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Xeon Platinum 8380 openSUSE Leap 15.4

2 x Intel Xeon Platinum 8380 testing with a Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS) and ASPEED on Clear Linux OS 36520 via the Phoronix Test Suite.

Automated Executive Summary

Clear Linux 36520 had the most wins, coming in first place for 57% of the tests.

Based on the geometric mean of all complete results, the fastest (Clear Linux 36520) was 1.284x the speed of the slowest (openSUSE Leap 15.4). AlmaLinux 9.0 was 0.941x the speed of Clear Linux 36520, Debian 11.3 was 0.902x the speed of AlmaLinux 9.0, openSUSE Leap 15.4 was 0.917x the speed of Debian 11.3.

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

PyPerformance (Benchmark: python_startup) at 2.317x

PHPBench (PHP Benchmark Suite) at 2.291x

SVT-AV1 (Encoder Mode: Preset 12 - Input: Bosphorus 4K) at 2.174x

PyPerformance (Benchmark: 2to3) at 2.074x

SVT-AV1 (Encoder Mode: Preset 10 - Input: Bosphorus 4K) at 2.068x

Timed Godot Game Engine Compilation (Time To Compile) at 1.994x

simdjson (Throughput Test: PartialTweets) at 1.909x

PyPerformance (Benchmark: raytrace) at 1.839x

*simdjson (Throughput Test: TopTweet) at 1.774x
SVT-HEVC (Tuning: 10 - Input: Bosphorus 4K) at 1.752x.*

Test Systems:

openSUSE Leap 15.4

Processor: 2 x Intel Xeon Platinum 8380 @ 3.40GHz (80 Cores / 160 Threads), Motherboard: Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS), Chipset: Intel Device 0998, Memory: 512GB, Disk: 3841GB Micron_9300_MTFDHAL3T8TDP + 7682GB INTEL SSDPF2KX076TZ + 32GB Flash Drive, Graphics: ASPEED, Monitor: VE228, Network: 2 x Intel X710 for 10GBASE-T + 2 x Intel E810-C for QSFP

OS: openSUSE Leap 15.4, Kernel: 5.14.21-150400.22-default (x86_64), Desktop: KDE Plasma, Display Server: X Server 1.20.3, Compiler: GCC 7.5.0, File-System: btrfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Environment Notes: LIBGL_DEBUG=quiet
Compiler Notes: --build=x86_64-suse-linux --disable-libc1 --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, --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: Scaling Governor: intel_pstate powersave (EPP: balance_performance) - CPU Microcode: 0xd000363
Python Notes: Python 3.6.15
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 Enhanced IBRS IBPB: conditional RSB filling + srbs: Not affected + tsx_async_abort: Not affected

AlmaLinux 9.0

Processor: 2 x Intel Xeon Platinum 8380 @ 3.40GHz (80 Cores / 160 Threads), Motherboard: Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS), Chipset: Intel Device 0998, Memory: 512GB, Disk: 3841GB Micron_9300_MTFDHAL3T8TDP + 7682GB INTEL SSDPF2KX076TZ + 32GB Flash Drive, Graphics: ASPEED, Monitor: VE228, Network: 2 x Intel X710 for 10GBASE-T + 2 x Intel E810-C for QSFP

OS: AlmaLinux 9.0, Kernel: 5.14.0-70.13.1.el9_0.x86_64 (x86_64), Desktop: GNOME Shell 40.9, Display Server: X Server 1.20.11, Compiler: GCC 11.2.1 20220127, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
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-host-bind-now --enable-host-pie --enable-initfini-array --enable-languages=c,c++,fortran,Ito --enable-link-serialization=1 --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-arch_64=x86-64-v2 --with-build-config=bootstrap-Ito --with-gcc-major-version-only --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver --without-isl
Processor Notes: Scaling Governor: intel_pstate performance (EPP: performance) - CPU Microcode: 0xd000331
Python Notes: Python 3.9.10
Security Notes: SELinux + itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbs: Not affected + tsx_async_abort: Not affected

Debian 11.3

Processor: 2 x Intel Xeon Platinum 8380 @ 3.40GHz (80 Cores / 160 Threads), Motherboard: Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS), Chipset: Intel Device 0998, Memory: 512GB, Disk: 3841GB Micron_9300_MTFDHAL3T8TDP + 7682GB INTEL SSDPF2KX076TZ + 32GB Flash Drive, Graphics: ASPEED,

Monitor: VE228, Network: 2 x Intel X710 for 10GBASE-T + 2 x Intel E810-C for QSFP

OS: Debian 11, Kernel: 5.10.0-15-amd64 (x86_64), Display Server: X Server, Vulkan: 1.0.2, Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
 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-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/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_pstate powersave (EPP: balance_performance) - CPU Microcode: 0xd0000270

Python Notes: Python 3.9.2

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 Enhanced IBRS IBPB: conditional RSB filling + srbs: Not affected + tsx_async_abort: Not affected

Clear Linux 36520

Processor: 2 x Intel Xeon Platinum 8380 @ 3.40GHz (80 Cores / 160 Threads), Motherboard: Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS), Chipset: Intel Device 0998, Memory: 512GB, Disk: 3841GB Micron_9300_MTFDHAL3T8TDP + 7682GB INTEL SSDPF2KX076TZ, Graphics: ASPEED, Monitor: VE228, Network: 2 x Intel X710 for 10GBASE-T + 2 x Intel E810-C for QSFP

OS: Clear Linux OS 36520, Kernel: 5.18.5-1158.native (x86_64), Desktop: GNOME Shell 42.2, Display Server: X Server 1.21.1.3, Compiler: GCC 12.1.1 20220619 releases/gcc-12.1.0-157-ge8df0d960b + Clang 14.0.4 + LLVM 14.0.4, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
 Environment Notes: FFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ffree-loop-distribute-patterns -WI,-z -WI,now -WI,-z -WI,relro -malign-data=abi -fno-semantic-interposition -ftree-vectorize -WI,-enable-new-dtags" CXXFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ffree-loop-distribute-patterns -WI,-z -WI,now -WI,-z -WI,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,--enable-new-dtags -mtune=skylake -mrelax-cmpxchg-loop -fvisibility-inlines-hidden -WI,--enable-new-dtags" FCFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ffree-loop-distribute-patterns -WI,-z -WI,now -WI,-z -WI,relro -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,--enable-new-dtags -mtune=skylake -mrelax-cmpxchg-loop" THEANO_FLAGS="floatX=float32,openmp=true,gcc.cxxflags=-freeto-vectorize -mavx"
 Compiler Notes: --build=x86_64-generic-linux --disable-libmpx --disable-libunwind-exceptions --disable-multiarch --disable-vtable-verify --disable-werror --enable__cxa_atexit --enable-bootstrap --enable-cet --enable-clocale=gnu --enable-default-pie --enable-gnu-indirect-function --enable-gnu-indirect-function --enable-host-shared --enable-languages=c,c++,fortran,go,jit --enable-ld=default --enable-libstdcxx-pch --enable-linux-futex --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --exec-prefix=/usr --includedir=/usr/include --target=x86_64-generic-linux --with-arch=x86-64-v3 --with-gcc-major-version-only --with-glibc-version=2.35 --with-gnu-ld --with-isl --with-pic --with-ppl=yes --with-tune=skylake-avx512 --with-zstd
 Processor Notes: Scaling Governor: intel_pstate performance (EPP: performance) - CPU Microcode: 0xd0000363
 Python Notes: Python 3.10.5
 Security Notes: itlb_multihit: Not affected + 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 + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbs: Not affected + tsx_async_abort: Not affected

	openSUSE Leap 15.4	AlmaLinux 9.0	Debian 11.3	Clear Linux 36520
High Performance Conjugate Gradient (GFLOP/s)	40.1429	40.3943	39.9749	40.9748
Normalized	97.97%	98.58%	97.56%	100%
Standard Deviation	0.2%	0.2%	0.7%	0%

NAMD - ATPase Simulation - 327,506	0.29179	0.28140	0.27376	0.28060
Atoms (days/ns)				
Normalized	93.82%	97.29%	100%	97.56%
Standard Deviation	0.7%	0.7%	0.4%	0.2%
Timed MrBayes Analysis - P.P.A (sec)	157.212	167.303	169.330	173.528
Normalized	100%	93.97%	92.84%	90.6%
Standard Deviation	0.4%	0.3%	0.3%	0.5%
Xcompact3d Incompact3d - X.b.i.i	300.673177	325.482727	291.486185	280.940653
Normalized	93.44%	86.32%	96.38%	100%
Standard Deviation	2.5%	0.1%	0.8%	1.9%
Xcompact3d Incompact3d - i.i.1.C.P.D	2.96871304	3.08125238	2.89126166	2.34428906
(sec)				
Normalized	78.97%	76.08%	81.08%	100%
Standard Deviation	0.3%	7.1%	1.2%	0.9%
Xcompact3d Incompact3d - i.i.1.C.P.D	11.7862835	12.3476836	11.1820466	10.6146485
(sec)				
Normalized	90.06%	85.96%	94.93%	100%
Standard Deviation	0.5%	1.9%	0.7%	0.2%
WebP Image Encode - Quality 100	3.014	2.802	3.140	2.652
(Encode Time - sec)				
Normalized	87.99%	94.65%	84.46%	100%
Standard Deviation	4.5%	0.1%	8%	0.1%
WebP Image Encode - Q.1.L (Encode	21.833	20.844	20.876	18.208
Time - sec)				
Normalized	83.4%	87.35%	87.22%	100%
Standard Deviation	1.5%	0.1%	0.5%	0.3%
WebP Image Encode - Q.1.H.C	9.157	8.411	8.499	8.044
(Encode Time - sec)				
Normalized	87.85%	95.64%	94.65%	100%
Standard Deviation	2.2%	0.1%	0.5%	0.1%
WebP Image Encode - Q.1.L.H.C	43.432	41.048	40.751	38.504
(Encode Time - sec)				
Normalized	88.65%	93.8%	94.49%	100%
Standard Deviation	1%	0.1%	2.4%	0.2%
simdjson - TopTweet (GB/s)	3.23	5.60	5.57	5.73
Normalized	56.37%	97.73%	97.21%	100%
Standard Deviation	0.2%	0.3%	0.2%	0.1%
simdjson - PartialTweets (GB/s)	2.63	4.80	4.81	5.02
Normalized	52.39%	95.62%	95.82%	100%
Standard Deviation	0.2%	0.2%	0.1%	0.3%
SVT-AV1 - Preset 8 - Bosphorus 4K	36.312	62.459	37.707	62.730
(FPS)				
Normalized	57.89%	99.57%	60.11%	100%
Standard Deviation	1.6%	2.6%	1.3%	2.5%
SVT-AV1 - Preset 10 - Bosphorus 4K	75.965	157.084	77.341	157.060
(FPS)				
Normalized	48.36%	100%	49.24%	99.98%
Standard Deviation	0.8%	0.7%	1.1%	1.9%
SVT-AV1 - Preset 12 - Bosphorus 4K	87.407	187.134	91.237	190.050
(FPS)				
Normalized	45.99%	98.47%	48.01%	100%
Standard Deviation	0.8%	0.9%	1.2%	0.4%
SVT-HEVC - 1 - Bosphorus 4K (FPS)	10.01	10.60	10.60	10.91
Normalized	91.75%	97.16%	97.16%	100%

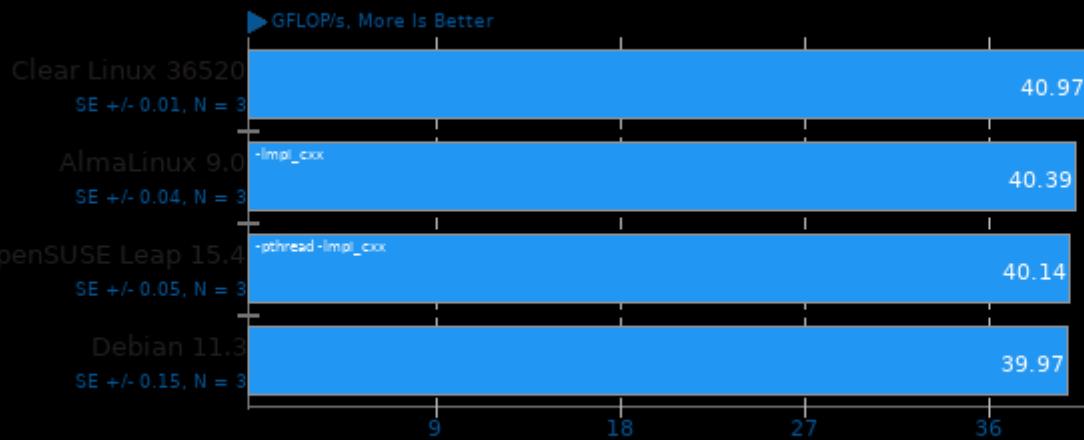
Standard Deviation	0.8%	0.4%	0.5%	1.2%
SVT-HEVC - 7 - Bosphorus 4K (FPS)	88.18	143.53	85.34	148.90
Normalized	59.22%	96.39%	57.31%	100%
Standard Deviation	1.3%	0.5%	1.1%	0.4%
SVT-HEVC - 10 - Bosphorus 4K (FPS)	118.31	194.04	110.78	192.46
Normalized	60.97%	100%	57.09%	99.19%
Standard Deviation	2.3%	1.1%	1.1%	1%
SVT-VP9 - VMAF Optimized - Bosphorus 4K (FPS)	118.20	150.03	109.83	146.14
Normalized	78.78%	100%	73.21%	97.41%
Standard Deviation	1.7%	1%	0.7%	13.9%
SVT-VP9 - P.S.O - Bosphorus 4K	120.27	155.41	116.09	156.43
Normalized	76.88%	99.35%	74.21%	100%
Standard Deviation	2.5%	2.3%	0.5%	1.5%
SVT-VP9 - V.Q.O - Bosphorus 4K	100.11	145.87	102.54	144.92
Normalized	68.63%	100%	70.3%	99.35%
Standard Deviation	1.4%	1.3%	1.6%	0.9%
libavif avifenc - 0 (sec)	82.336	81.654	85.020	83.720
Normalized	99.17%	100%	96.04%	97.53%
Standard Deviation	1.4%	2.1%	1.1%	2.4%
libavif avifenc - 2 (sec)	47.850	46.807	47.928	47.326
Normalized	97.82%	100%	97.66%	98.9%
Standard Deviation	0.2%	0.8%	0.9%	0.9%
libavif avifenc - 6 (sec)	6.145	4.742	5.823	4.525
Normalized	73.64%	95.42%	77.71%	100%
Standard Deviation	1.1%	0.7%	5.5%	2.1%
libavif avifenc - 6, Lossless (sec)	10.179	7.560	10.510	7.328
Normalized	71.99%	96.93%	69.72%	100%
Standard Deviation	2.2%	0.8%	1.5%	0.5%
libavif avifenc - 10, Lossless (sec)	7.239	4.988	7.450	4.795
Normalized	66.24%	96.13%	64.36%	100%
Standard Deviation	4.9%	0.8%	2.1%	0.4%
Timed Apache Compilation - Time To Compile (sec)	31.249	20.729	34.164	24.175
Normalized	66.33%	100%	60.67%	85.75%
Standard Deviation	0.5%	0%	0.1%	0%
Timed Godot Game Engine	91.213	51.151	75.089	45.735
Compilation - Time To Compile (sec)				
Normalized	50.14%	89.41%	60.91%	100%
Standard Deviation	0.9%	0.7%	1%	0.4%
OSpray Studio - 1 - 1080p - 32 - Path	10065	9949	9996	10097
Tracer (ms)				
Normalized	98.85%	100%	99.53%	98.53%
Standard Deviation	0.4%	0.3%	0.3%	0.5%
OSpray Studio - 2 - 1080p - 32 - Path	10162	10102	10026	10208
Tracer (ms)				
Normalized	98.66%	99.25%	100%	98.22%
Standard Deviation	0.2%	0.8%	0.8%	0.6%
OSpray Studio - 3 - 1080p - 32 - Path	11993	12009	11808	11947
Tracer (ms)				
Normalized	98.46%	98.33%	100%	98.84%
Standard Deviation	0.4%	1%	0.6%	0.1%
Numpy Benchmark (Score)	345.44	422.70	396.07	399.72
Normalized	81.72%	100%	93.7%	94.56%

	Standard Deviation	1.1%	0.4%	0.1%	0.5%
Graph500 - 26 (bfs median_TEPS)	Graph500 - 26 (bfs median_TEPS)	1012470000	720707000	901991000	847206000
	Normalized	100%	71.18%	89.09%	83.68%
Graph500 - 26 (bfs max_TEPS)	Graph500 - 26 (bfs max_TEPS)	1040490000	736362000	927177000	879331000
	Normalized	100%	70.77%	89.11%	84.51%
Graph500 - 26 (sssp median_TEPS)	Graph500 - 26 (sssp median_TEPS)	295594000	261281000	310838000	296736000
	Normalized	95.1%	84.06%	100%	95.46%
Graph500 - 26 (sssp max_TEPS)	Graph500 - 26 (sssp max_TEPS)	394038000	331385000	400884000	388978000
	Normalized	98.29%	82.66%	100%	97.03%
GROMACS - MPI CPU - water_GMX50_bare (Ns/Day)	GROMACS - MPI CPU - water_GMX50_bare (Ns/Day)	9.163	8.874	9.422	9.589
	Normalized	95.56%	92.54%	98.26%	100%
	Standard Deviation	2.5%	1.6%	0.3%	0.5%
TensorFlow Lite - NASNet Mobile (us)	TensorFlow Lite - NASNet Mobile (us)	68645	73098	55969	65931
	Normalized	81.53%	76.57%	100%	84.89%
	Standard Deviation	1.3%	19.1%	1.5%	1.6%
TensorFlow Lite - Mobilenet Float (us)	TensorFlow Lite - Mobilenet Float (us)	3418	3317	2826	3438
	Normalized	82.68%	85.19%	100%	82.19%
	Standard Deviation	2.5%	2.4%	2.2%	1.8%
TensorFlow Lite - Mobilenet Quant	TensorFlow Lite - Mobilenet Quant	9663	8957	8857	8570
	Normalized	88.69%	95.68%	96.76%	100%
	Standard Deviation	5.4%	2.4%	2%	4%
TensorFlow Lite - I.R.V (us)	TensorFlow Lite - I.R.V (us)	48899	48063	42302	47878
	Normalized	86.51%	88.01%	100%	88.35%
	Standard Deviation	4.5%	7.5%	4%	3.2%
Blender - BMW27 - CPU-Only (sec)	Blender - BMW27 - CPU-Only (sec)	24.96	24.36	24.64	24.41
	Normalized	97.6%	100%	98.86%	99.8%
	Standard Deviation	0.9%	0.2%	0.3%	0.8%
Blender - Classroom - CPU-Only (sec)	Blender - Classroom - CPU-Only (sec)	64.81	64.38	63.81	64.19
	Normalized	98.46%	99.11%	100%	99.41%
	Standard Deviation	0%	0.5%	0%	0.3%
Blender - Fishy Cat - CPU-Only (sec)	Blender - Fishy Cat - CPU-Only (sec)	33.55	32.26	34.75	32.16
	Normalized	95.86%	99.69%	92.55%	100%
	Standard Deviation	0.5%	0.6%	0.9%	0.1%
Blender - Barbershop - CPU-Only	Blender - Barbershop - CPU-Only	256.09	253.86	253.15	253.37
	Normalized	98.85%	99.72%	100%	99.91%
	Standard Deviation	0.4%	0.2%	0.3%	0.4%
Blender - Pabellon Barcelona - CPU-Only (sec)	Blender - Pabellon Barcelona - CPU-Only (sec)	82.58	81.96	81.49	82.00
	Normalized	98.68%	99.43%	100%	99.38%
	Standard Deviation	0.4%	0.1%	0.7%	0.3%
PyBench - T.F.A.T.T (Milliseconds)	PyBench - T.F.A.T.T (Milliseconds)	1438	1148	980	1072
	Normalized	68.15%	85.37%	100%	91.42%
	Standard Deviation	0.2%	0.6%	0.2%	0.5%
PyPerformance - go (Milliseconds)	PyPerformance - go (Milliseconds)	363	278	299	226
	Normalized	62.26%	81.29%	75.59%	100%
	Standard Deviation	0.3%	0.2%	5.7%	0.3%
PyPerformance - 2to3 (Milliseconds)	PyPerformance - 2to3 (Milliseconds)	647	335	505	312
	Normalized	48.22%	93.13%	61.78%	100%
	Standard Deviation	0%	0.2%	0.3%	0.2%
PyPerformance - chaos (Milliseconds)	PyPerformance - chaos (Milliseconds)	177	126	121	104
	Normalized	58.76%	82.54%	85.95%	100%
	Standard Deviation	1.3%	0.5%	1.7%	0%
PyPerformance - float (Milliseconds)	PyPerformance - float (Milliseconds)	159	125	149	107
	Normalized	67.3%	85.6%	71.81%	100%

