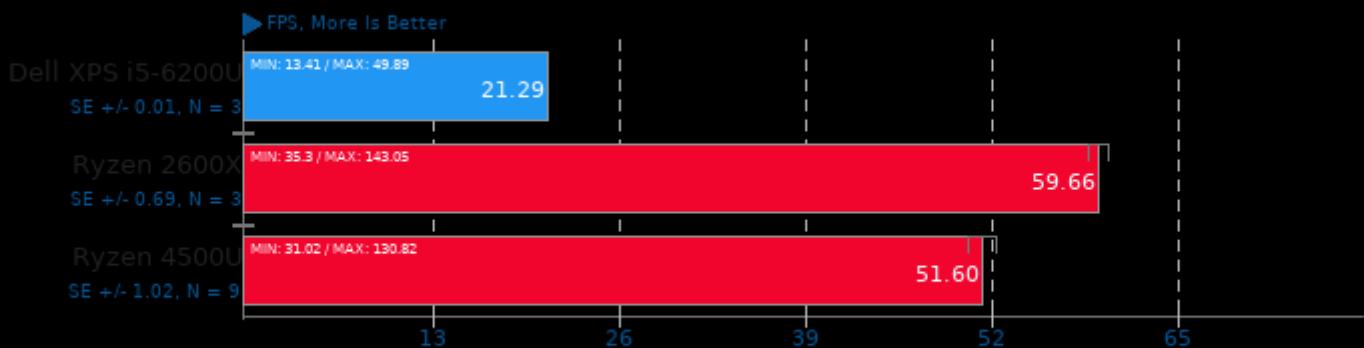
Video Input: Summer Nature 1080p



1. (CC) gcc options: -pthread

dav1d 0.5.0

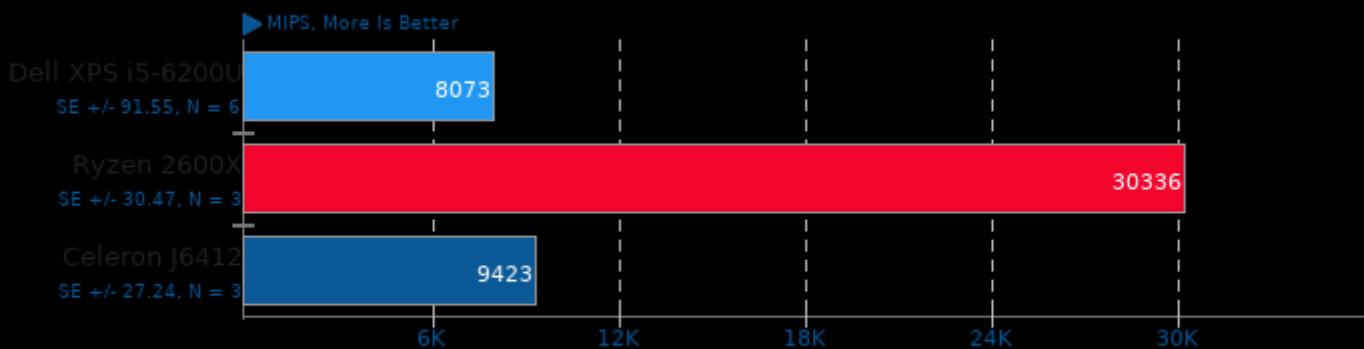
Video Input: Chimera 1080p 10-bit



1. (CC) gcc options: -pthread

7-Zip Compression 16.02

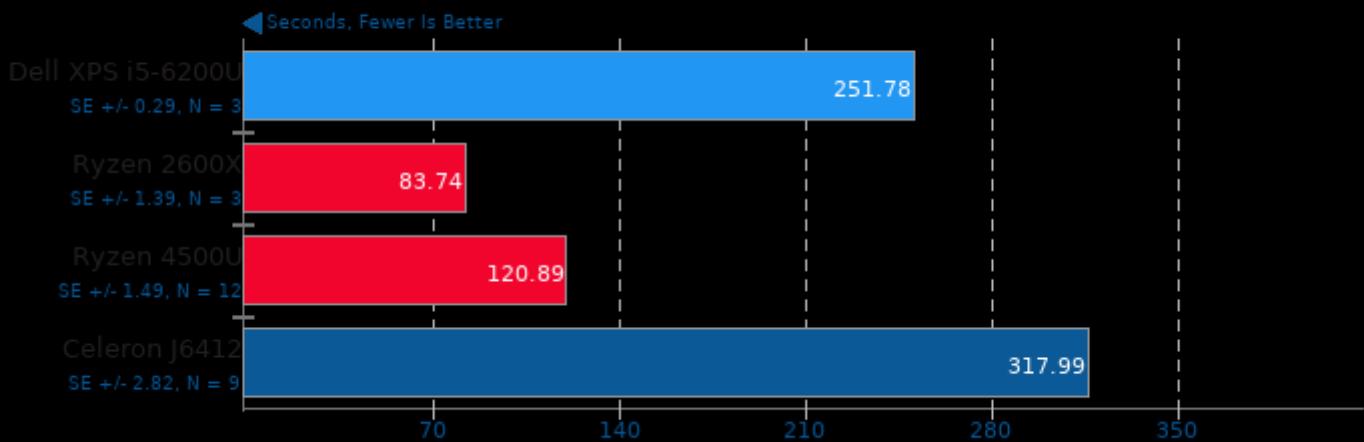
Compress Speed Test



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