	Standard Deviation	4%	0%	7.3%	0%
PyPerformance - nbody (Milliseconds)	179	137	140	131	
	Normalized	73.18%	95.62%	93.57%	100%
	Standard Deviation	1.3%	0%		0.4%
PyPerformance - pathlib	26.9	18.3	25.0	16.1	
	Normalized	59.85%	87.98%	64.4%	100%
	Standard Deviation	8.7%	0.3%	6.5%	0.4%
PyPerformance - raytrace	844	549	459	475	
	Normalized	54.38%	83.61%	100%	96.63%
	Standard Deviation	0.3%	0.2%	1.2%	0.1%
PyPerformance - json.loads (Milliseconds)	32.0	24.6	30.1	23.9	
	Normalized	74.69%	97.15%	79.4%	100%
	Standard Deviation	2.4%	0%	5.5%	0%
PyPerformance - crypto_pyaes (Milliseconds)	150	121	132	111	
	Normalized	74%	91.74%	84.09%	100%
	Standard Deviation	2.5%	0%	7.9%	0%
PyPerformance - regex_compile (Milliseconds)	257	187	200	167	
	Normalized	64.98%	89.3%	83.5%	100%
	Standard Deviation	1.6%	0%	0.5%	0%
PyPerformance - python_startup (Milliseconds)	20	8.63	17.4	9.28	
	Normalized	43.15%	100%	49.6%	93%
	Standard Deviation	0%	0.1%	0.7%	0.1%
PyPerformance - django_template (Milliseconds)	102	53.0	57.7	44.6	
	Normalized	43.73%	84.15%	77.3%	100%
	Standard Deviation	0.6%	0.2%	7.2%	0.1%
PyPerformance - pickle_pure_python (Milliseconds)	695	475	565	446	
	Normalized	64.17%	93.89%	78.94%	100%
	Standard Deviation	2%	0.2%	8.7%	0.1%
ONNX Runtime - yolov4 - CPU - Standard (Inferences/min)	643	649	665	688	
	Normalized	43.73%	84.15%	77.3%	100%
	Standard Deviation	0.6%	0.2%	7.2%	0.1%
ONNX Runtime - bertsquad-12 - CPU - Standard (Inferences/min)	958	1006	1015	1003	
	Normalized	93.46%	94.33%	96.66%	100%
	Standard Deviation	3.5%	4.6%	3.5%	0.5%
ONNX Runtime - ArcFace ResNet-100 - CPU - Standard (Inferences/min)	1831	1872	1951	2029	
	Normalized	94.38%	99.11%	100%	98.82%
	Standard Deviation	0.9%	1.7%	9.1%	0.1%
ONNX Runtime - super-resolution-10 - CPU - Standard (Inferences/min)	10469	12193	12198	12182	
	Normalized	90.24%	92.26%	96.16%	100%
	Standard Deviation	3.6%	4.5%	1.2%	0.1%
Appleseed - Emily (sec)	175.859044	122.838045	180.867399	122.184607	
	Normalized	85.83%	99.96%	100%	99.87%
	Standard Deviation	0.1%	0.2%	1%	0.3%
Appleseed - Disney Material (sec)	80.994292	57.927881	81.094078	56.929453	
	Normalized	70.29%	98.28%	70.2%	100%

Appleseed - Material Tester (sec)	185.911815	190.024634	192.017755	181.391327
Normalized	97.57%	95.46%	94.47%	100%
PHPBench - P.B.S (Score)	768303	769527	730250	1672650
Normalized	45.93%	46.01%	43.66%	100%
Standard Deviation	1.1%	0.1%	0.3%	0.6%

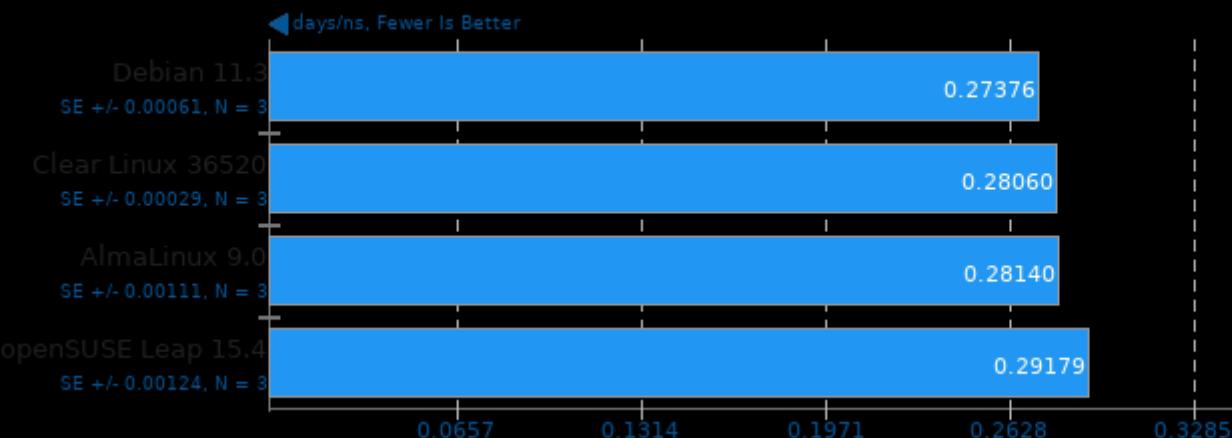
High Performance Conjugate Gradient 3.1



1. (CXX) g++ options: -O3 -ffast-math -ftree-vectorize -lmpi

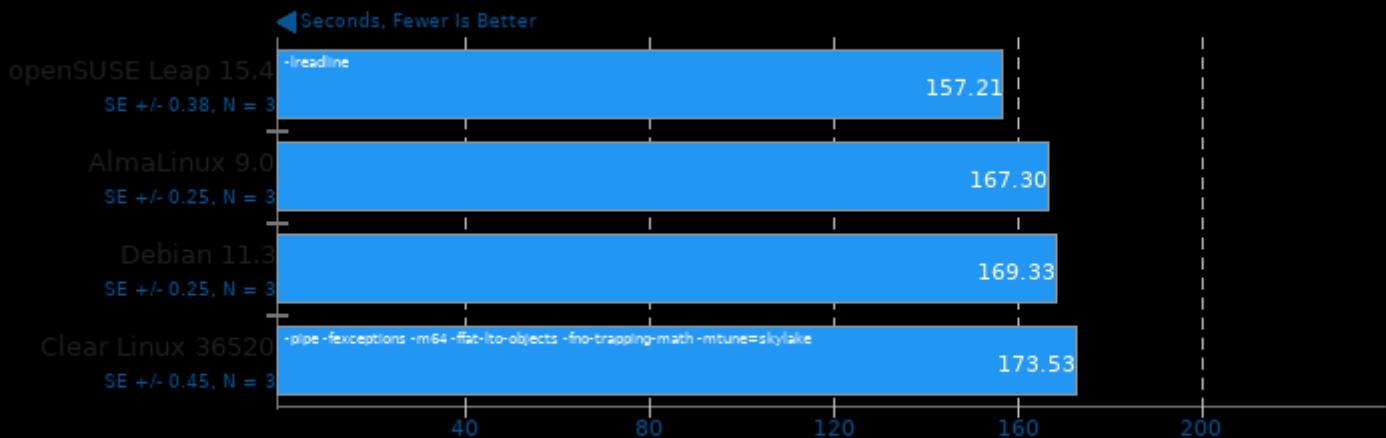
NAMD 2.14

ATPase Simulation - 327,506 Atoms



Timed MrBayes Analysis 3.2.7

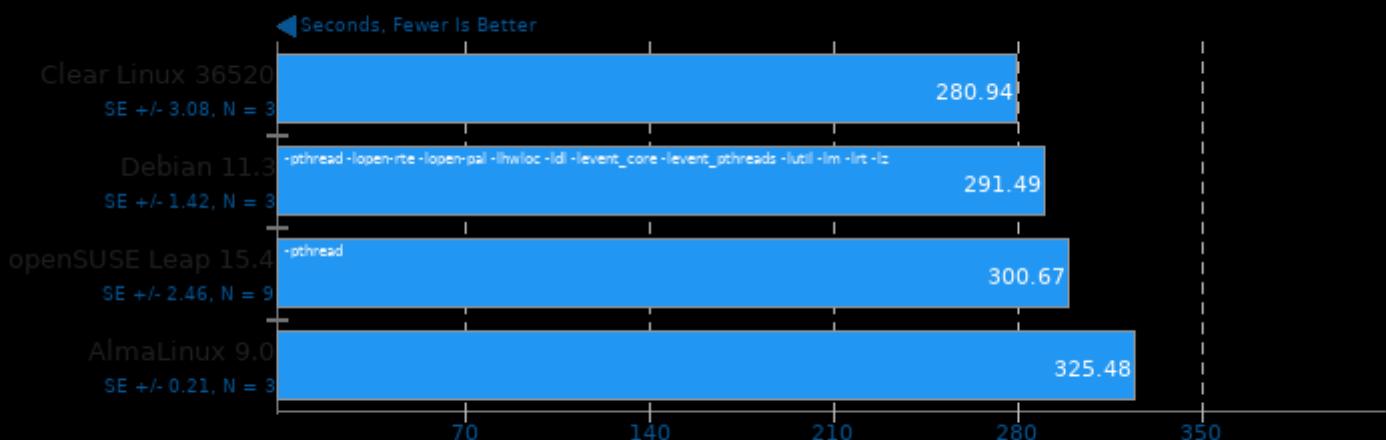
Primate Phylogeny Analysis



1. (CC) gcc options: -mmmx -msse -msse2 -msse3 -msse3 -msse4.1 -msse4.2 -msha -maes -mavx -mfma -maxv2 -maxv512f -maxv512cd -maxv512vl -ma

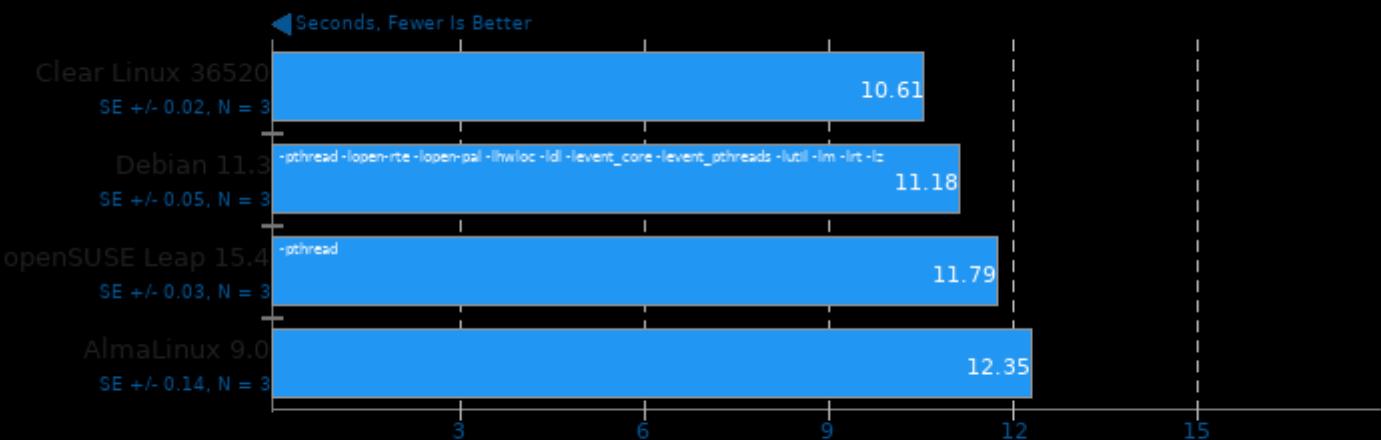
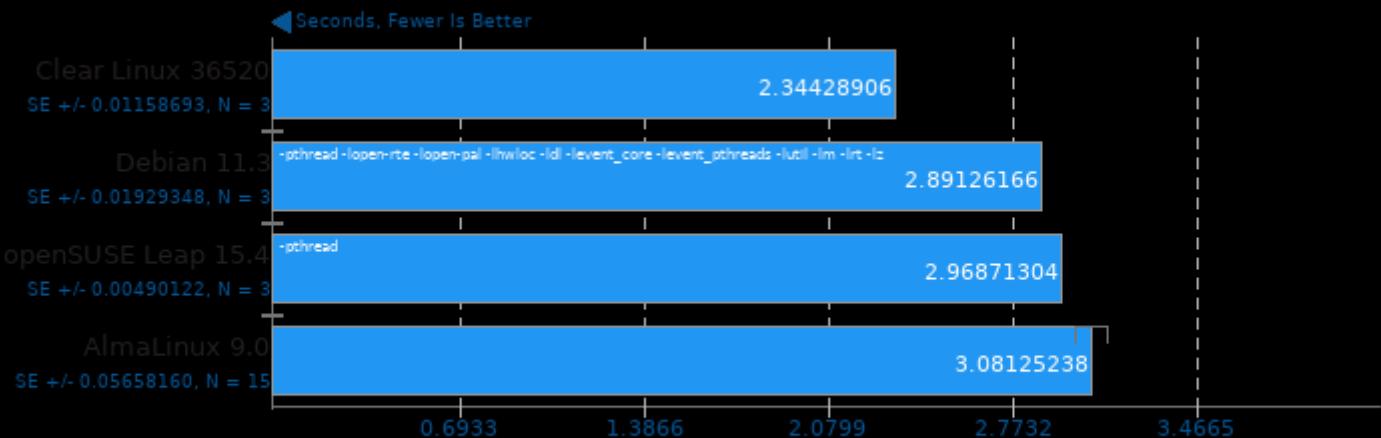
Xcompact3d Incompact3d 2021-03-11

Input: X3D-benchmarking input.i3d



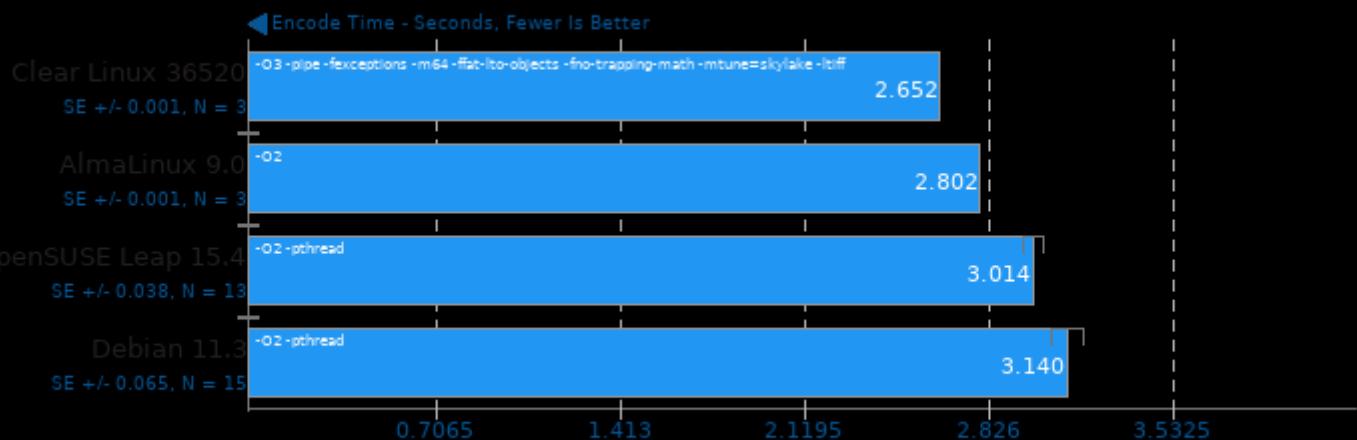
1. (F9X) gfortran options: -cpp -O2 -funroll-loops -floop-optimize -fcray-pointer -fbacktrace -lmpi_usempif08 -lmpi_mpifh -lmpi

Xcompact3d Incompact3d 2021-03-11



WebP Image Encode 1.1

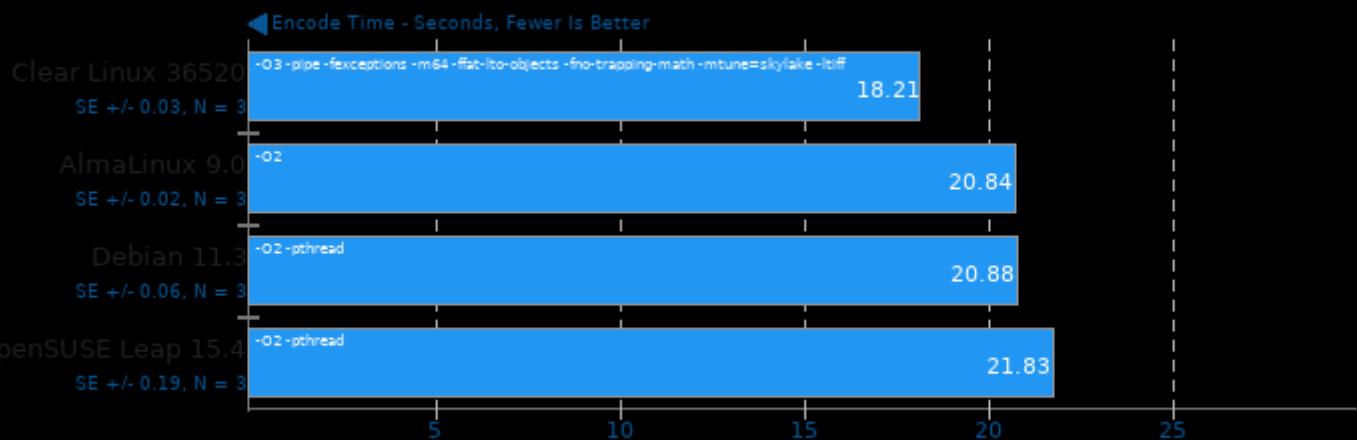
Encode Settings: Quality 100



1. (CC) gcc options: -fvisibility=hidden -lm -ljpeg -lpng16

WebP Image Encode 1.1

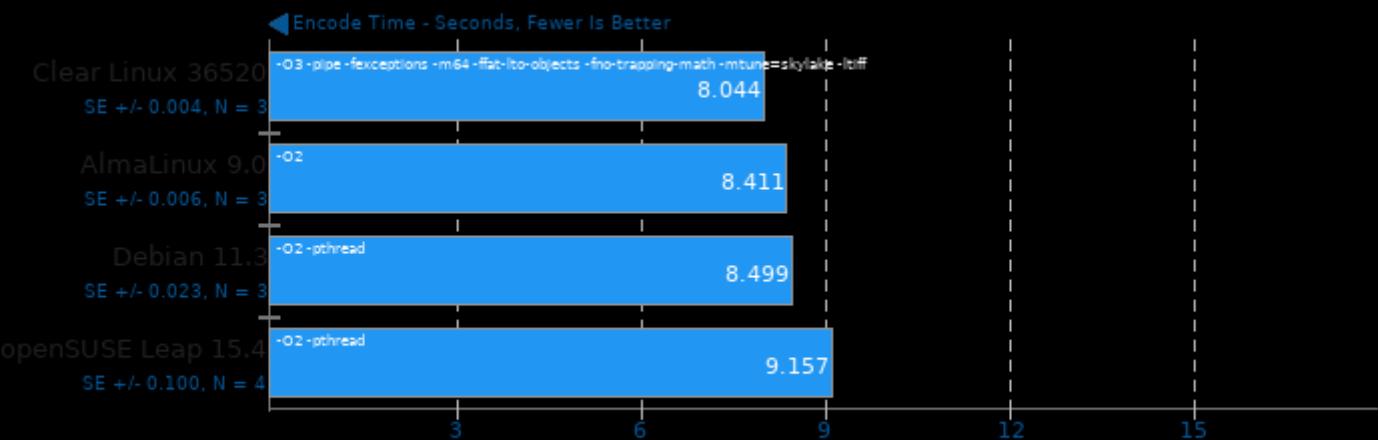
Encode Settings: Quality 100, Lossless



1. (CC) gcc options: -fvisibility=hidden -lm -ljpeg -lpng16

WebP Image Encode 1.1

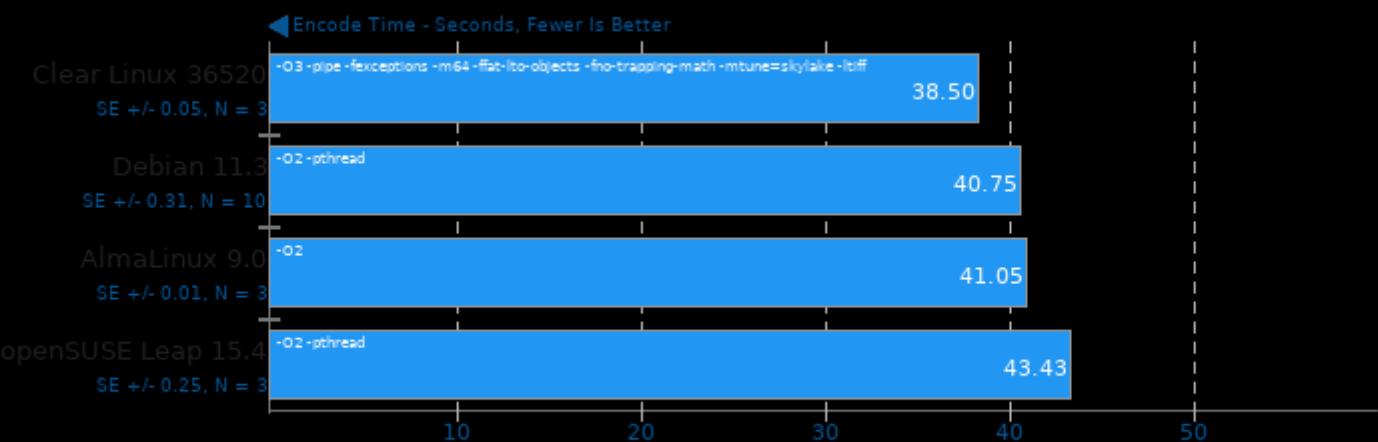
Encode Settings: Quality 100, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -lm -ljpeg -lpng16

WebP Image Encode 1.1

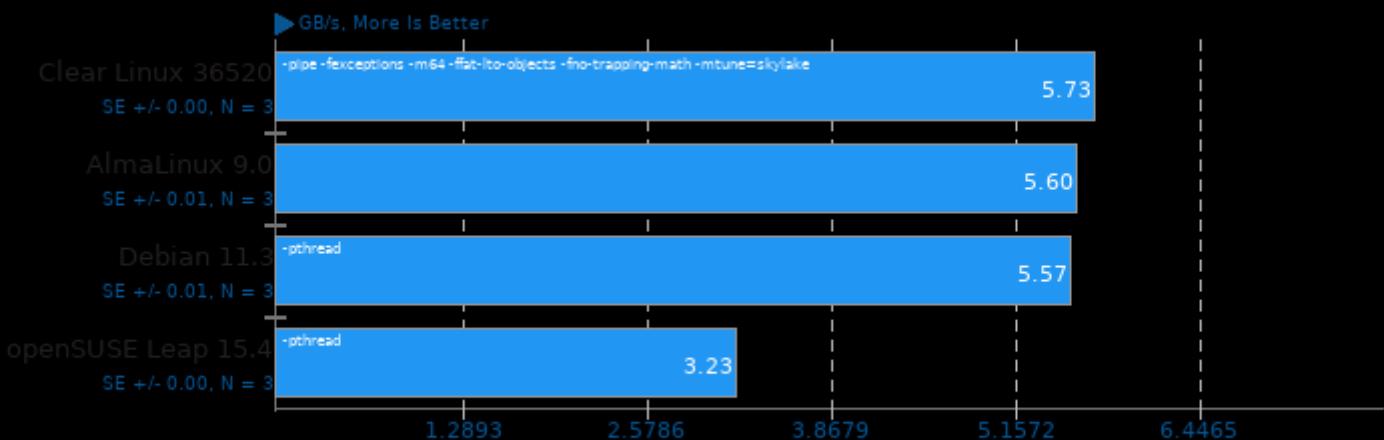
Encode Settings: Quality 100, Lossless, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -lm -ljpeg -lpng16

simdjson 2.0

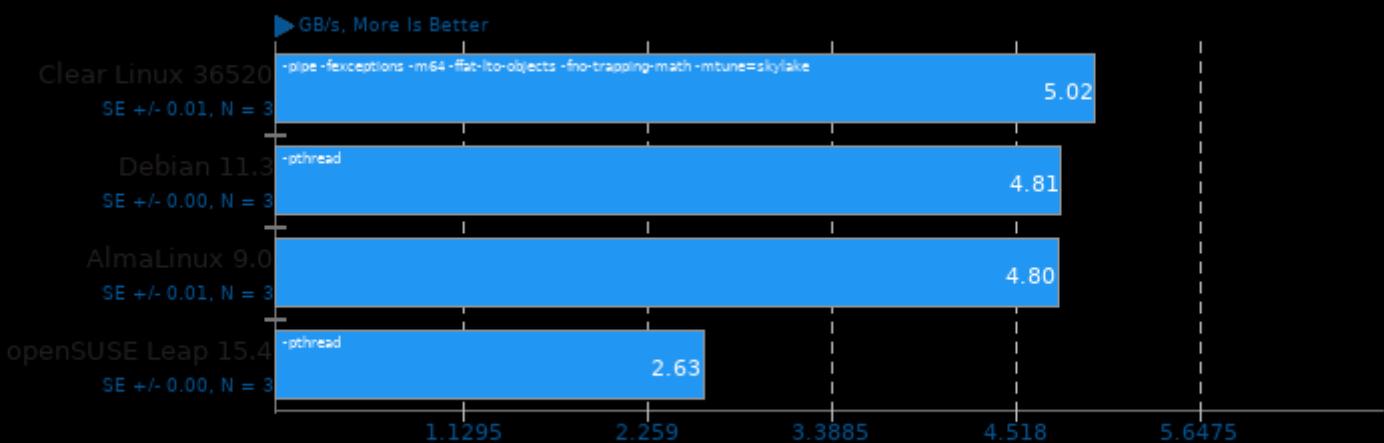
Throughput Test: TopTweet



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

simdjson 2.0

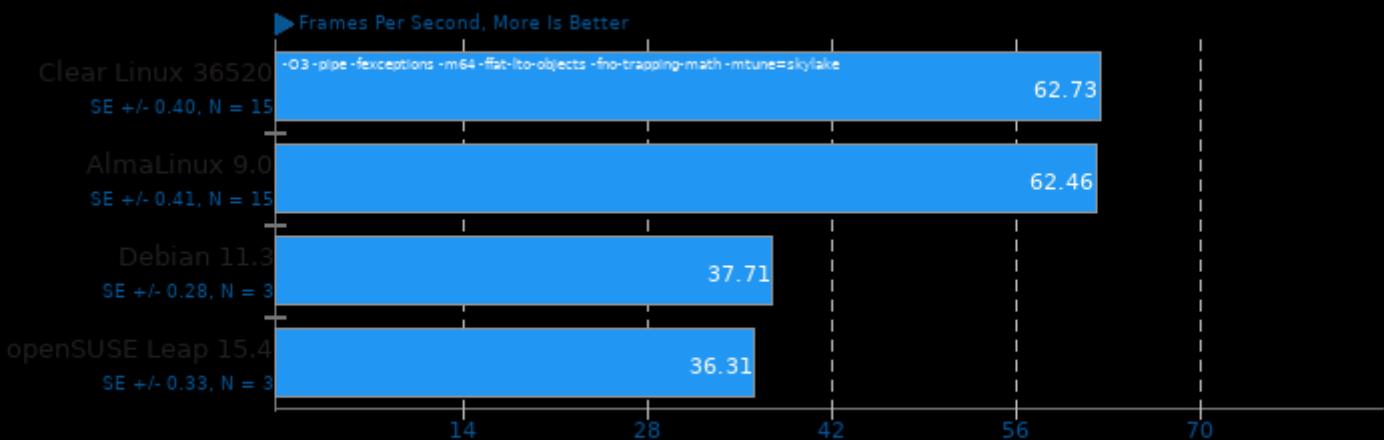
Throughput Test: PartialTweets



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

SVT-AV1 1.0

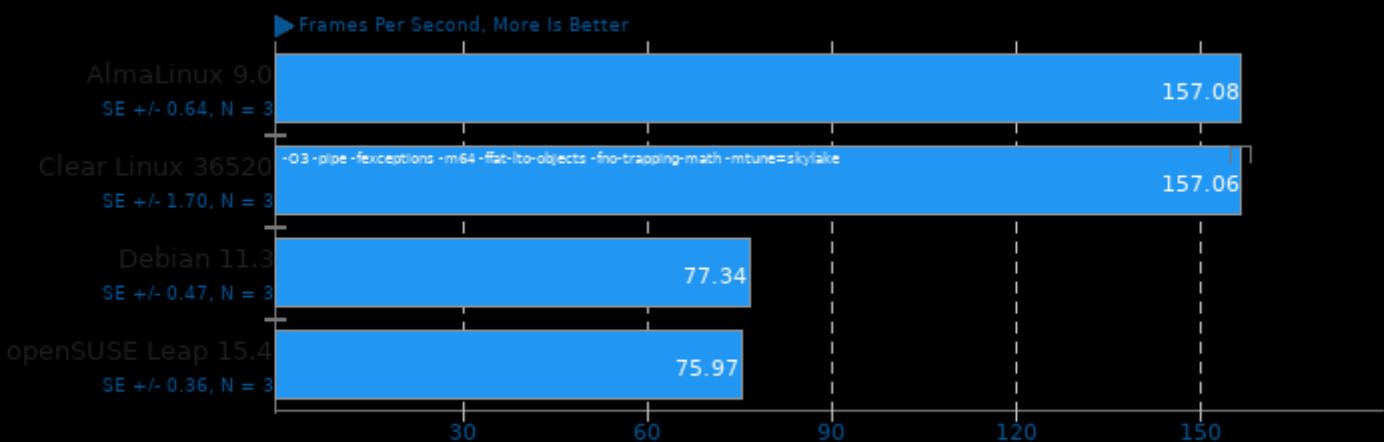
Encoder Mode: Preset 8 - Input: Bosphorus 4K



1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie

SVT-AV1 1.0

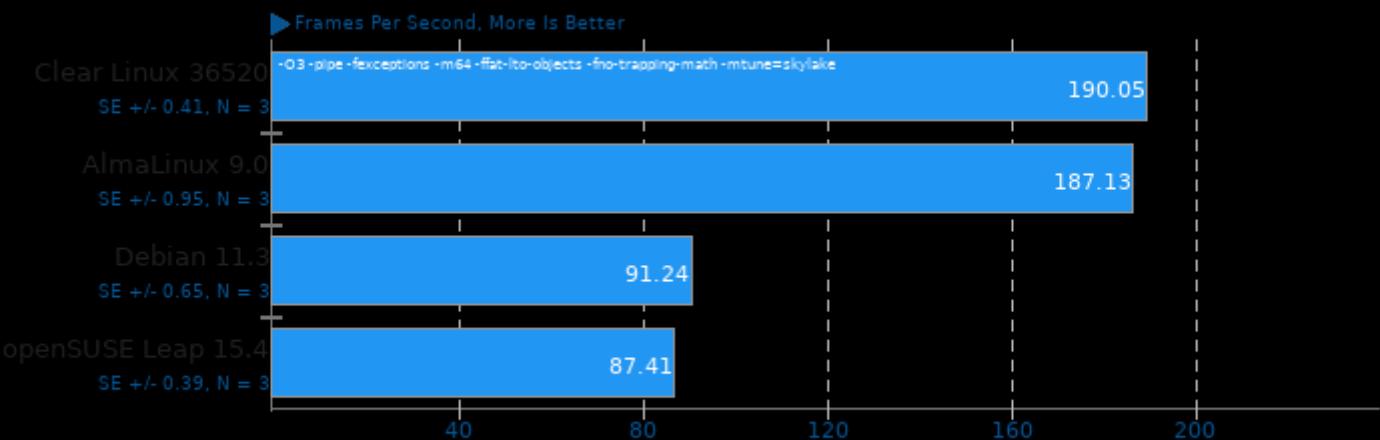
Encoder Mode: Preset 10 - Input: Bosphorus 4K



1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie

SVT-AV1 1.0

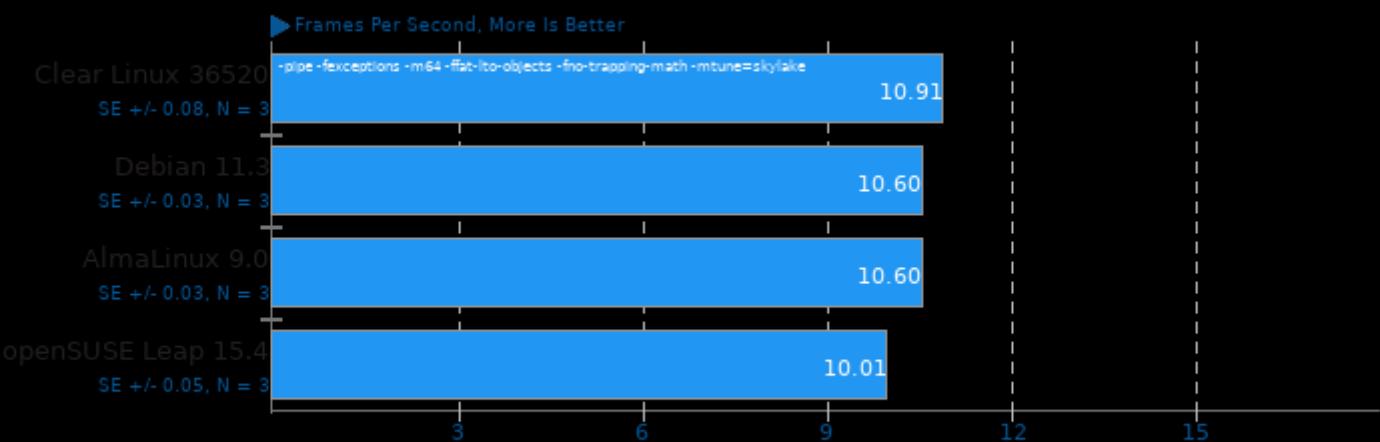
Encoder Mode: Preset 12 - Input: Bosphorus 4K