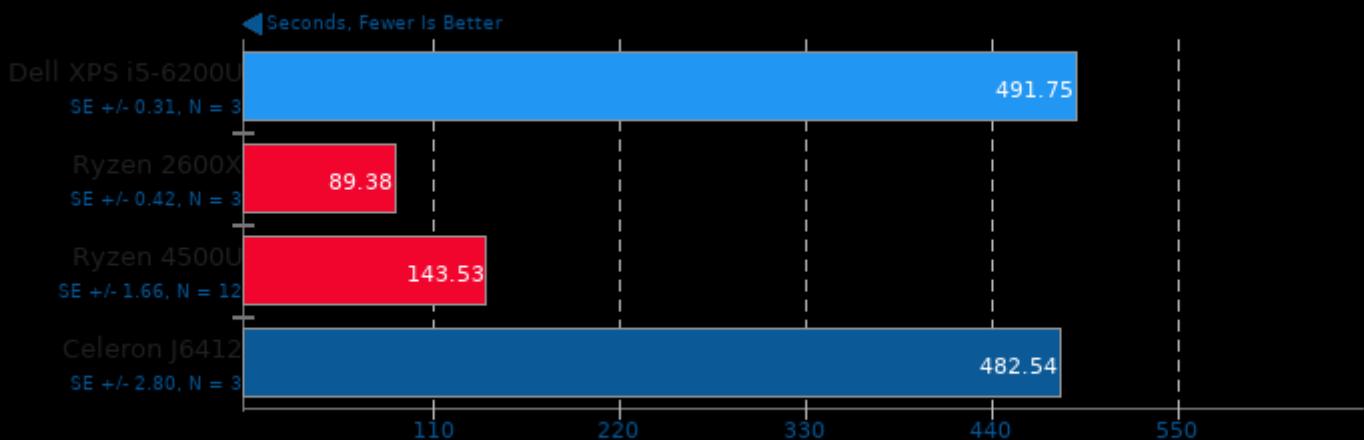
Timed PHP Compilation 7.4.2

Time To Compile



C-Ray 1.1

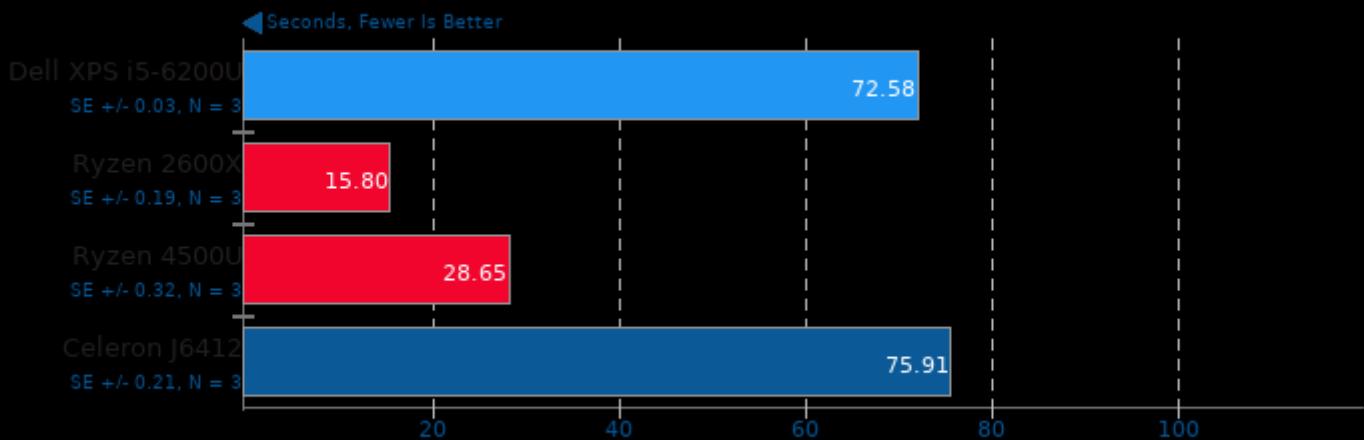
Total Time - 4K, 16 Rays Per Pixel



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

Smallpt 1.0

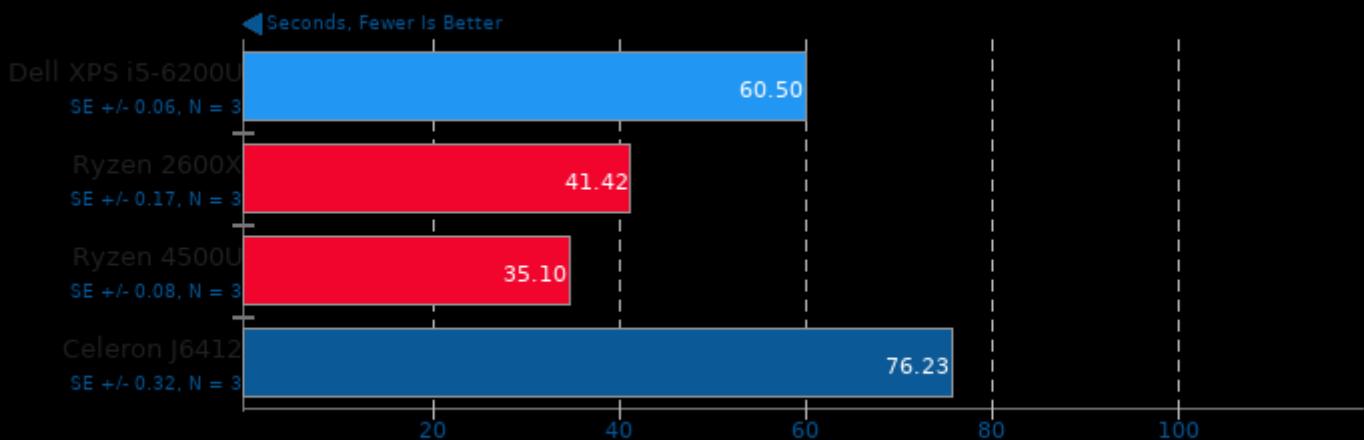
Global Illumination Renderer; 128 Samples