1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie

SVT-HEVC 1.5.0

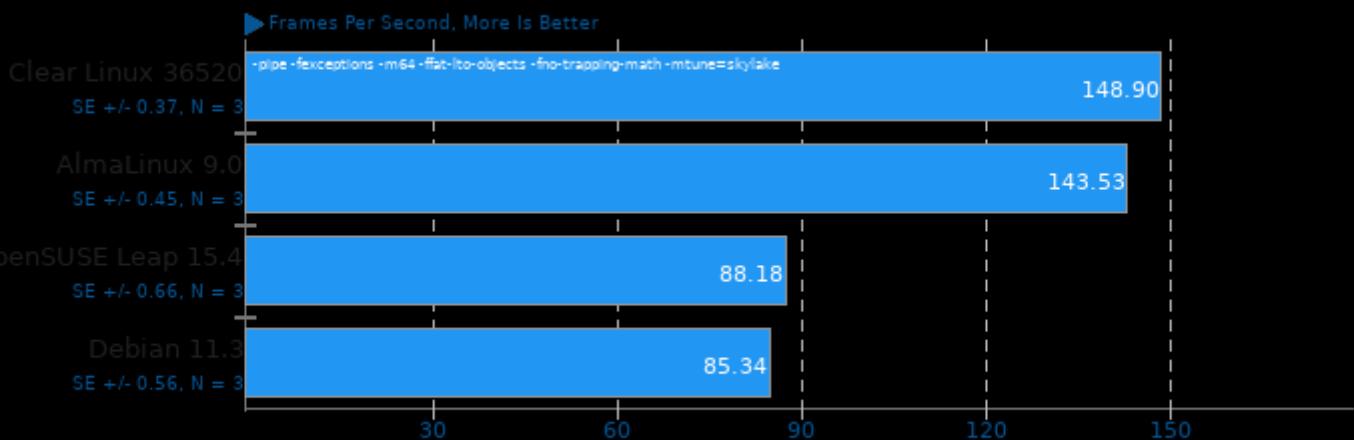
Tuning: 1 - Input: Bosphorus 4K



1. (CC) gcc options: -O3 -fPIE -fPIC -O2 -pie -rdynamic -lpthread -lrt

SVT-HEVC 1.5.0

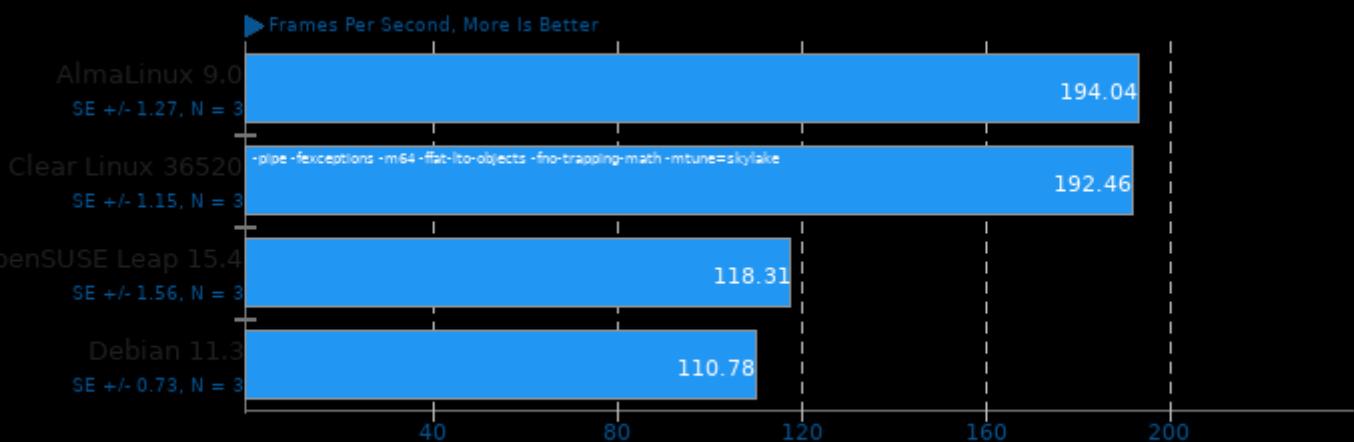
Tuning: 7 - Input: Bosphorus 4K



1. (CC) gcc options: -O3 -fPIE -fPIC -O2 -pie -rdynamic -lpthread -lrt

SVT-HEVC 1.5.0

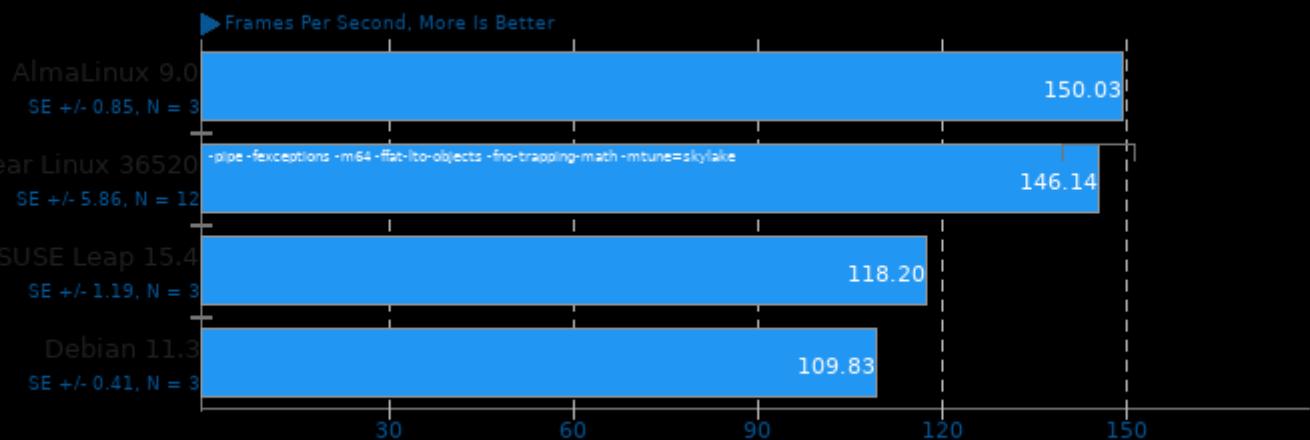
Tuning: 10 - Input: Bosphorus 4K



1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt

SVT-VP9 0.3

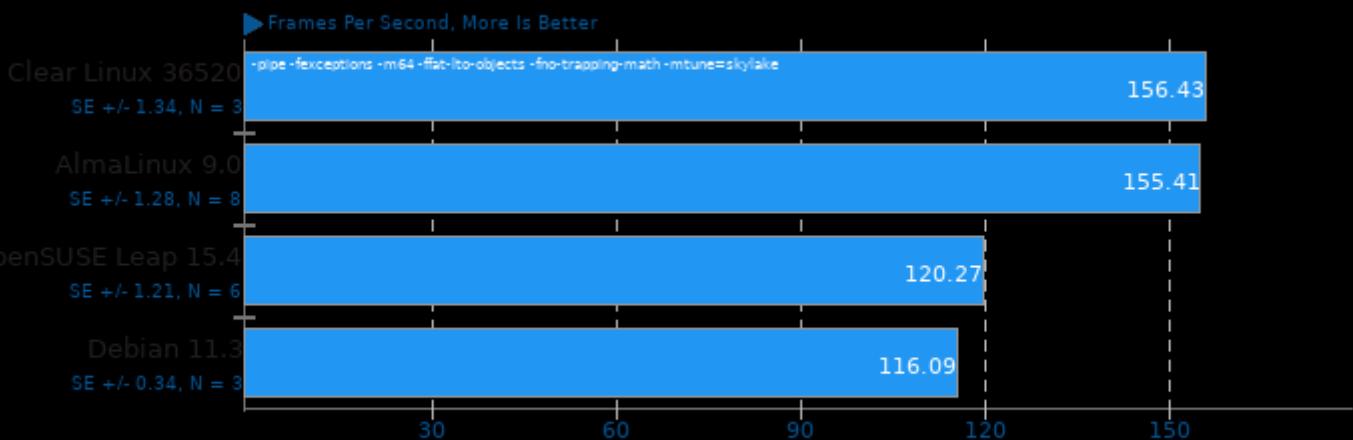
Tuning: VMAF Optimized - Input: Bosphorus 4K



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

SVT-VP9 0.3

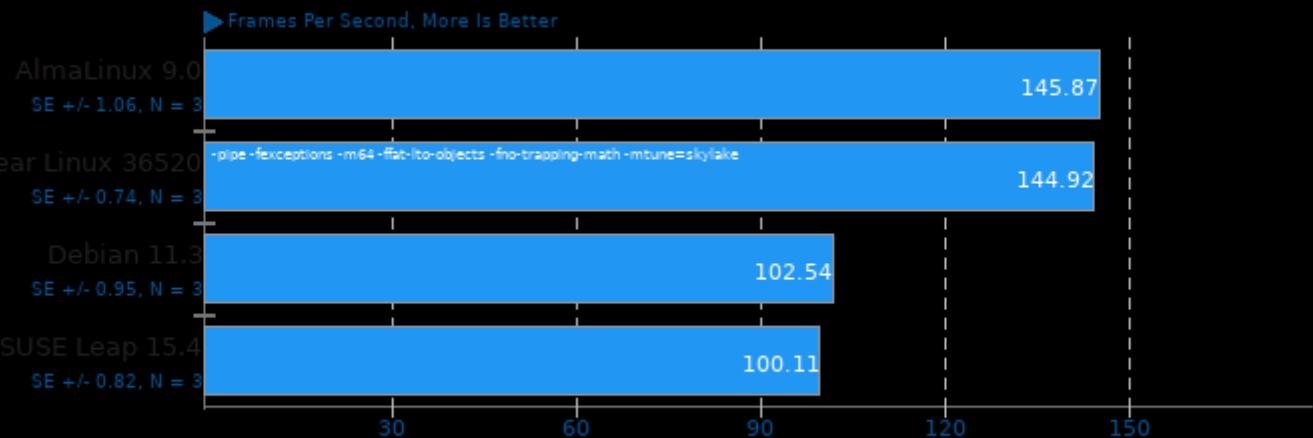
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 4K



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

SVT-VP9 0.3

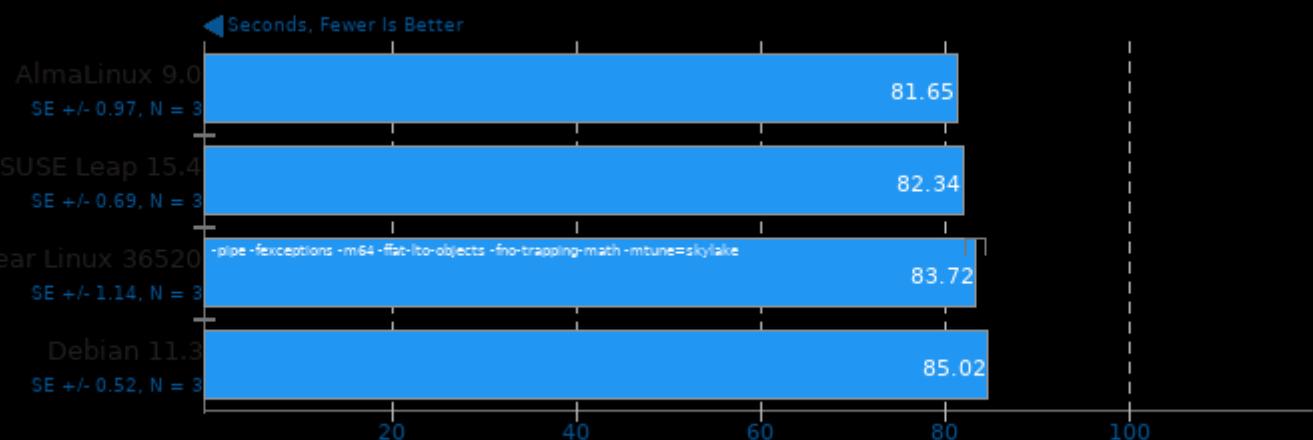
Tuning: Visual Quality Optimized - Input: Bosphorus 4K



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

libavif avifenc 0.10

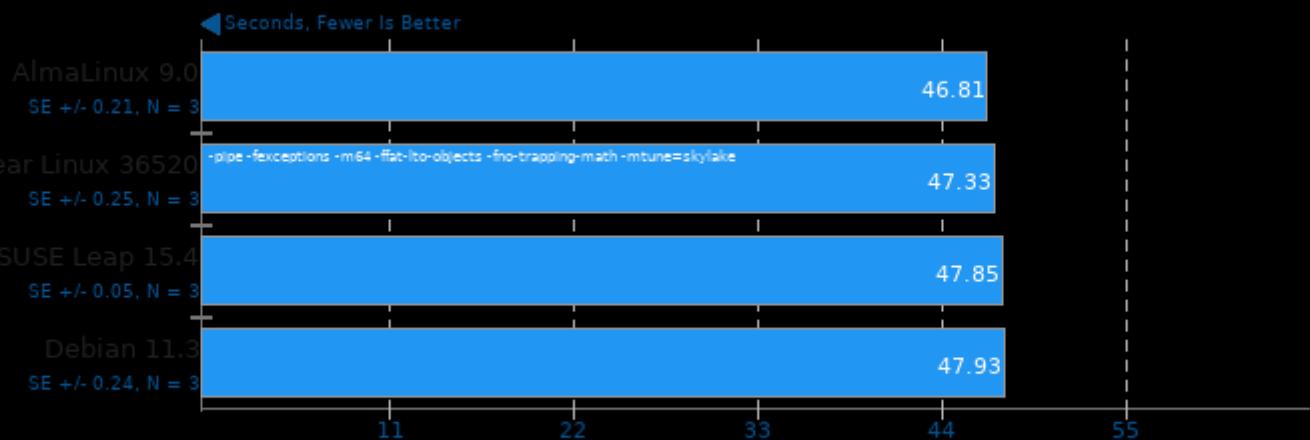
Encoder Speed: 0



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

libavif avifenc 0.10

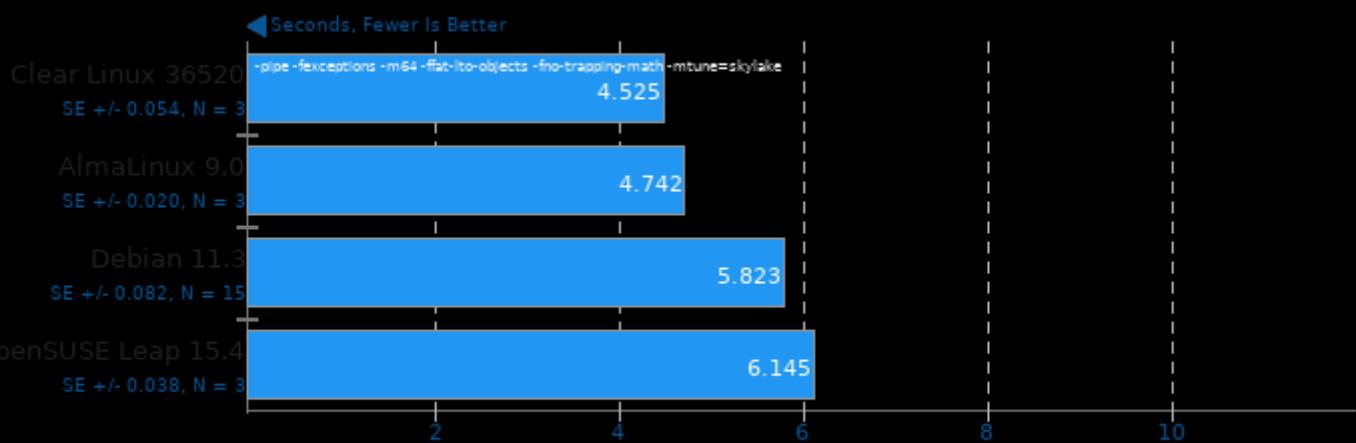
Encoder Speed: 2



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

libavif avifenc 0.10

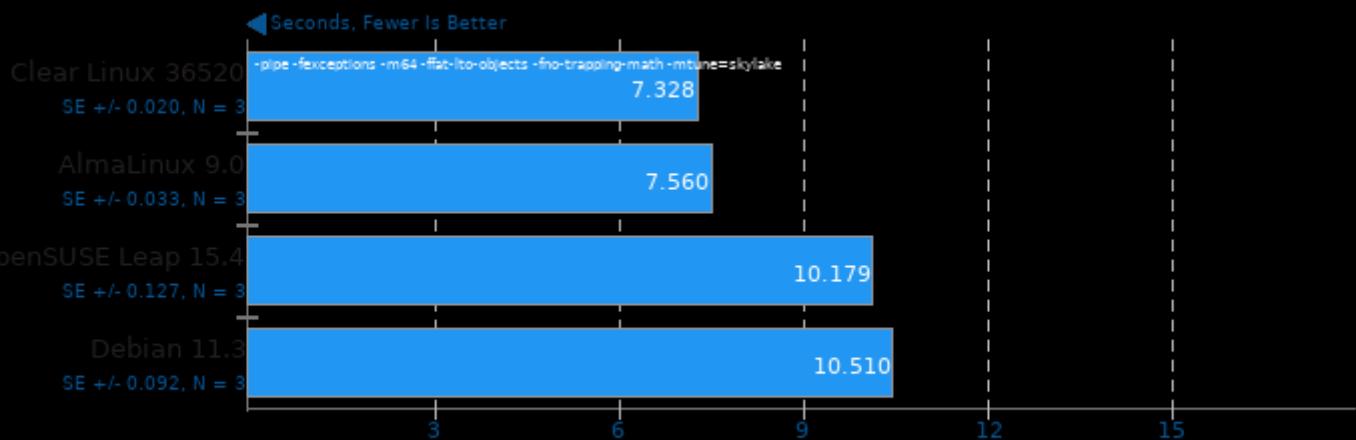
Encoder Speed: 6



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

libavif avifenc 0.10

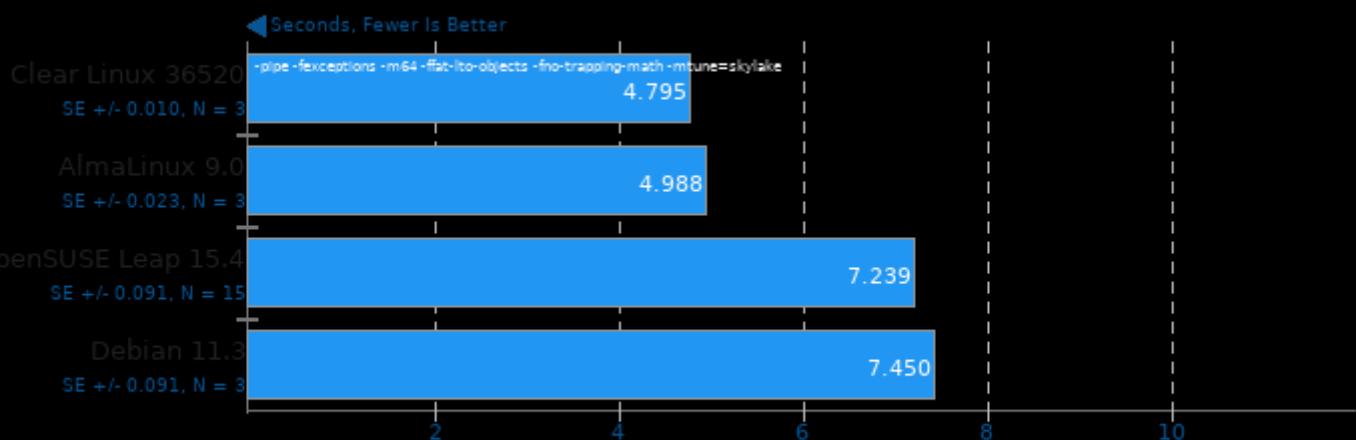
Encoder Speed: 6, Lossless



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

libavif avifenc 0.10

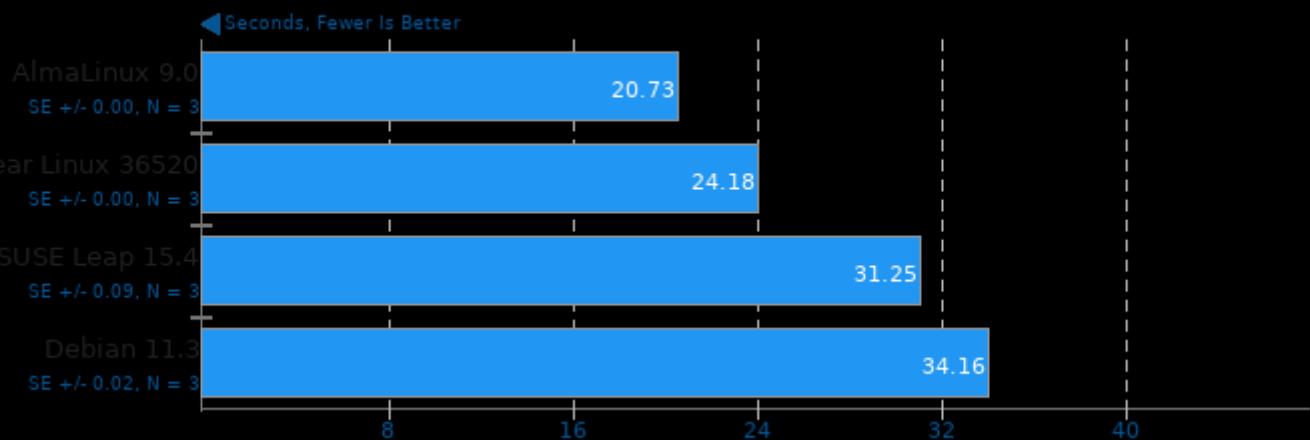
Encoder Speed: 10, Lossless



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

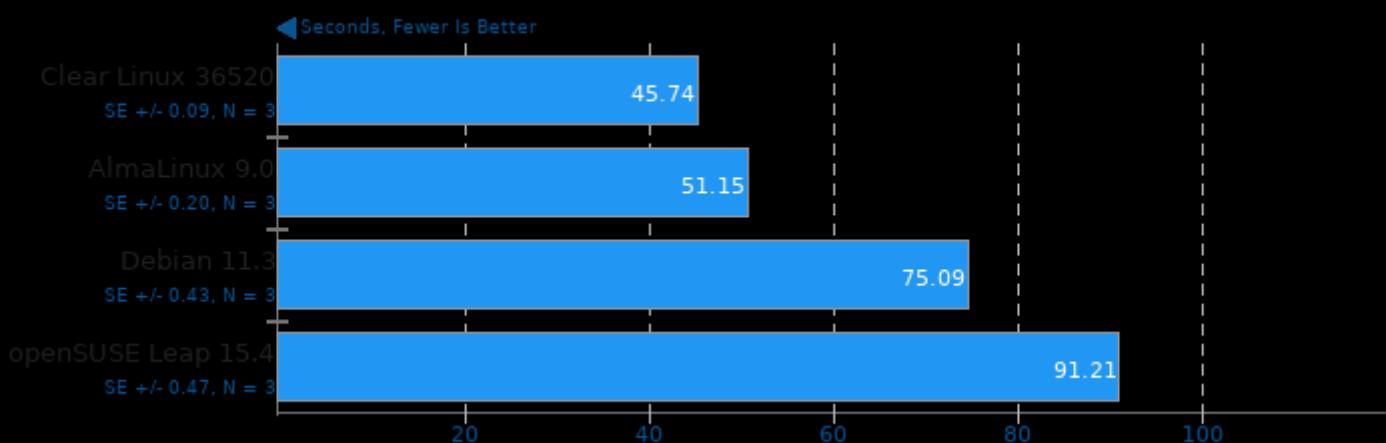
Timed Apache Compilation 2.4.41

Time To Compile



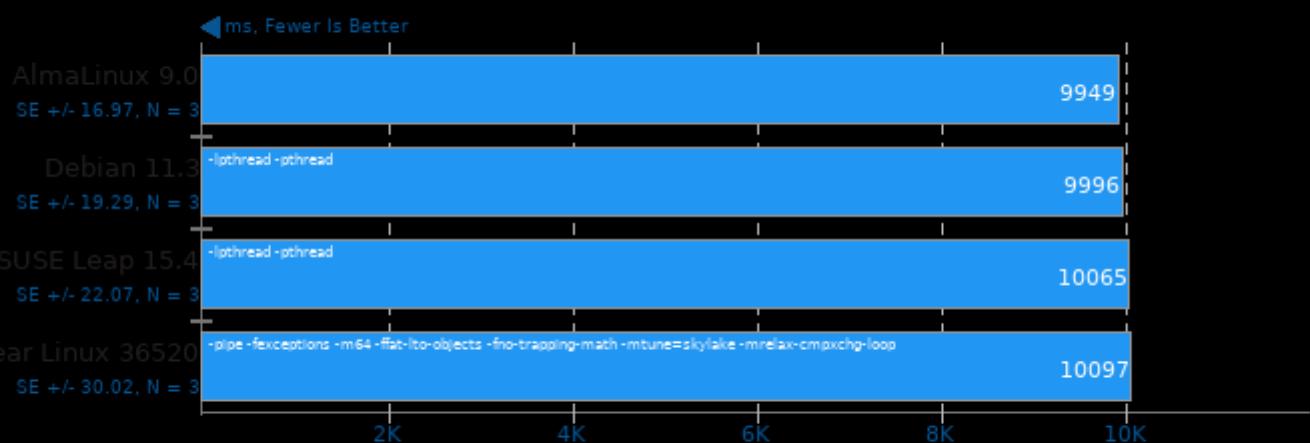
Timed Godot Game Engine Compilation 3.2.3