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

ddraw

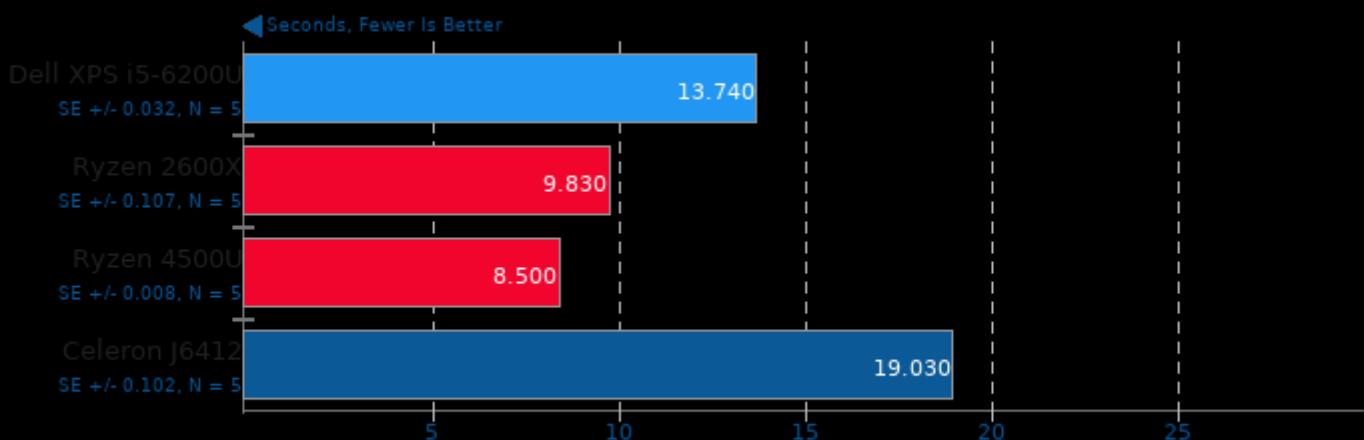
RAW To PPM Image Conversion



1. (CC) gcc options: -lm

FLAC Audio Encoding 1.3.2

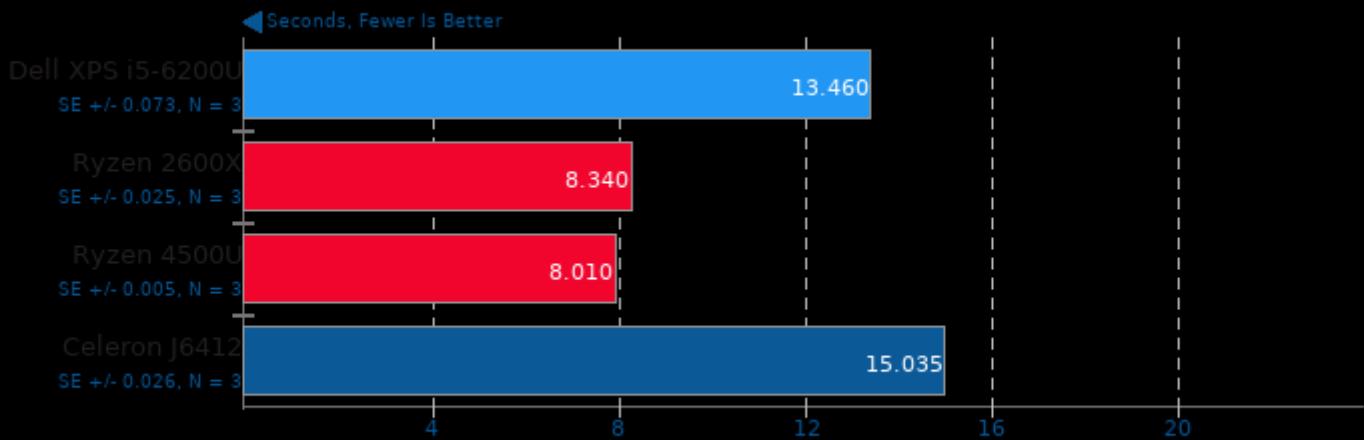
WAV To FLAC



1. (CXX) g++ options: -O2 -fvisibility=hidden -lm

LAME MP3 Encoding 3.100

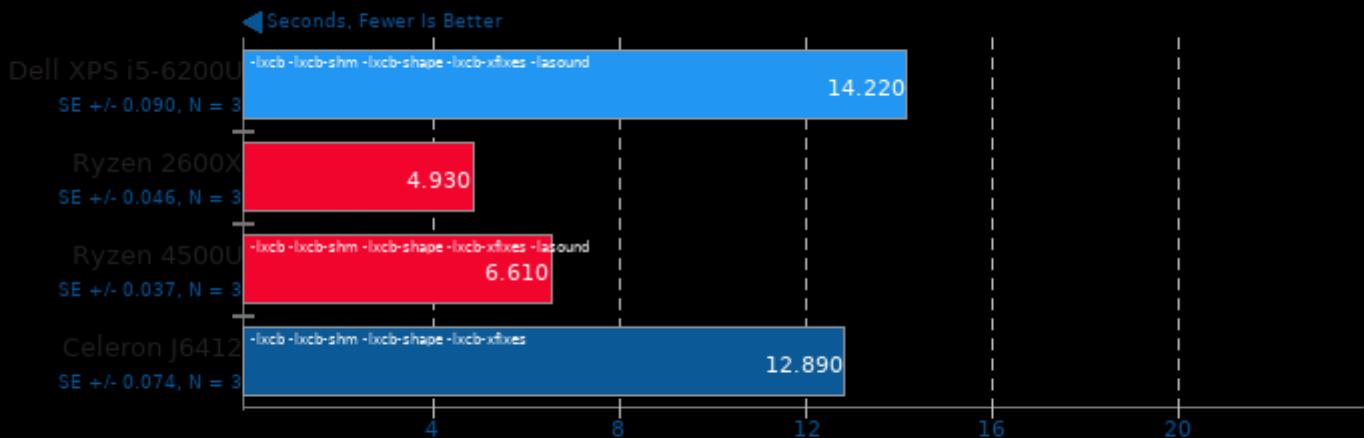
WAV To MP3



1. (CC) gcc options: -O3 -ffast-math -funroll-loops -fschedule-insns2 -fbranch-count-reg -fforce-addr -pipe -lm

FFmpeg 4.0.2

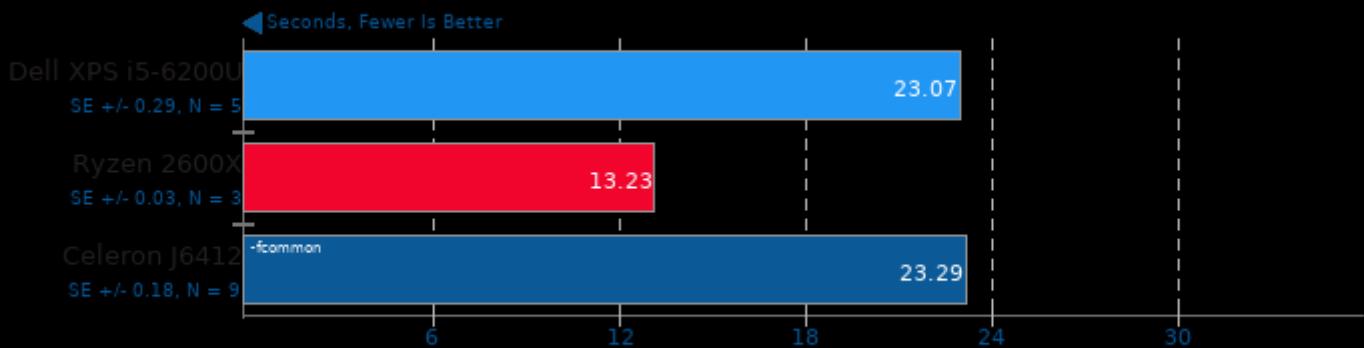
H.264 HD To NTSC DV



1. (CC) gcc options: -lavdevice -lavfilter -lavformat -lavcodec -lswresample -lswscale -lavutil -lm -pthread -llzma -std=c11 -fomit-frame-pointer -O3 -fno-n

GnuPG 1.4.22

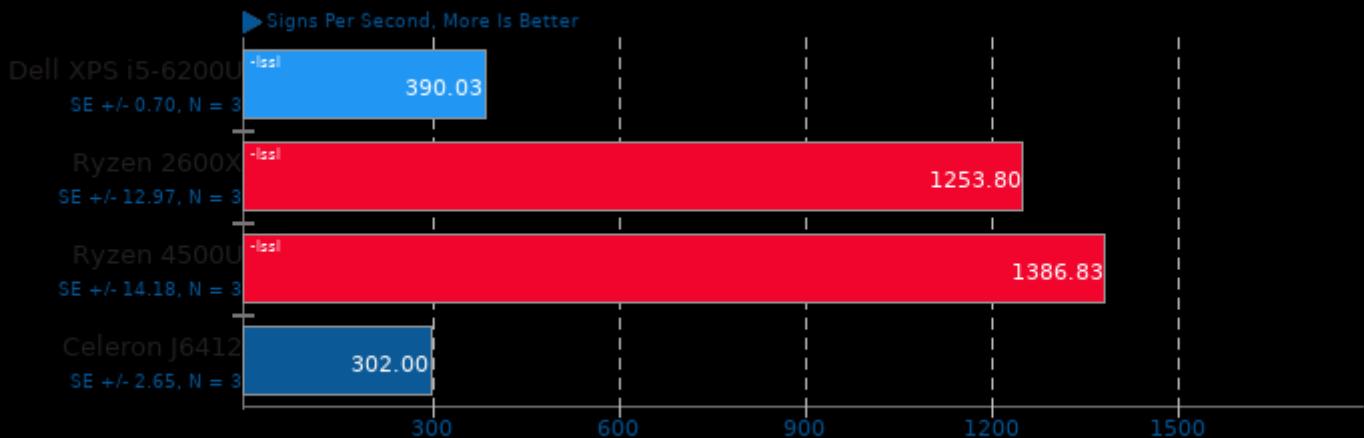
2GB File Encryption



1. (CC) gcc options: -O2 -MT -MD -MP -MF

OpenSSL 1.1.1

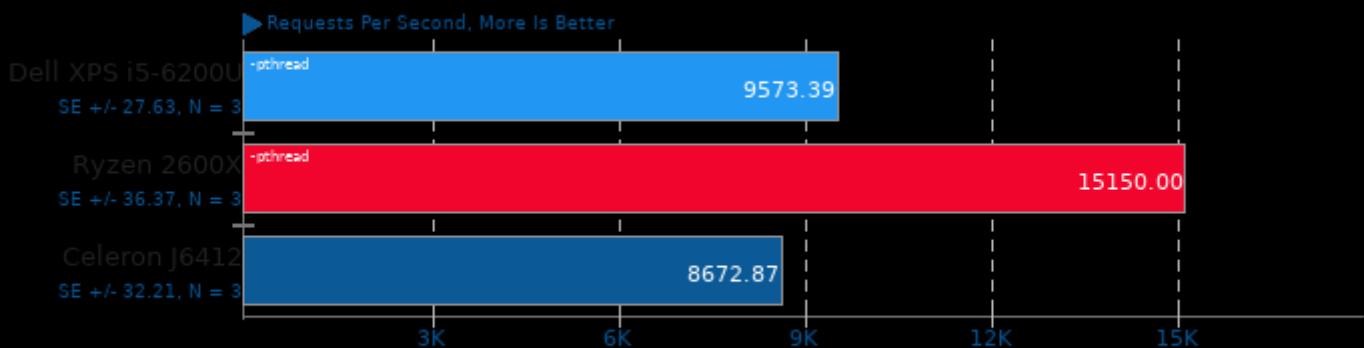
RSA 4096-bit Performance



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

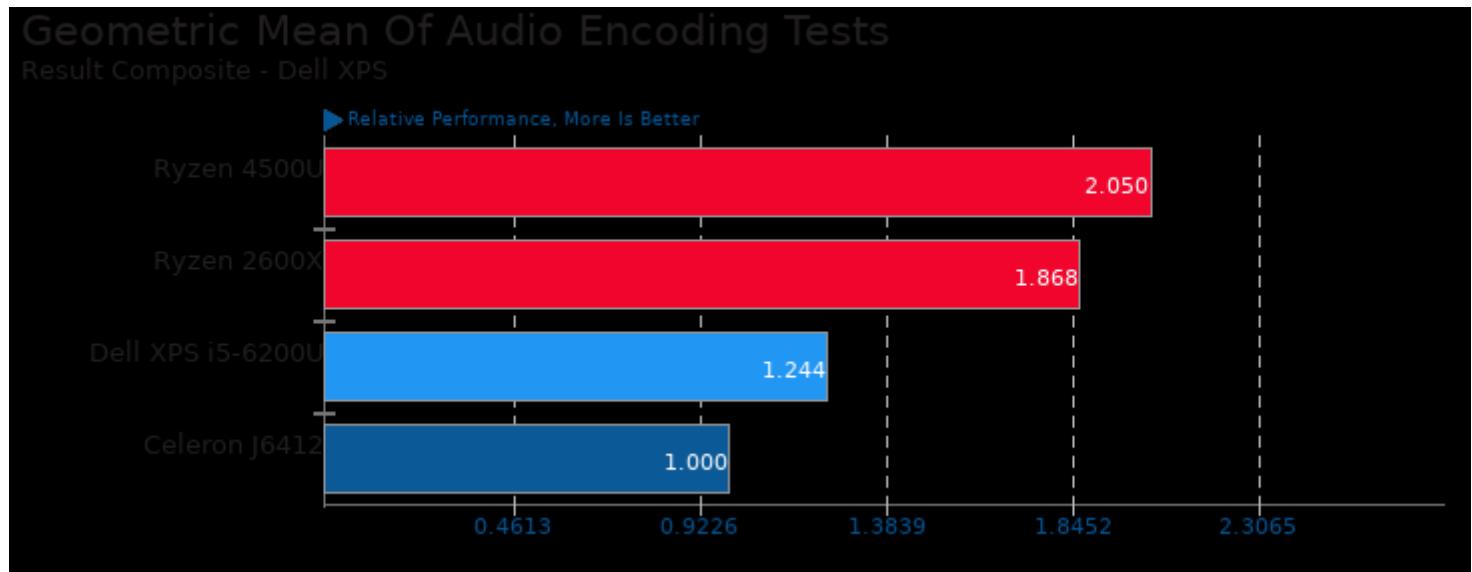
Apache Benchmark 2.4.29

Static Web Page Serving

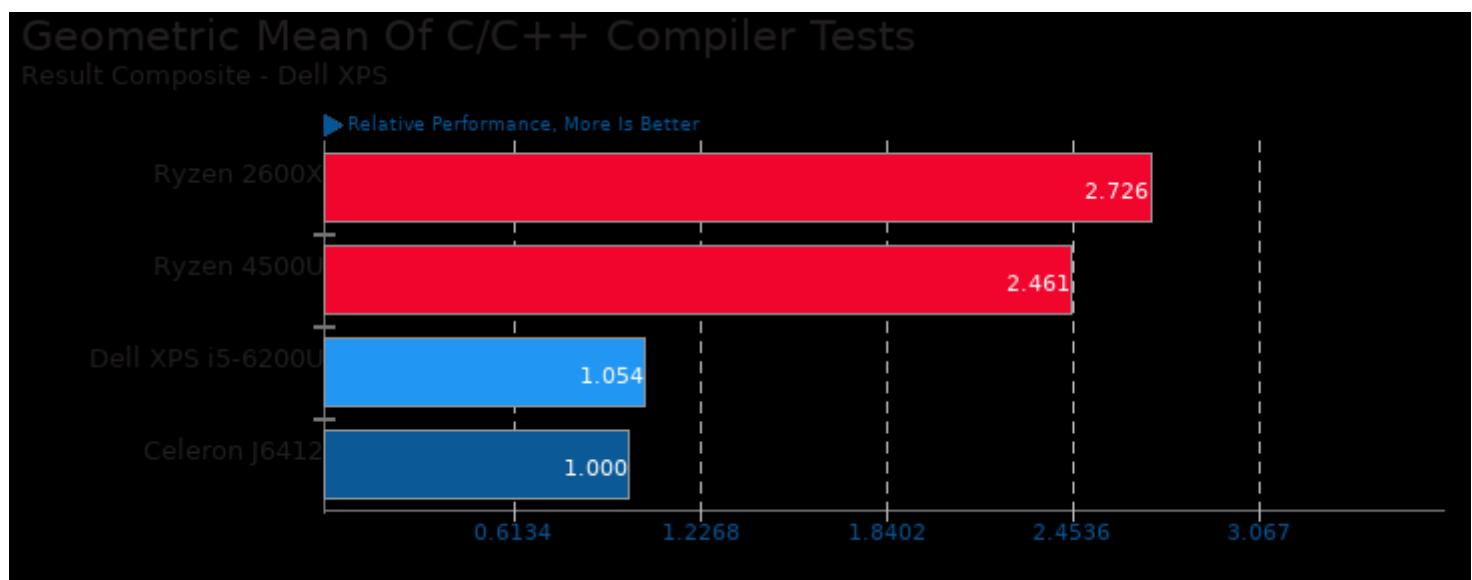


1. (CC) gcc options: -shared -fPIC -O2

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



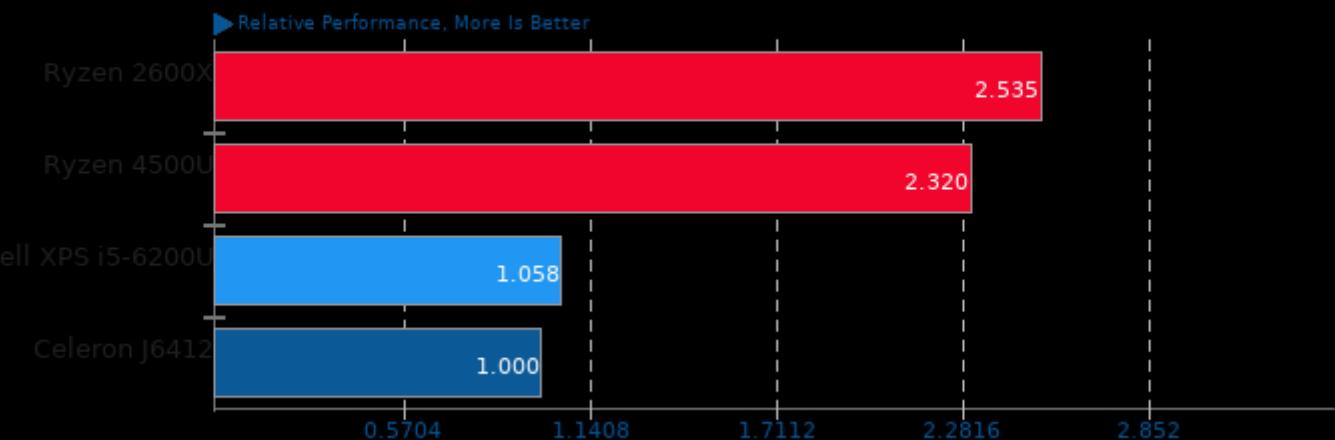
Geometric mean based upon tests: pts/encode-mp3 and pts/encode-flac



Geometric mean based upon tests: pts/graphics-magick, pts/build-php, pts/c-ray, pts/compress-7zip, pts/encode-mp3, pts/encode-flac, pts/apache, pts/libgav1, pts/john-the-ripper, pts/dav1d and pts/openssl

Geometric Mean Of CPU Massive Tests

Result Composite - Dell XPS



Geometric mean based upon tests: pts/apache, pts/build-php, pts/c-ray, pts/compress-7zip, pts/crafty, pts/dav1d, pts/encode-flac, pts/encode-mp3, pts/graphics-magick, pts/john-the-ripper and pts/openssl