Time To Compile



OSPray Studio 0.10

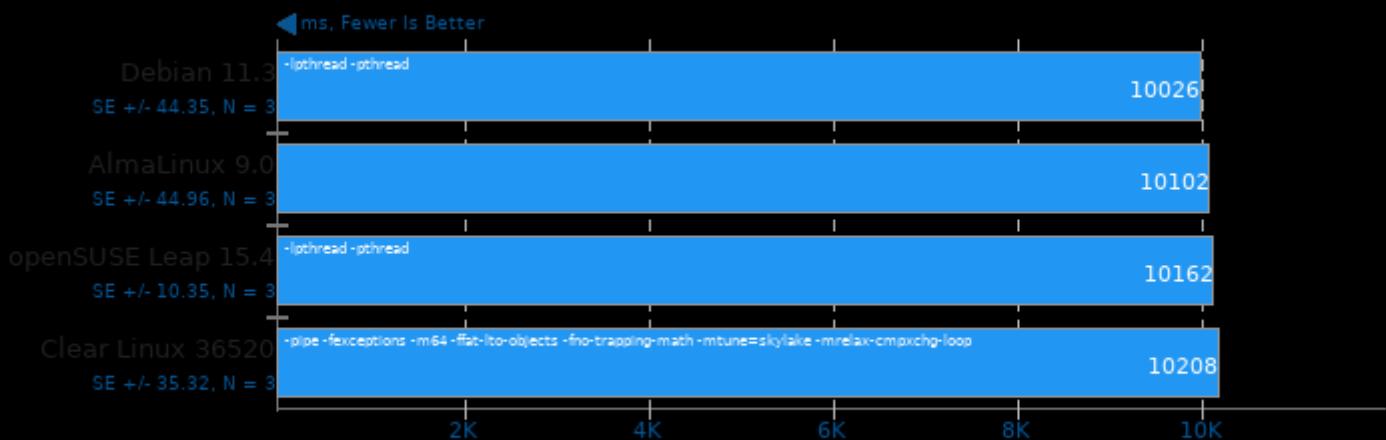
Camera: 1 - Resolution: 1080p - Samples Per Pixel: 32 - Renderer: Path Tracer



1. (CXX) g++ options: -O3 -fno-exceptions -m64 -fno-trapping-math -mtune=sandybridge -mrelax-cmpxchg-loop

OSPray Studio 0.10

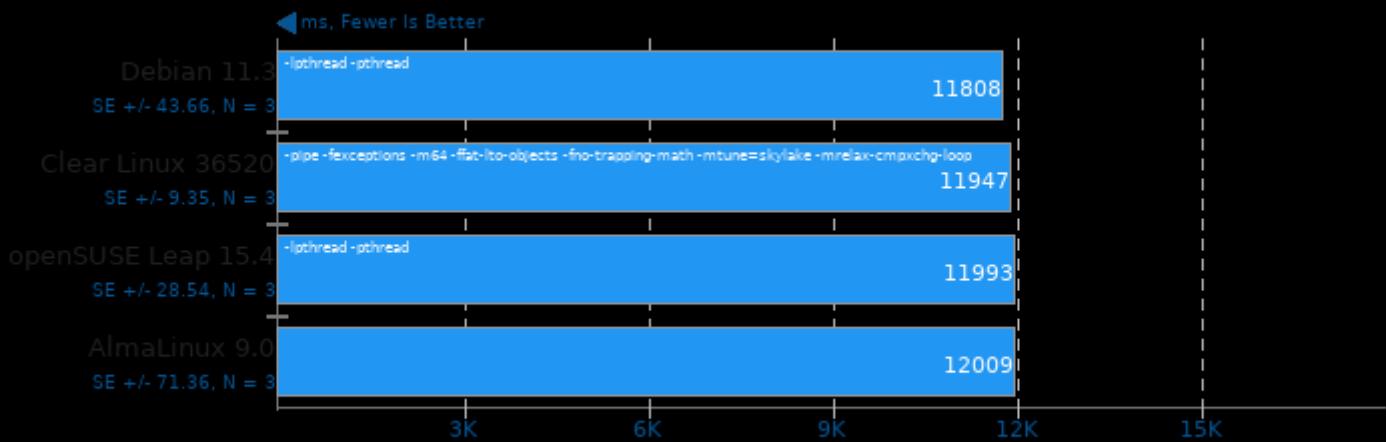
Camera: 2 - Resolution: 1080p - Samples Per Pixel: 32 - Renderer: Path Tracer



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

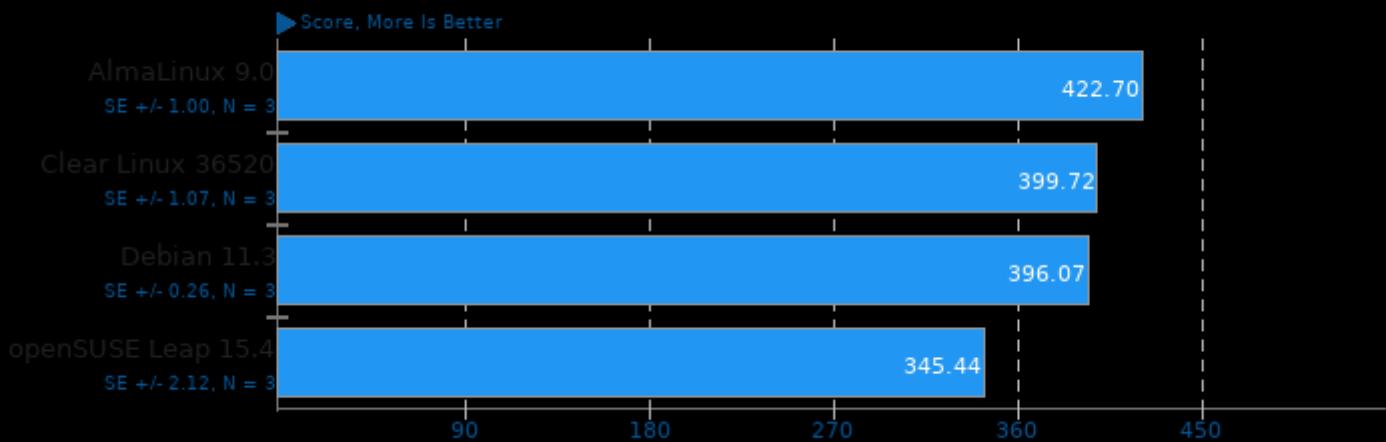
OSPray Studio 0.10

Camera: 3 - Resolution: 1080p - Samples Per Pixel: 32 - Renderer: Path Tracer



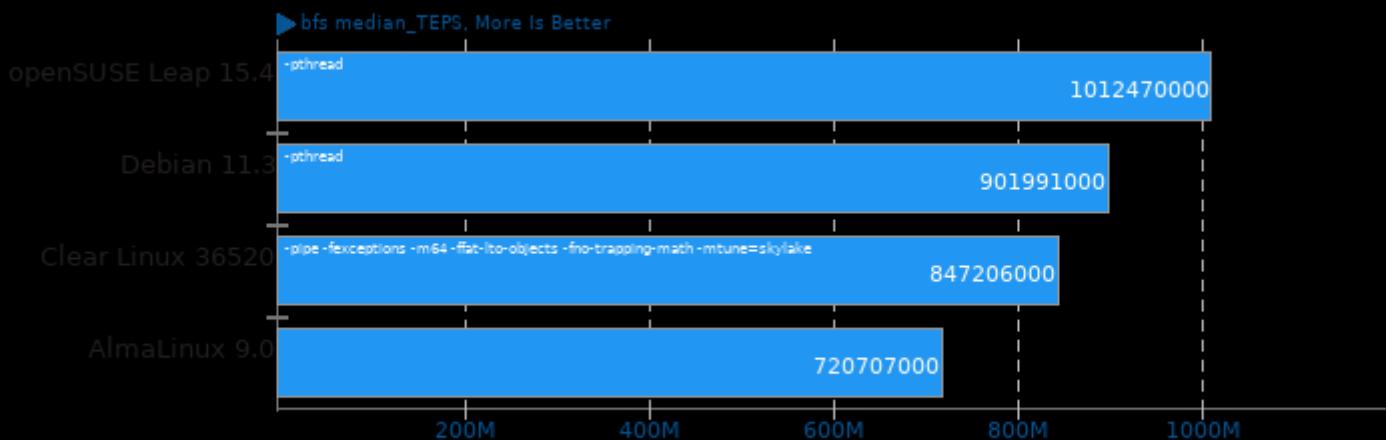
1. (CXX) g++ options: -O3 -lm -ldl

Numpy Benchmark



Graph500 3.0

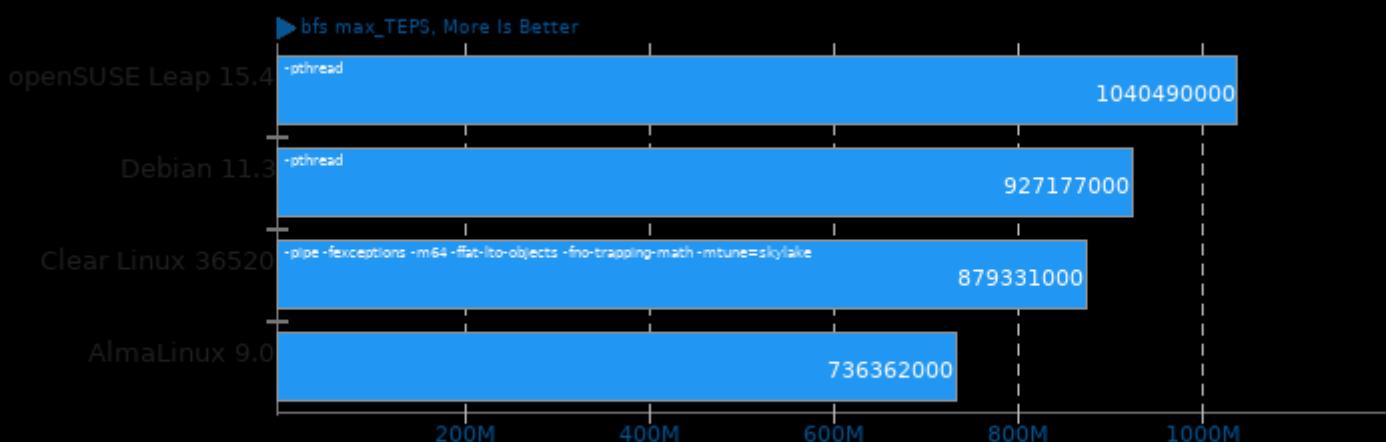
Scale: 26



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

Graph500 3.0

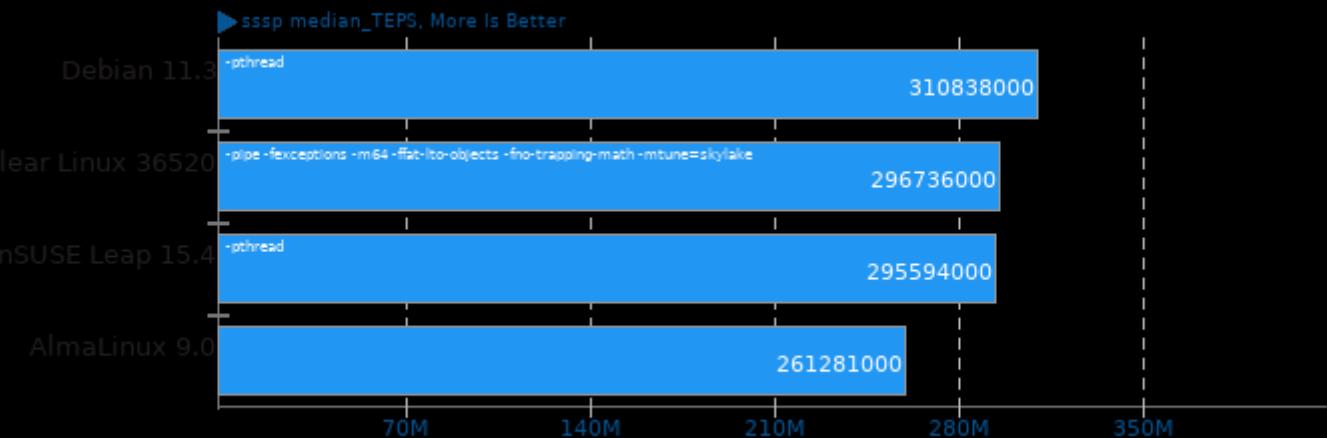
Scale: 26



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

Graph500 3.0

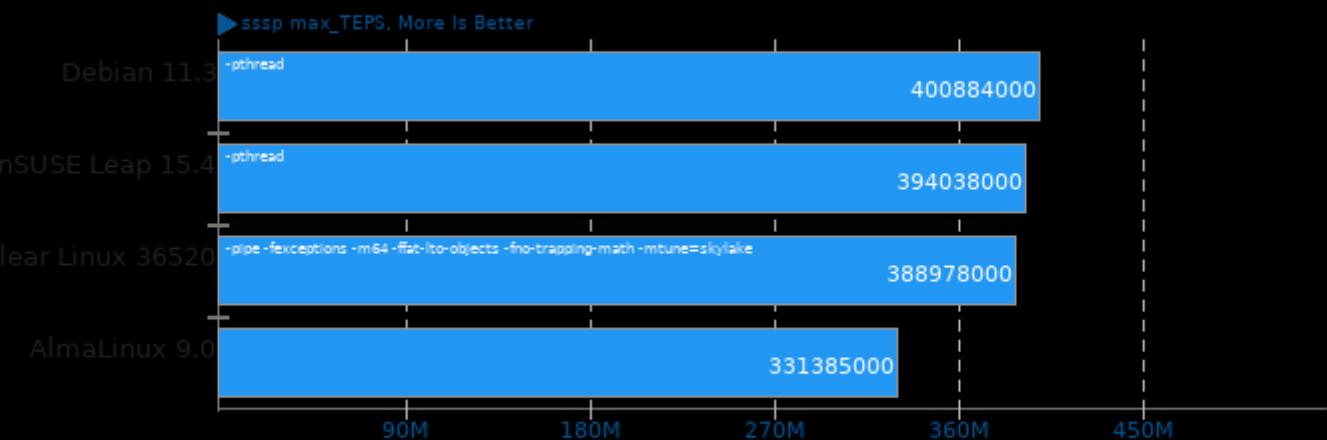
Scale: 26



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

Graph500 3.0

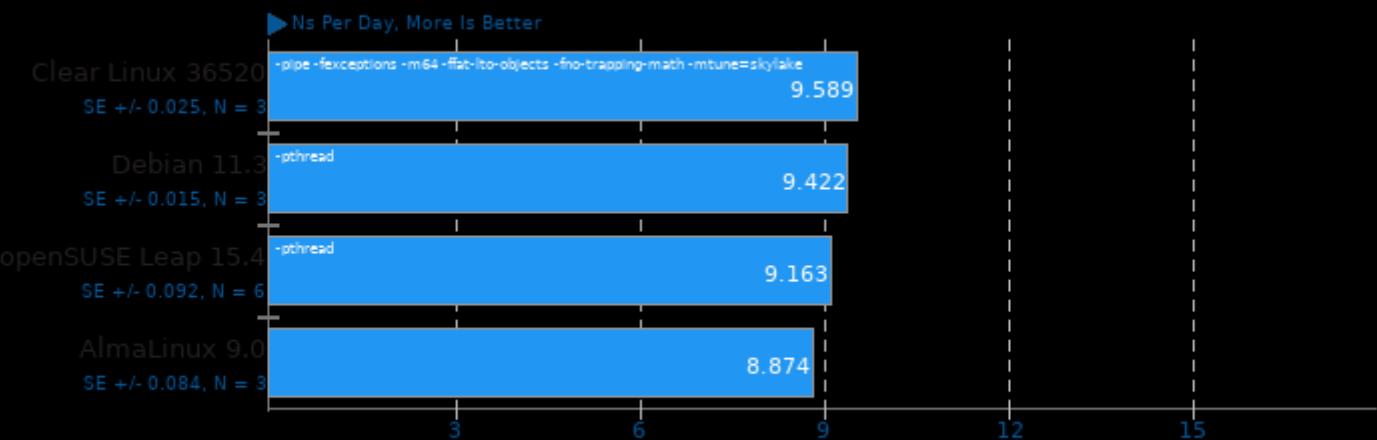
Scale: 26



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

GROMACS 2022.1

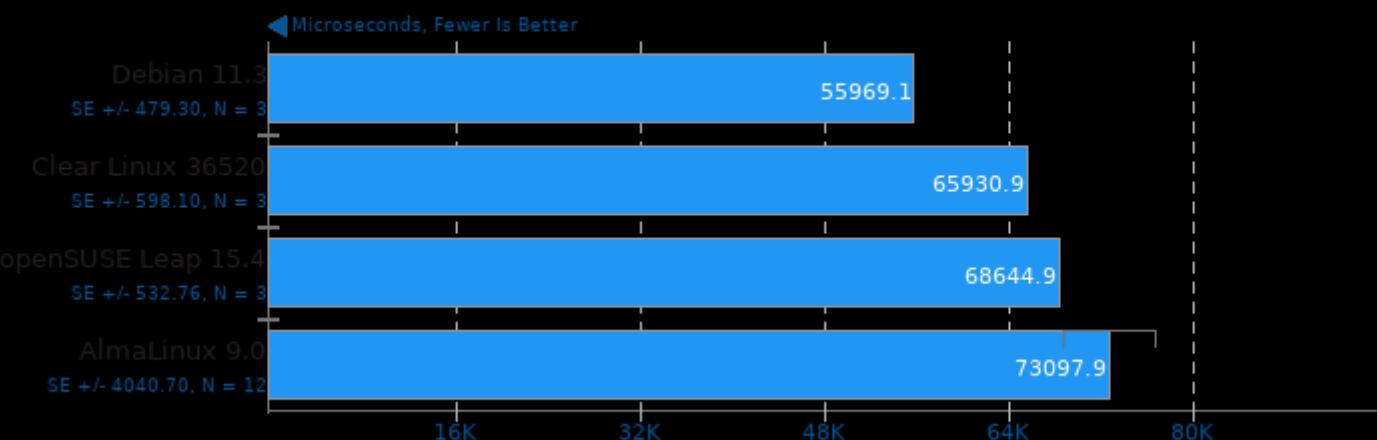
Implementation: MPI CPU - Input: water_GMX50_bare