Geometric Mean Of Creator Workloads Tests

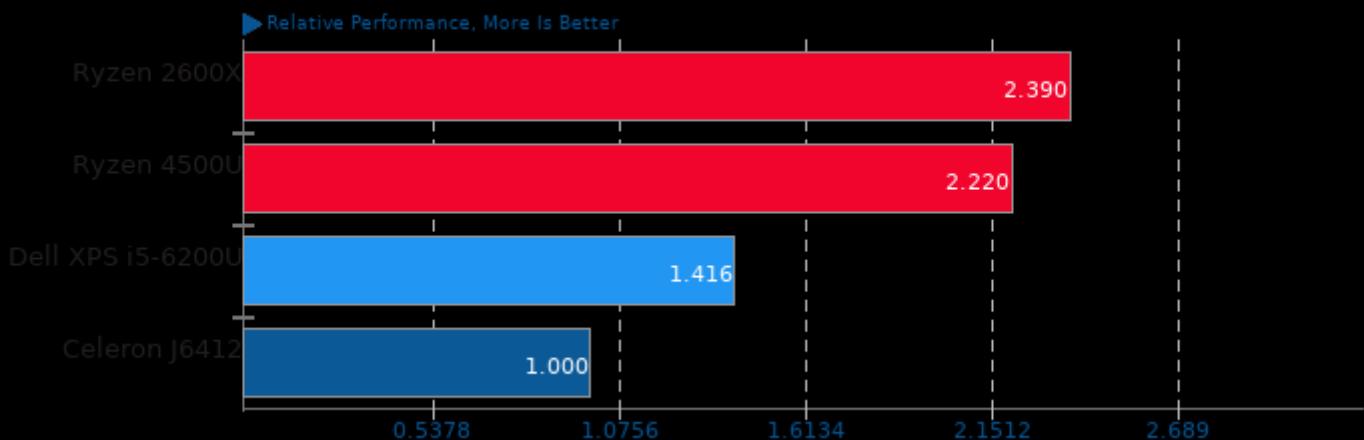
Result Composite - Dell XPS



Geometric mean based upon tests: pts/c-ray, pts/smallpt, pts/ffmpeg, pts/dav1d, pts/libgav1, pts/encode-mp3, pts/encode-flac, pts/graphics-magick and pts/dcraw

Geometric Mean Of Disk Test Suite

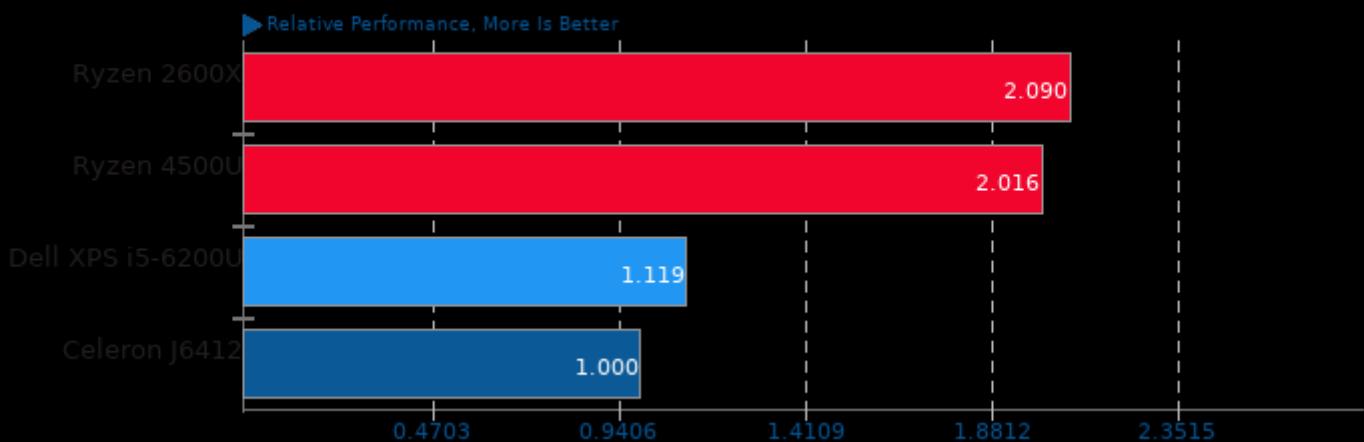
Result Composite - Dell XPS



Geometric mean based upon tests: pts/sqlite, pts/dbench and pts/postmark

Geometric Mean Of Encoding Tests

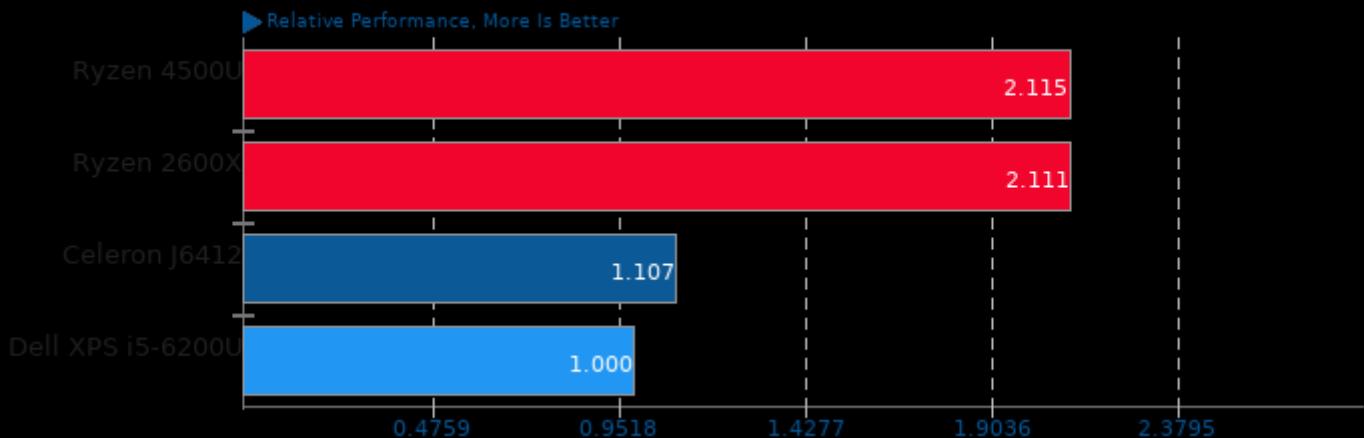
Result Composite - Dell XPS



Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac, pts/ffmpeg, pts/dav1d and pts/libgav1

Geometric Mean Of Imaging Tests

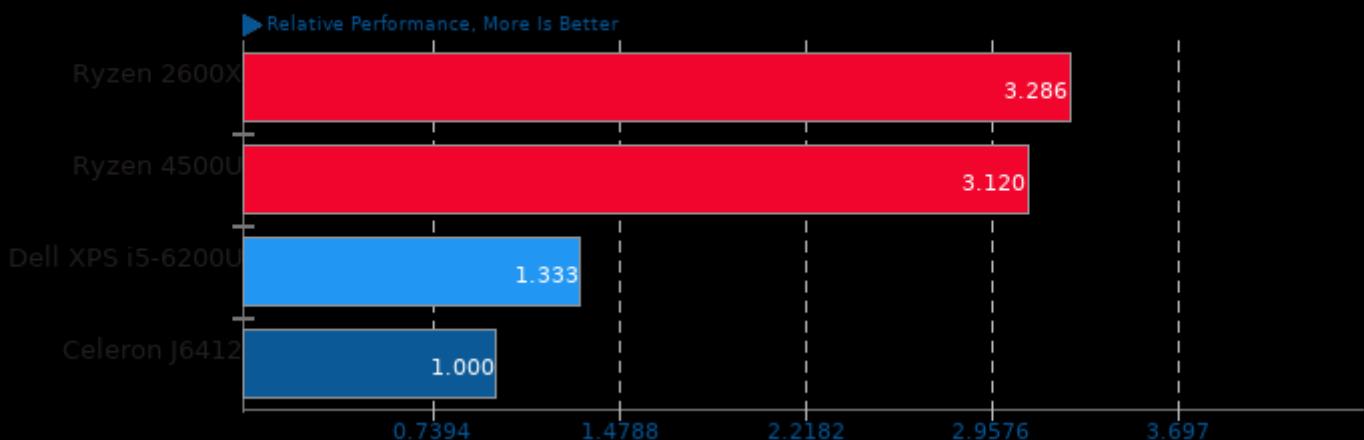
Result Composite - Dell XPS



Geometric mean based upon tests: pts/graphics-magick and pts/dcraw

Geometric Mean Of Common Kernel Benchmarks Tests

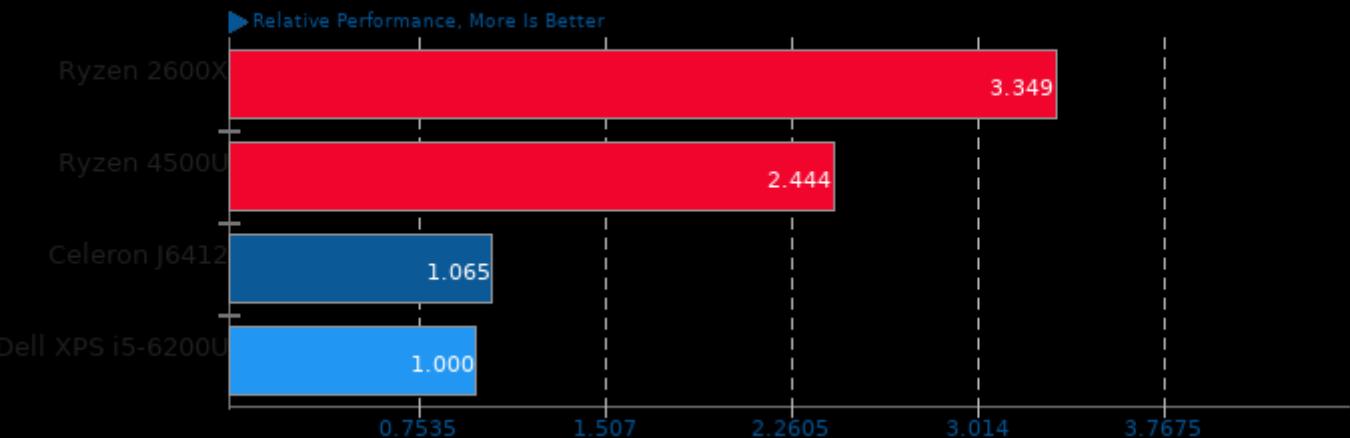
Result Composite - Dell XPS



Geometric mean based upon tests: pts/apache, pts/postmark and pts/openssl

Geometric Mean Of Multi-Core Tests

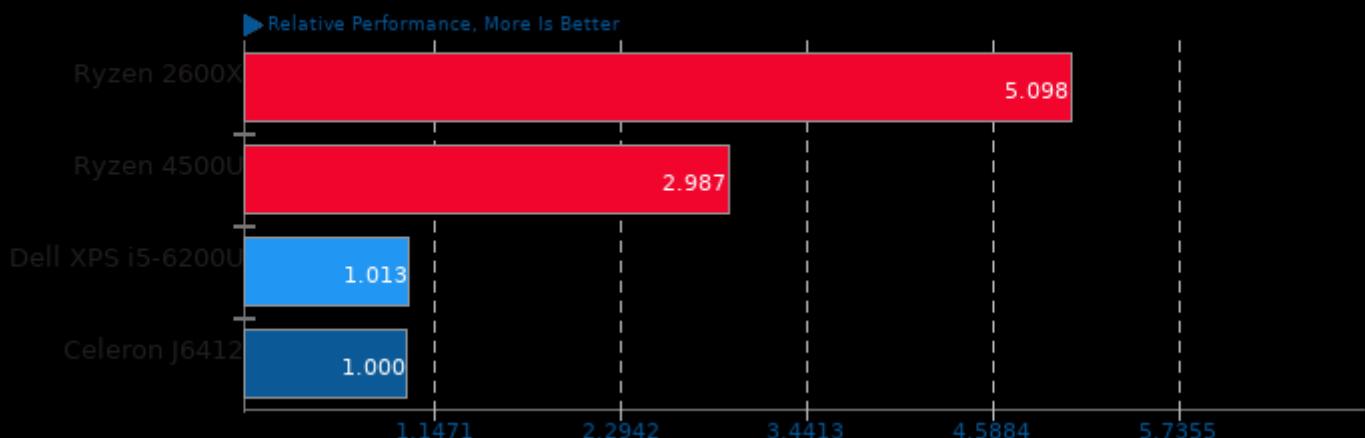
Result Composite - Dell XPS



Geometric mean based upon tests: pts/c-ray, pts/ffmpeg, pts/dav1d, pts/libgav1, pts/john-the-ripper, pts/smallpt, pts/graphics-magick, pts/compress-7zip and pts/build-php