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

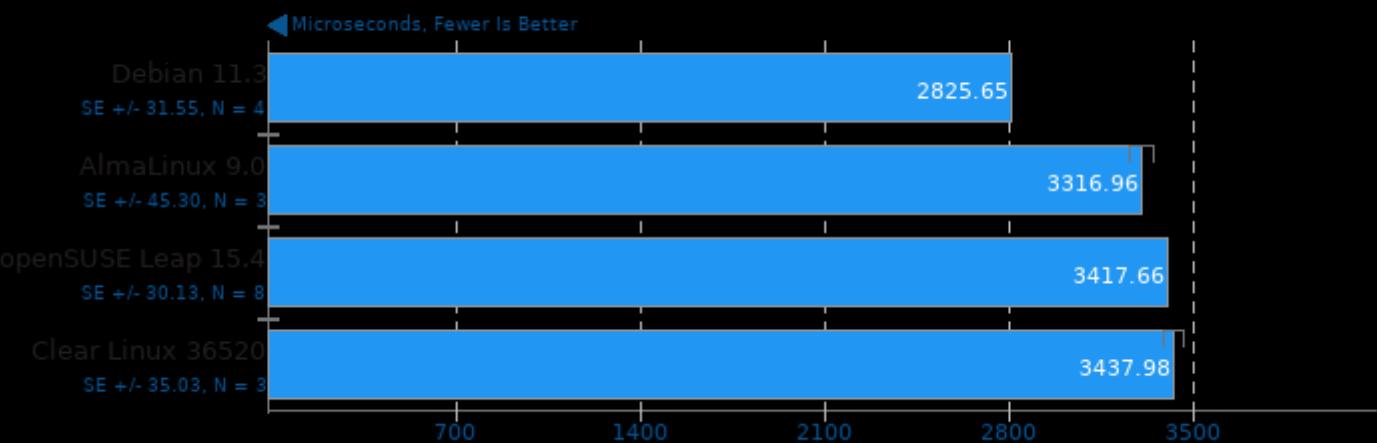
TensorFlow Lite 2022-05-18

Model: NASNet Mobile



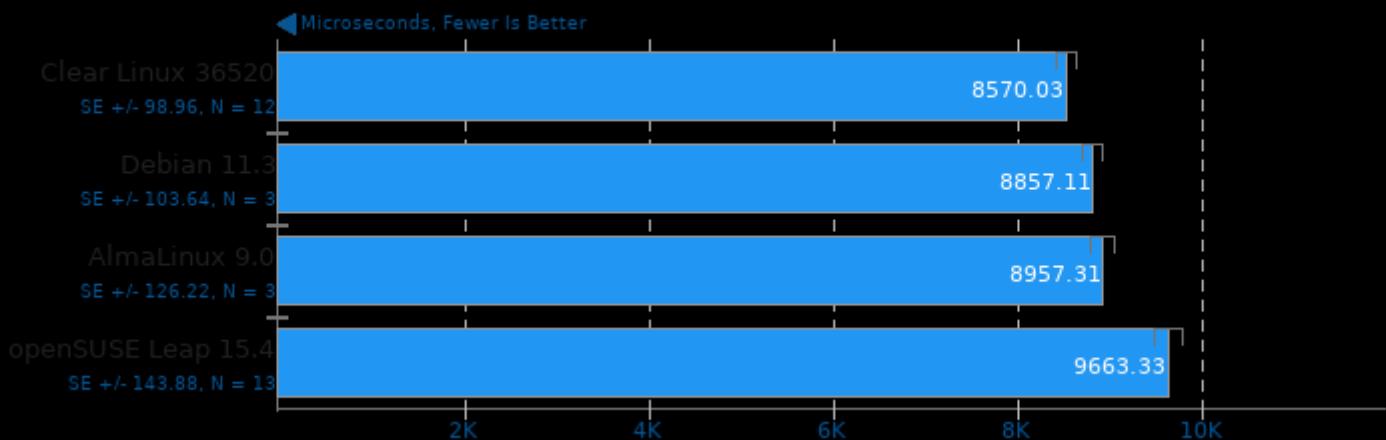
TensorFlow Lite 2022-05-18

Model: Mobilenet Float



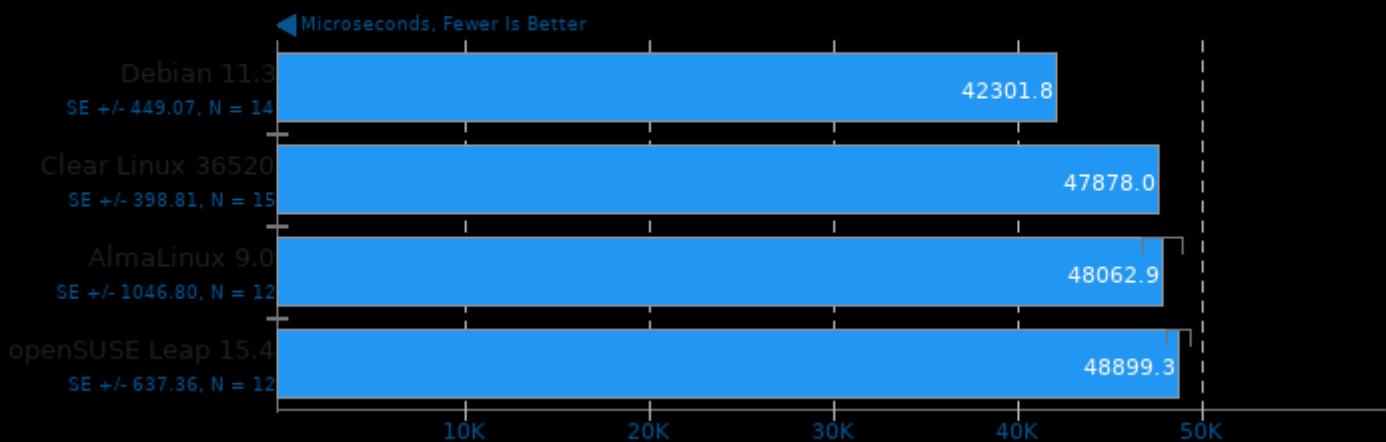
TensorFlow Lite 2022-05-18

Model: Mobilenet Quant



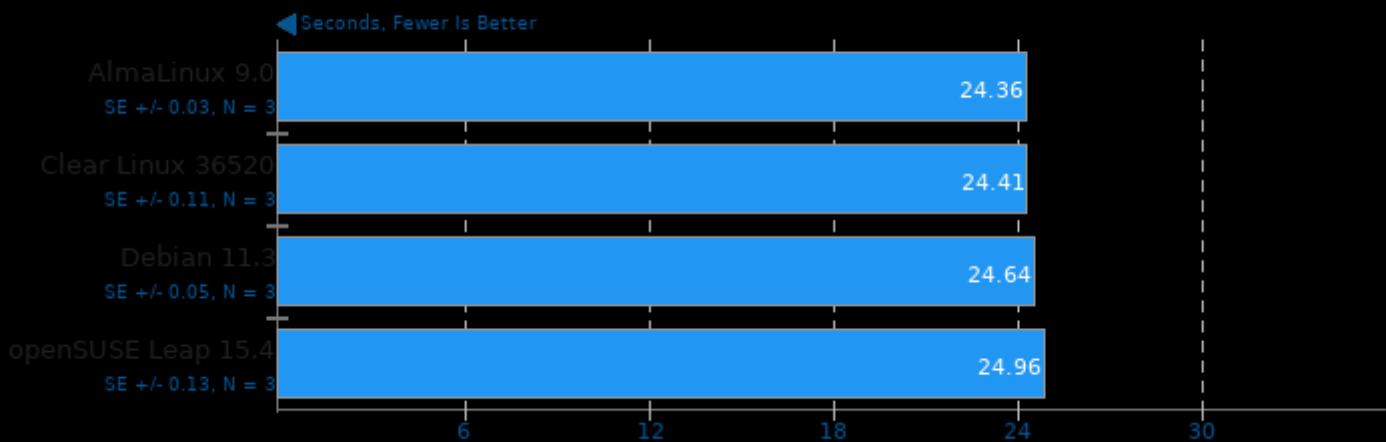
TensorFlow Lite 2022-05-18

Model: Inception ResNet V2



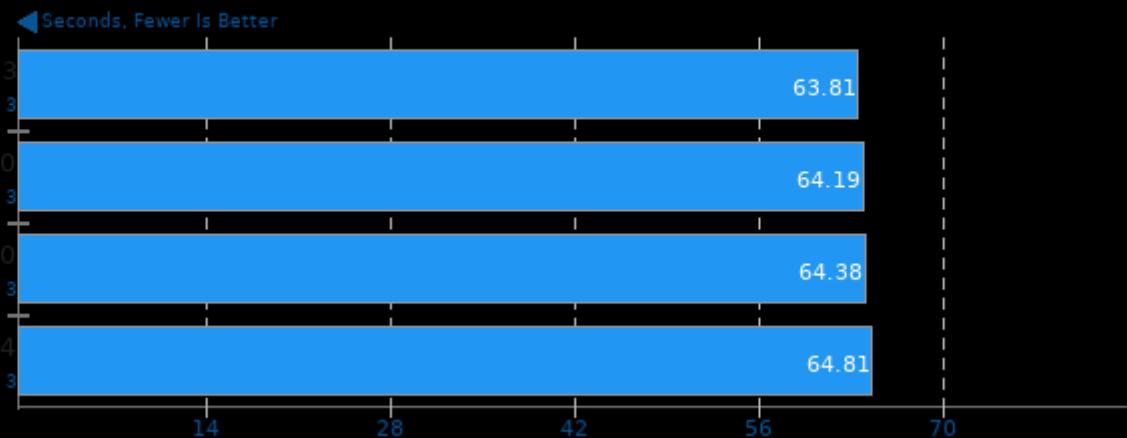
Blender 3.2

Blend File: BMW27 - Compute: CPU-Only



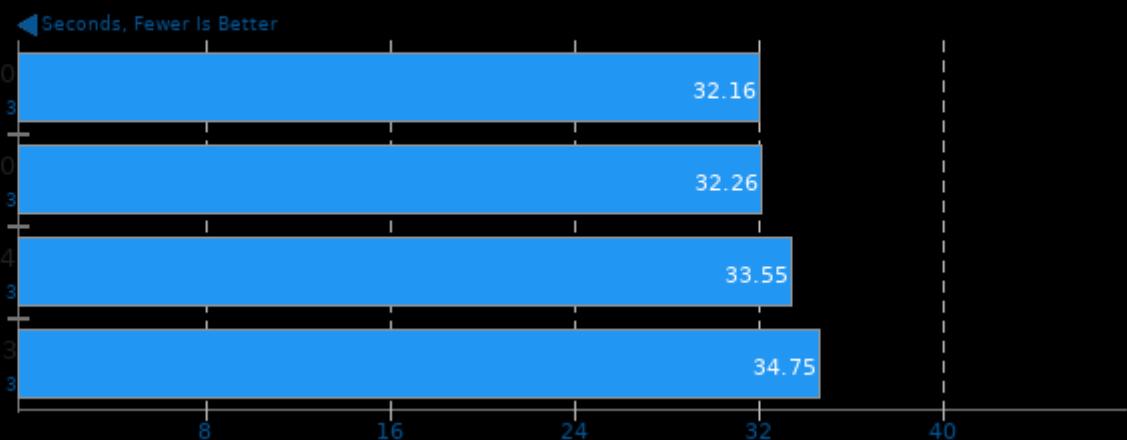
Blender 3.2

Blend File: Classroom - Compute: CPU-Only



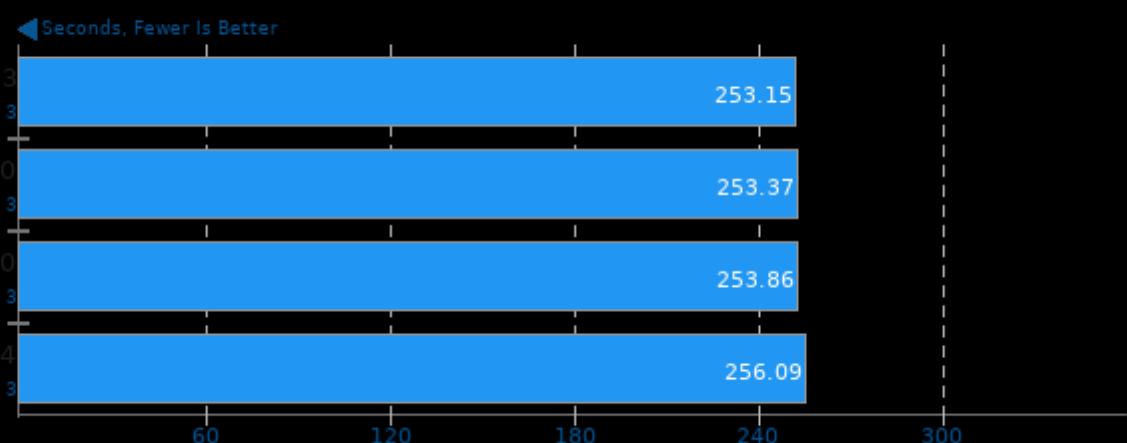
Blender 3.2

Blend File: Fishy Cat - Compute: CPU-Only



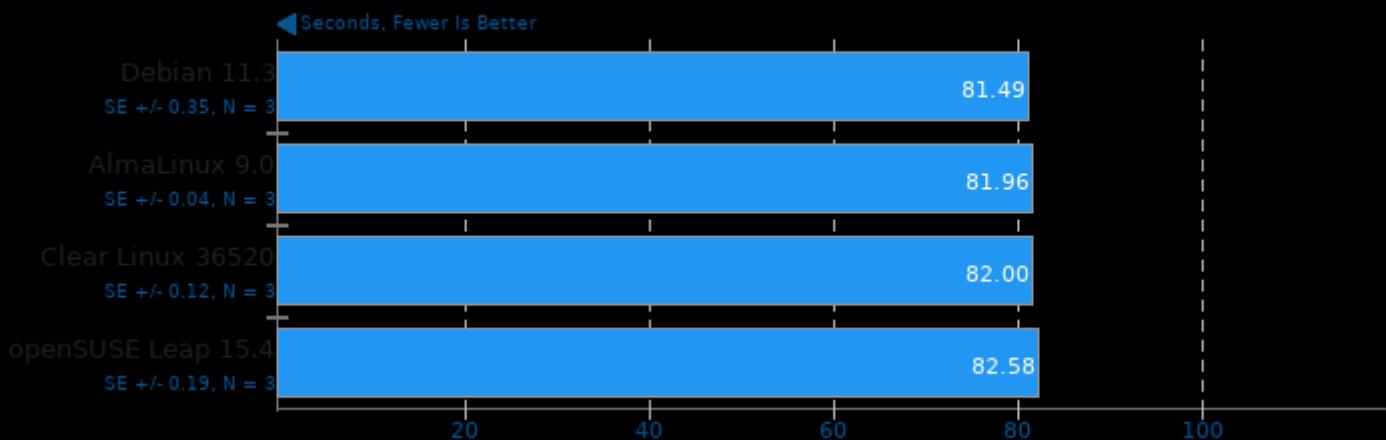
Blender 3.2

Blend File: Barbershop - Compute: CPU-Only



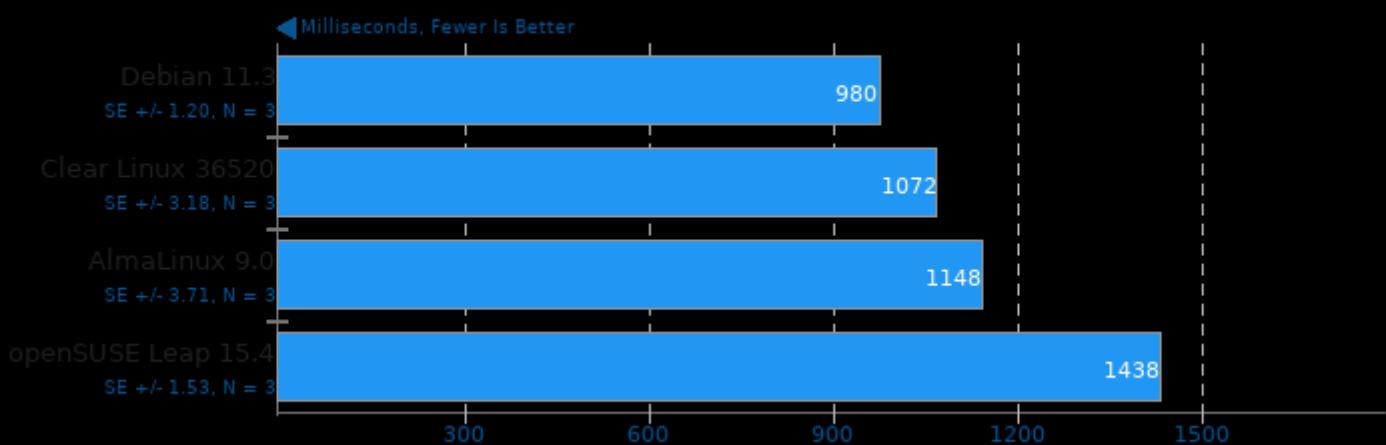
Blender 3.2

Blend File: Pabellon Barcelona - Compute: CPU-Only



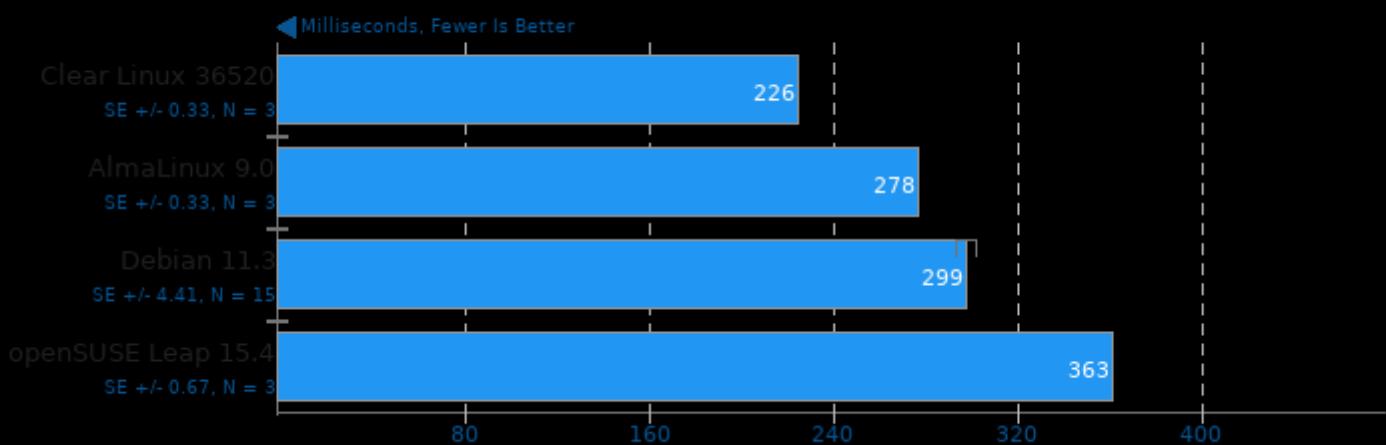
PyBench 2018-02-16

Total For Average Test Times



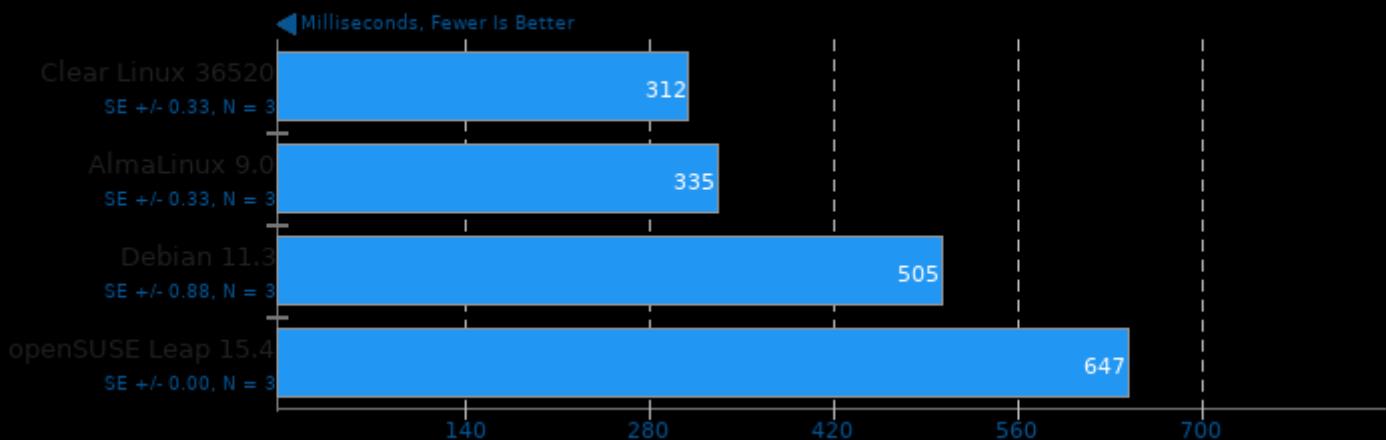
PyPerformance 1.0.0

Benchmark: go



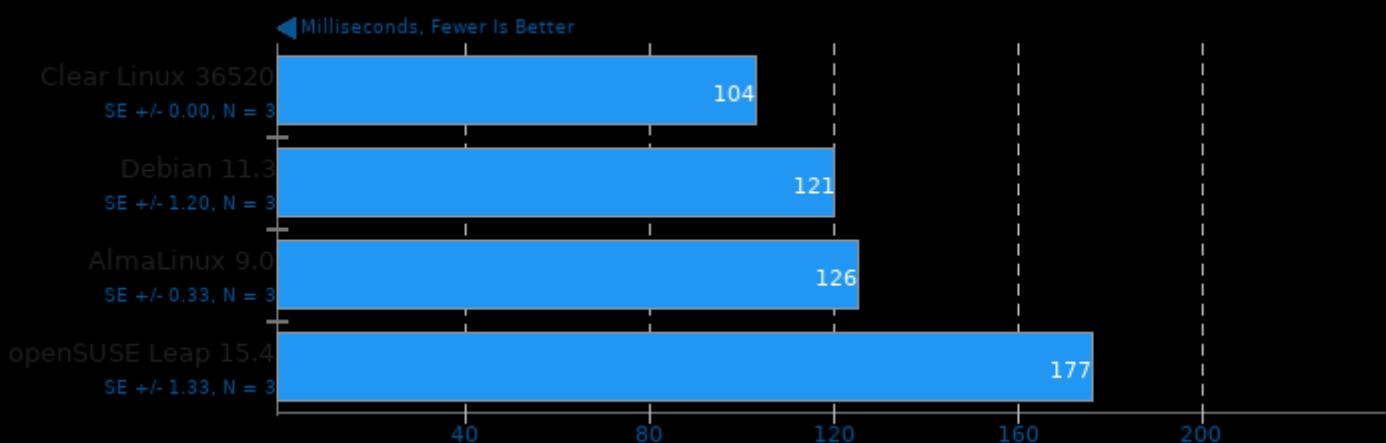
PyPerformance 1.0.0

Benchmark: 2to3



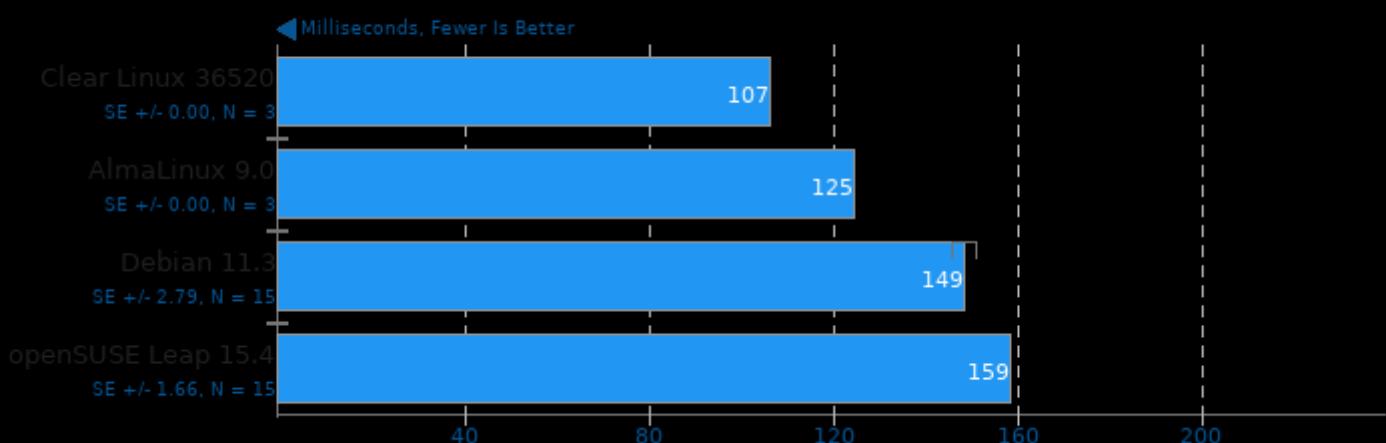
PyPerformance 1.0.0

Benchmark: chaos



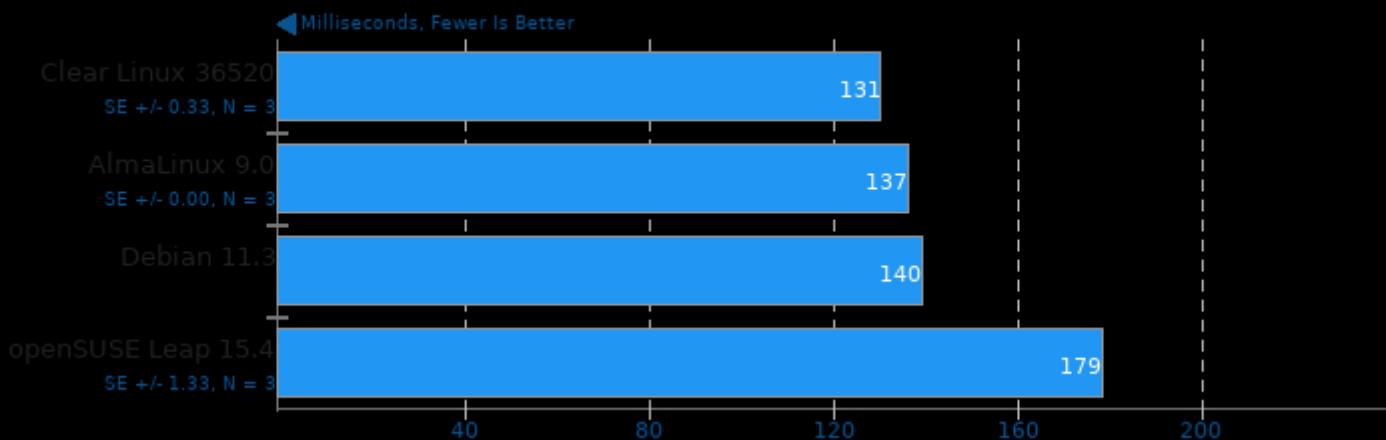
PyPerformance 1.0.0

Benchmark: float



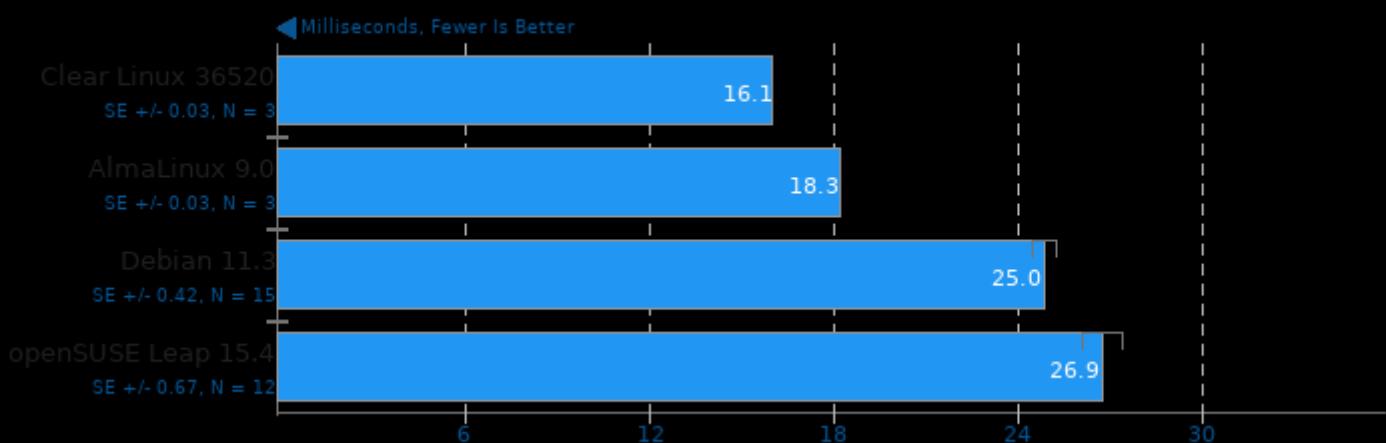
PyPerformance 1.0.0

Benchmark: nbody



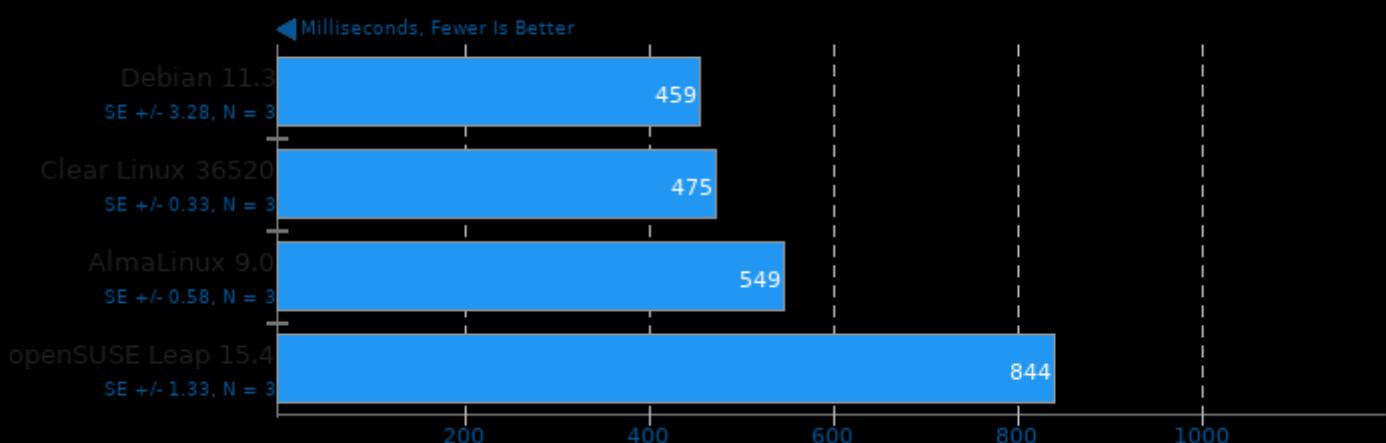
PyPerformance 1.0.0

Benchmark: pathlib



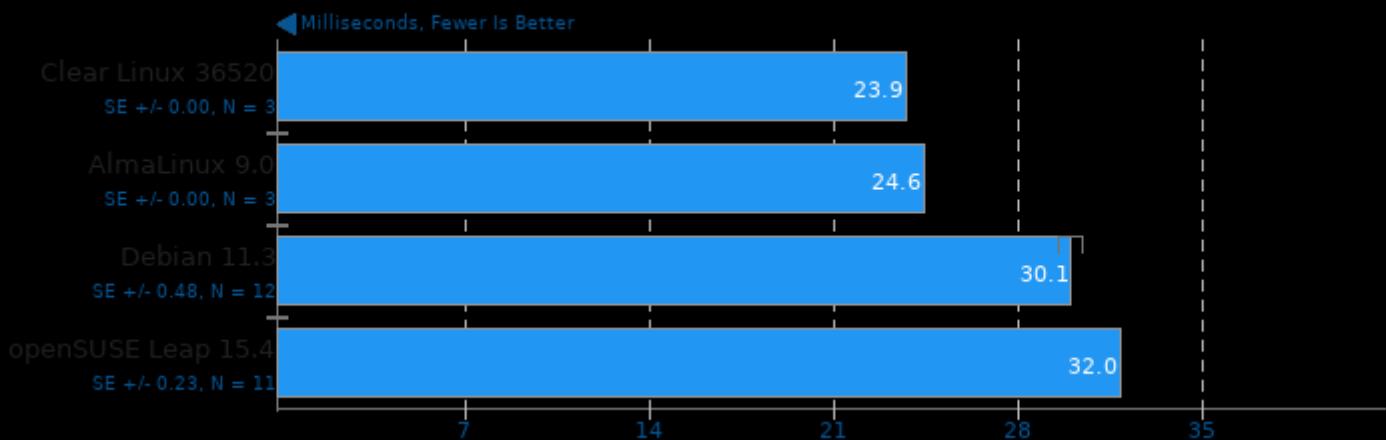
PyPerformance 1.0.0

Benchmark: raytrace



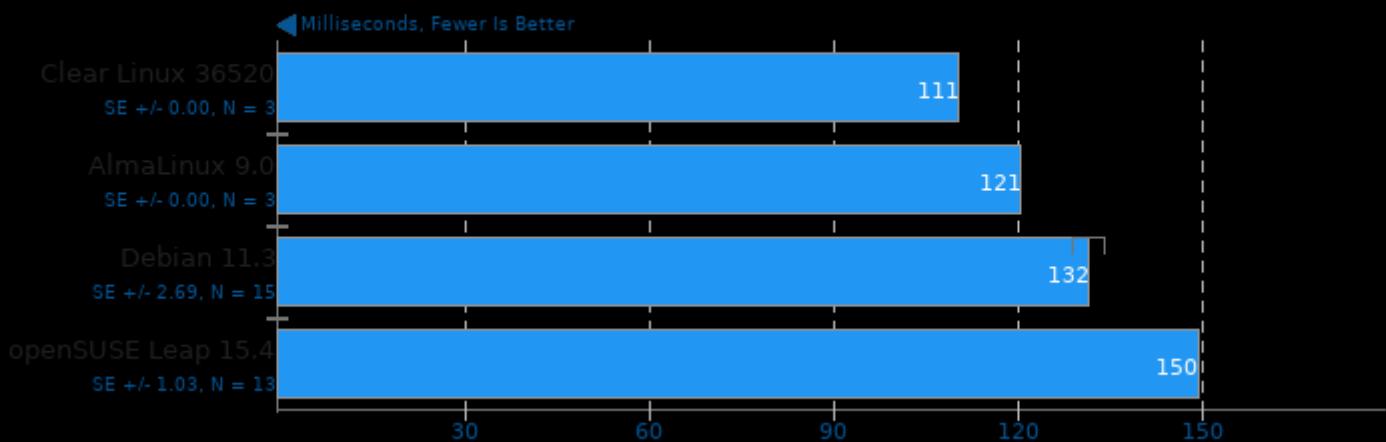
PyPerformance 1.0.0

Benchmark: json_loads



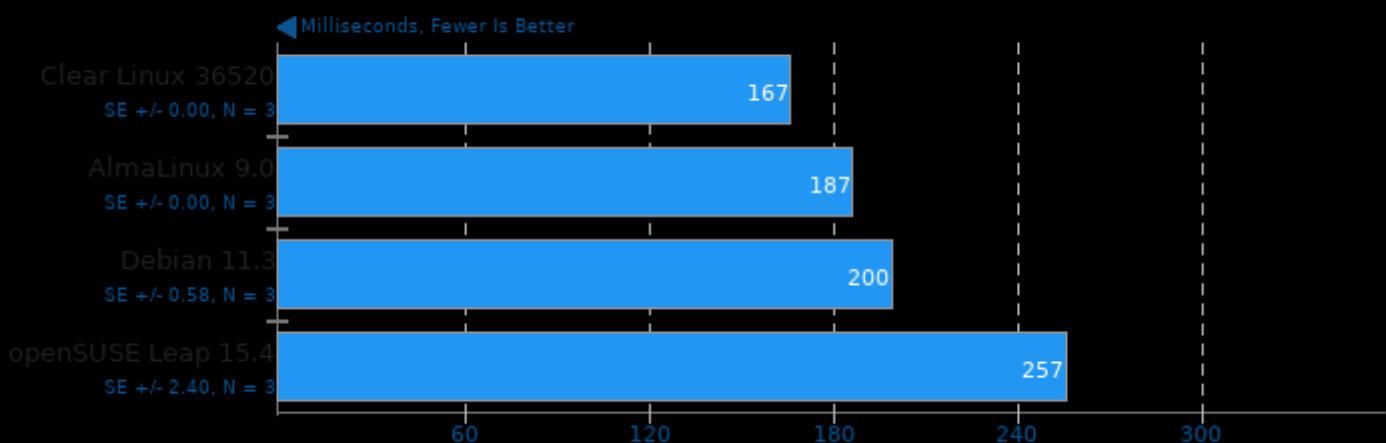
PyPerformance 1.0.0

Benchmark: crypto_pyaes



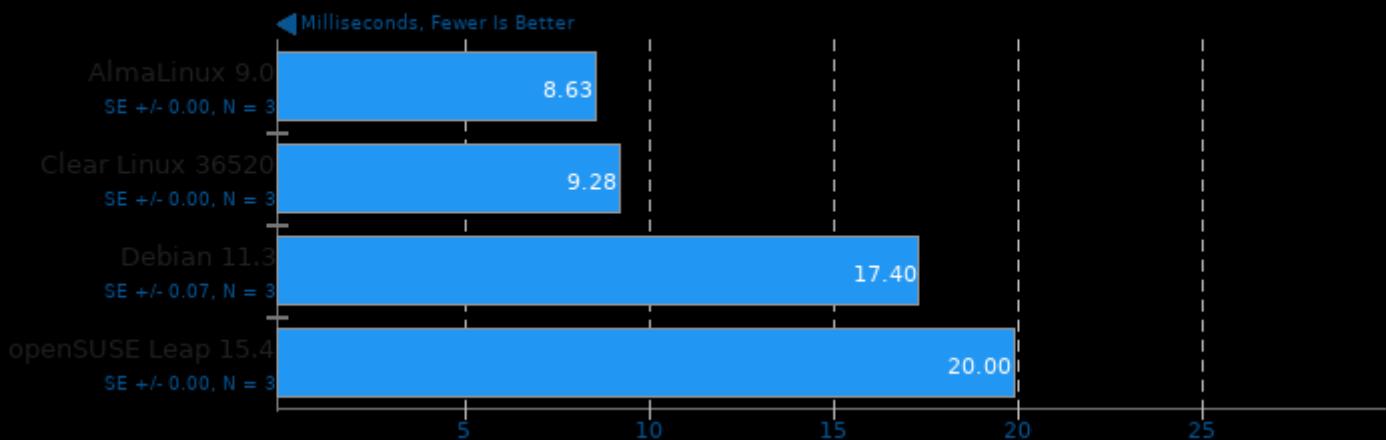
PyPerformance 1.0.0

Benchmark: regex_compile



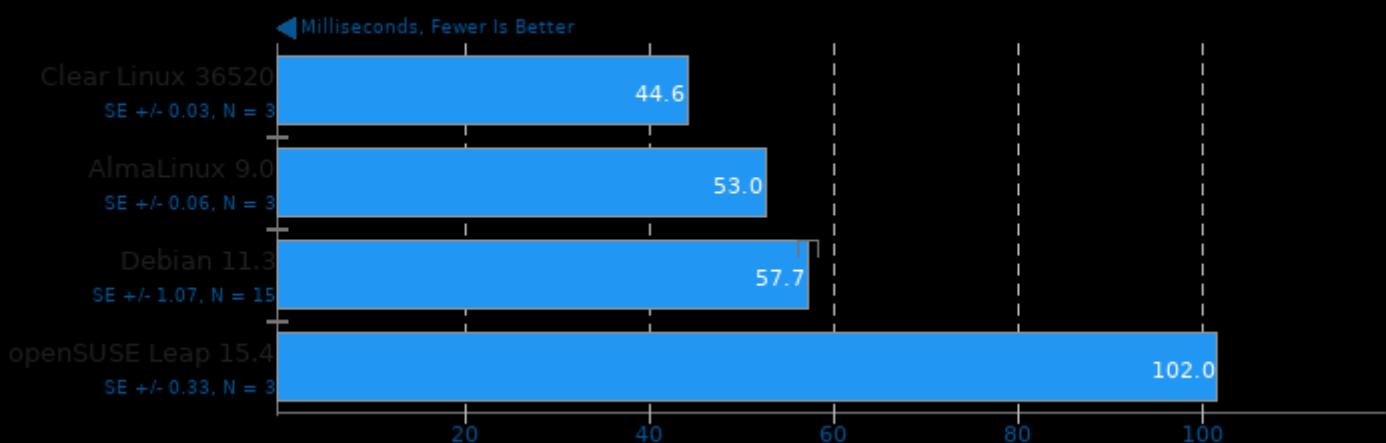
PyPerformance 1.0.0

Benchmark: python_startup



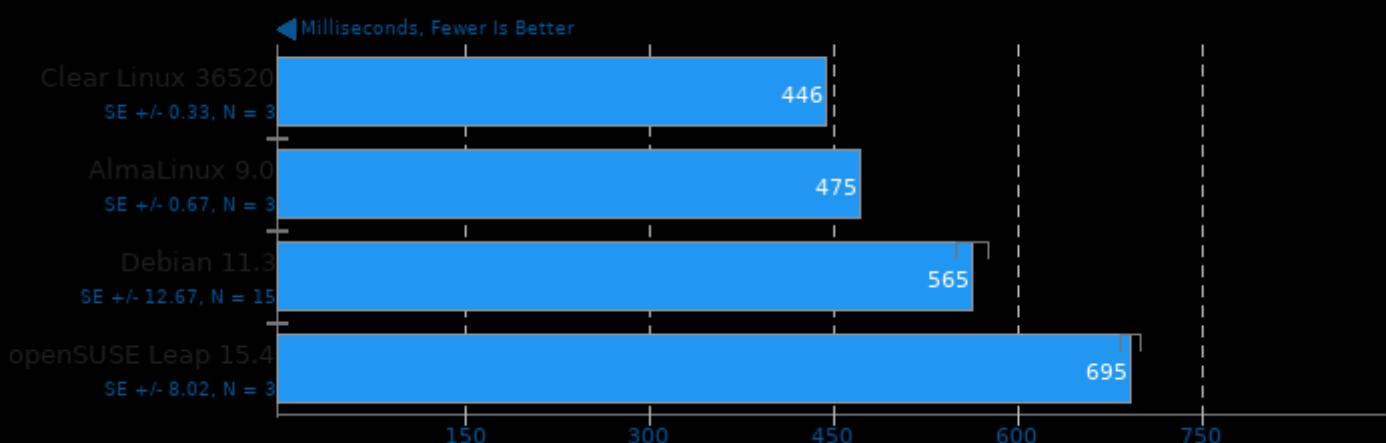
PyPerformance 1.0.0

Benchmark: django_template



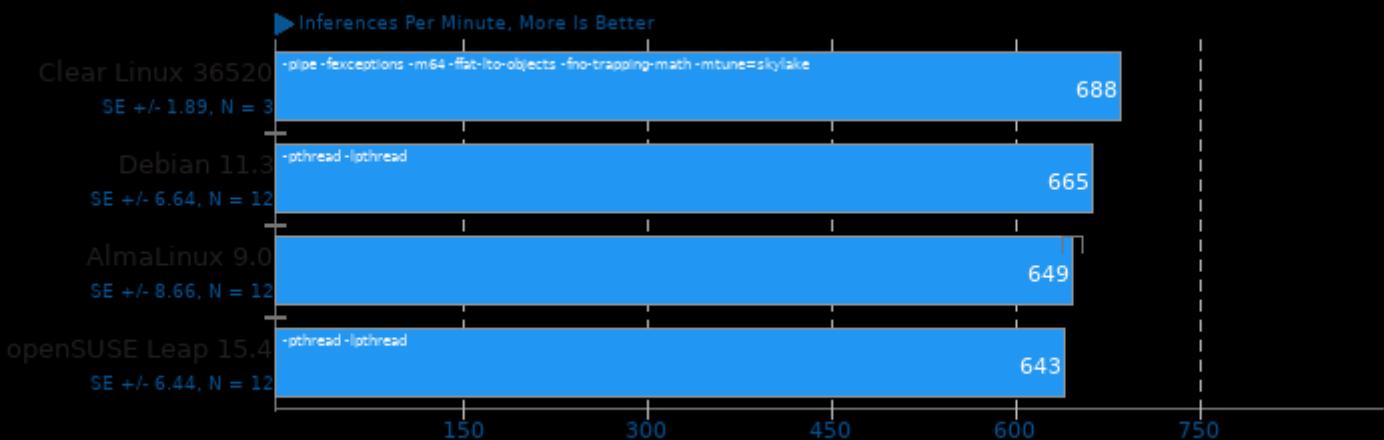
PyPerformance 1.0.0

Benchmark: pickle_pure_python



ONNX Runtime 1.11

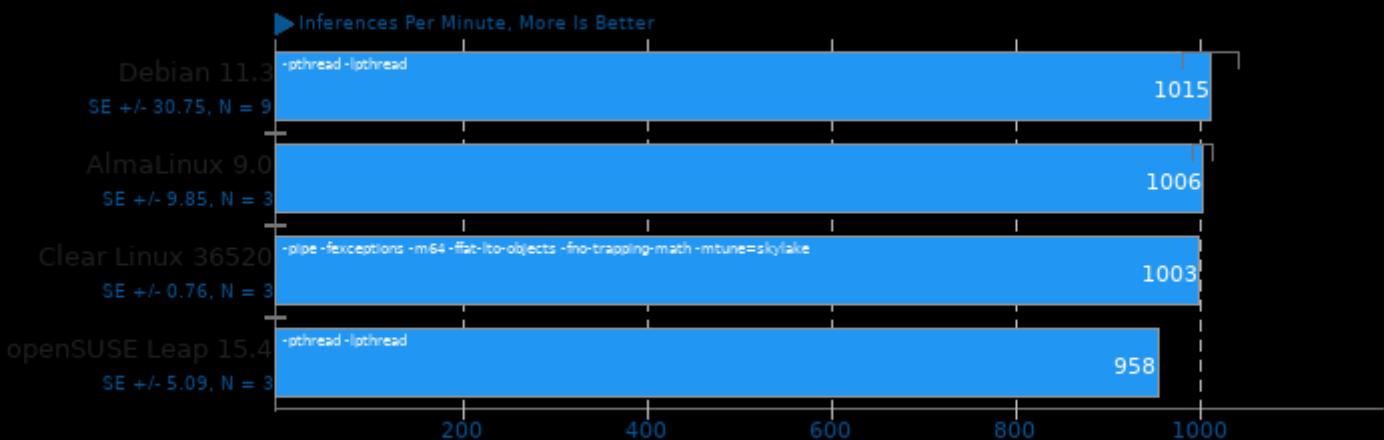