Geometric Mean Of Renderers Tests

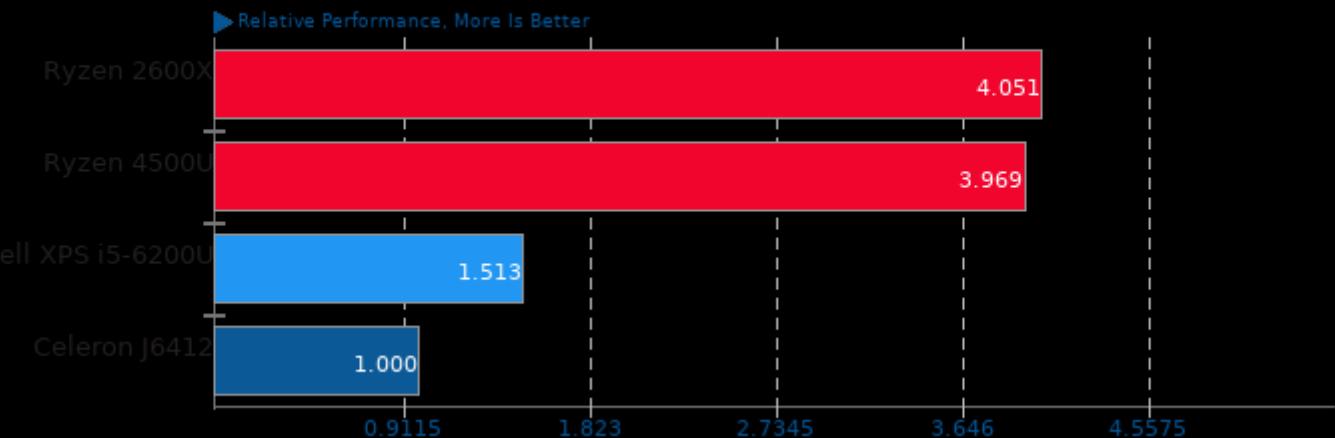
Result Composite - Dell XPS



Geometric mean based upon tests: pts/c-ray and pts/smallpt

Geometric Mean Of Server Tests

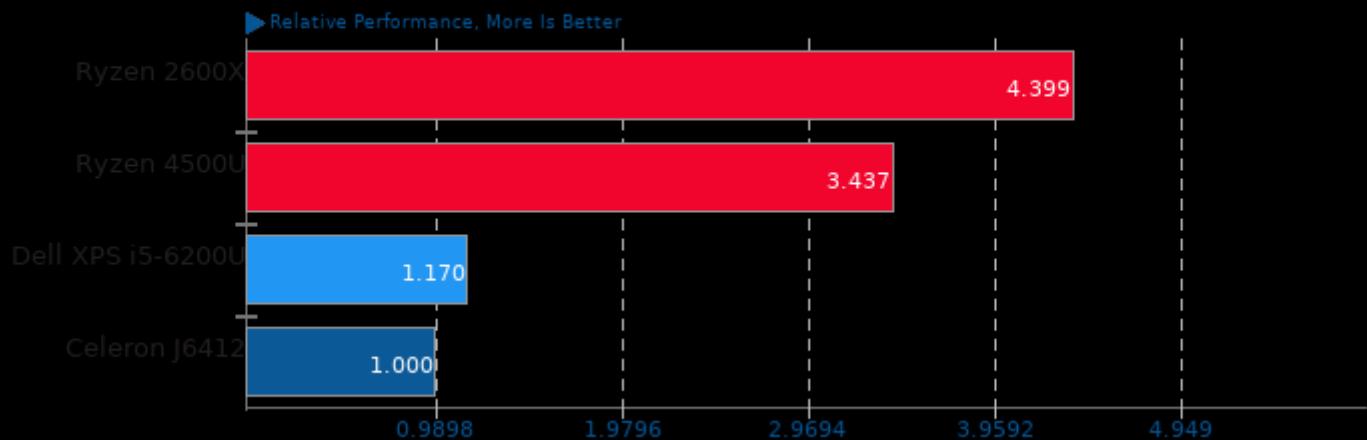
Result Composite - Dell XPS



Geometric mean based upon tests: pts/apache, pts/openssl and pts/sqlite

Geometric Mean Of Server CPU Tests

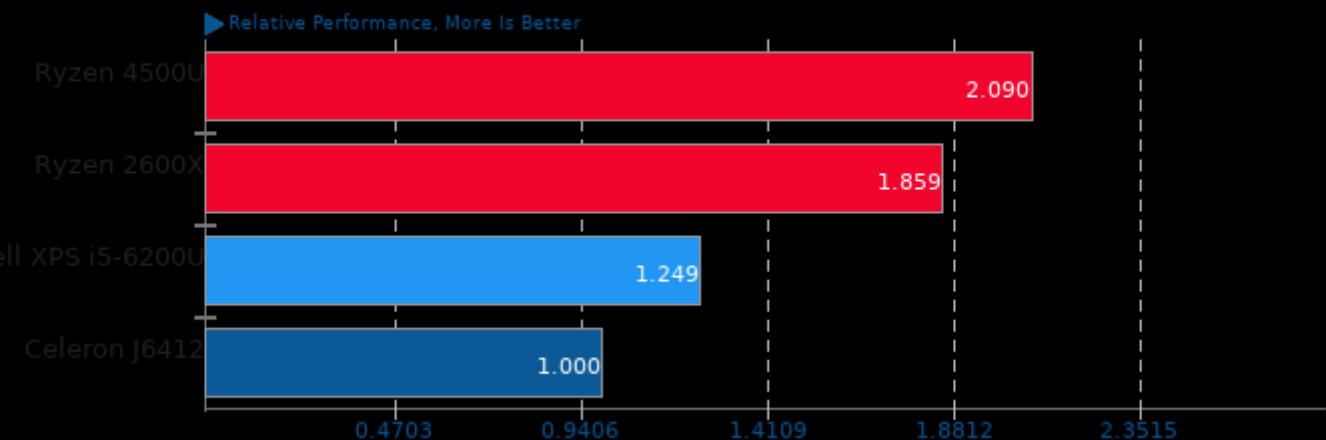
Result Composite - Dell XPS



Geometric mean based upon tests: pts/john-the-ripper, pts/dav1d, pts/compress-7zip, pts/build-php, pts/c-ray and pts/openssl

Geometric Mean Of Single-Threaded Tests

Result Composite - Dell XPS



Geometric mean based upon tests: pts/dcraw, pts/encode-flac, pts/encode-mp3 and pts/gnupg

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 07:00.