Model: yolov4 - Device: CPU - Executor: Standard



1. (CXX) g++ options: -O3 -ffunction-sections -fdata-sections -march=native -mtune=native -fno-fat-lto-objects -ldl -lrt

ONNX Runtime 1.11

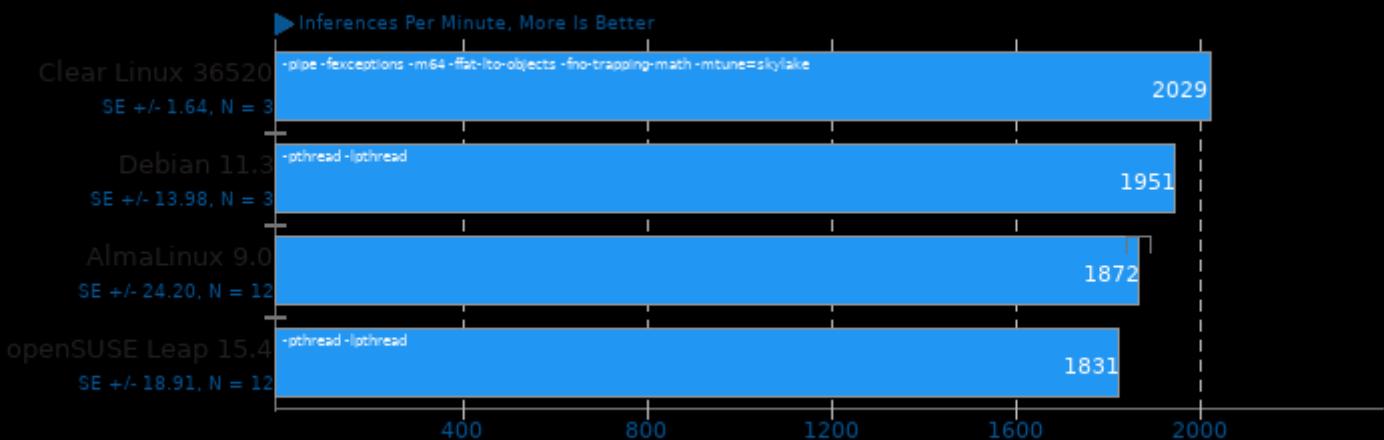
Model: bertsquad-12 - Device: CPU - Executor: Standard



1. (CXX) g++ options: -ffunction-sections -fdata-sections -march=native -mtune=native -O3 -fno-fat-lto-objects -ldl -lrt

ONNX Runtime 1.11

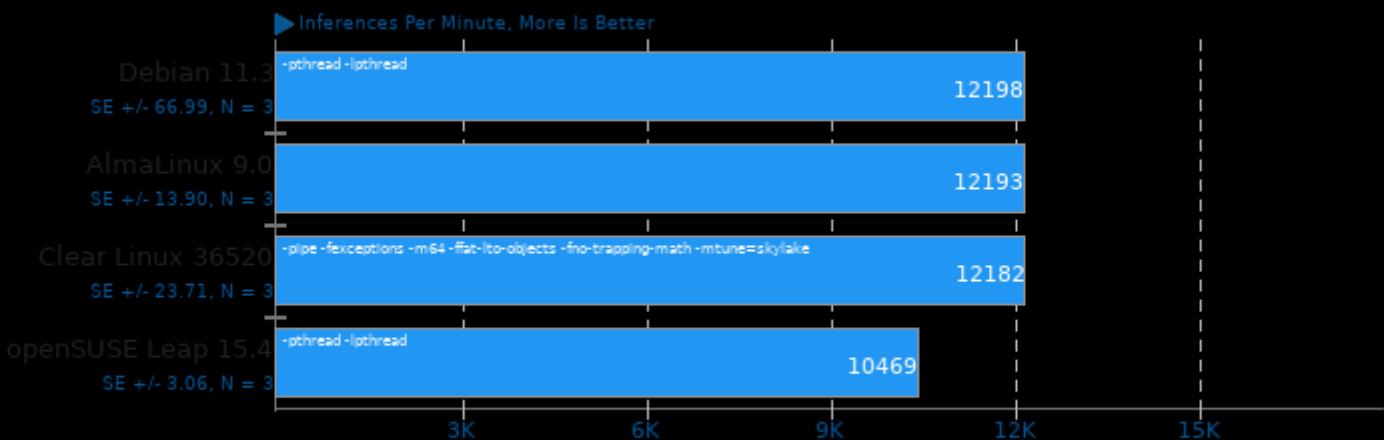
Model: ArcFace ResNet-100 - Device: CPU - Executor: Standard



1. (CXX) g++ options: -O3 -ffunction-sections -fdata-sections -march=native -mtune=native -fno-fat-lto-objects -ldl -lrt

ONNX Runtime 1.11

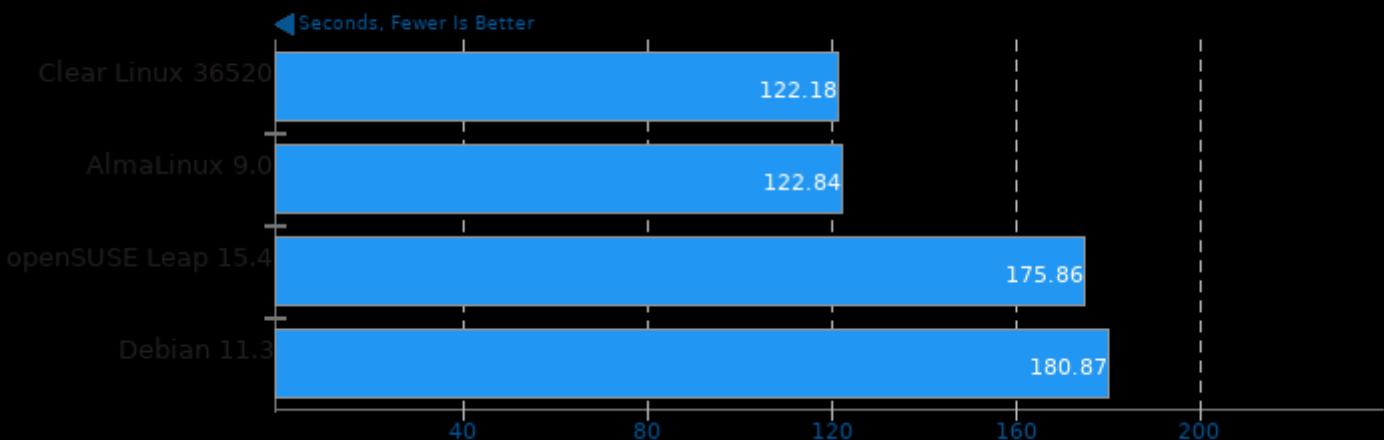
Model: super-resolution-10 - Device: CPU - Executor: Standard



1. (CXX) g++ options: -ffunction-sections -fdata-sections -march=native -O3 -fno-fat-lto-objects -ldl -lrt

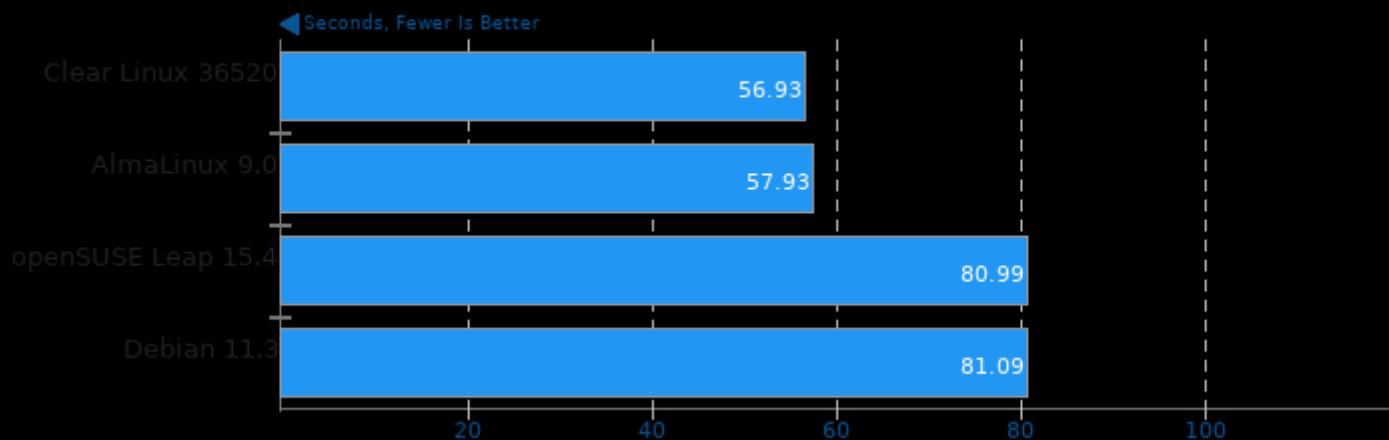
Appleseed 2.0 Beta

Scene: Emily



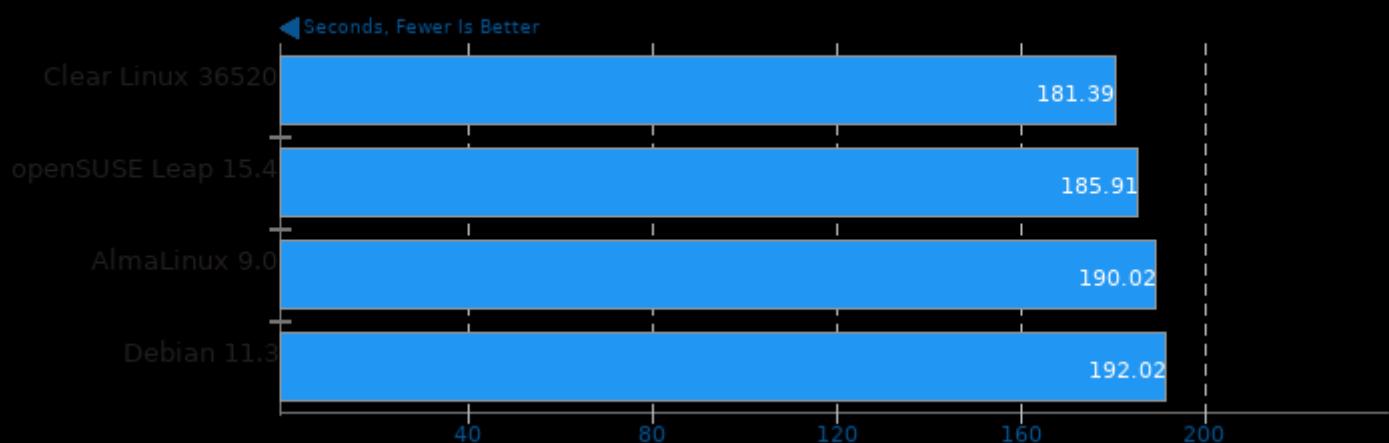
Appleseed 2.0 Beta

Scene: Disney Material



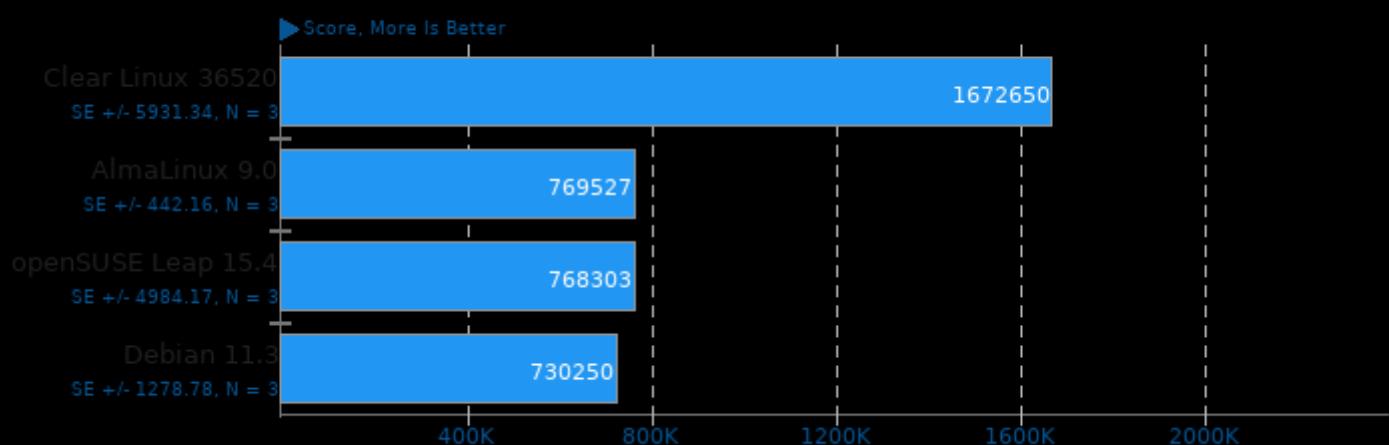
Appleseed 2.0 Beta

Scene: Material Tester

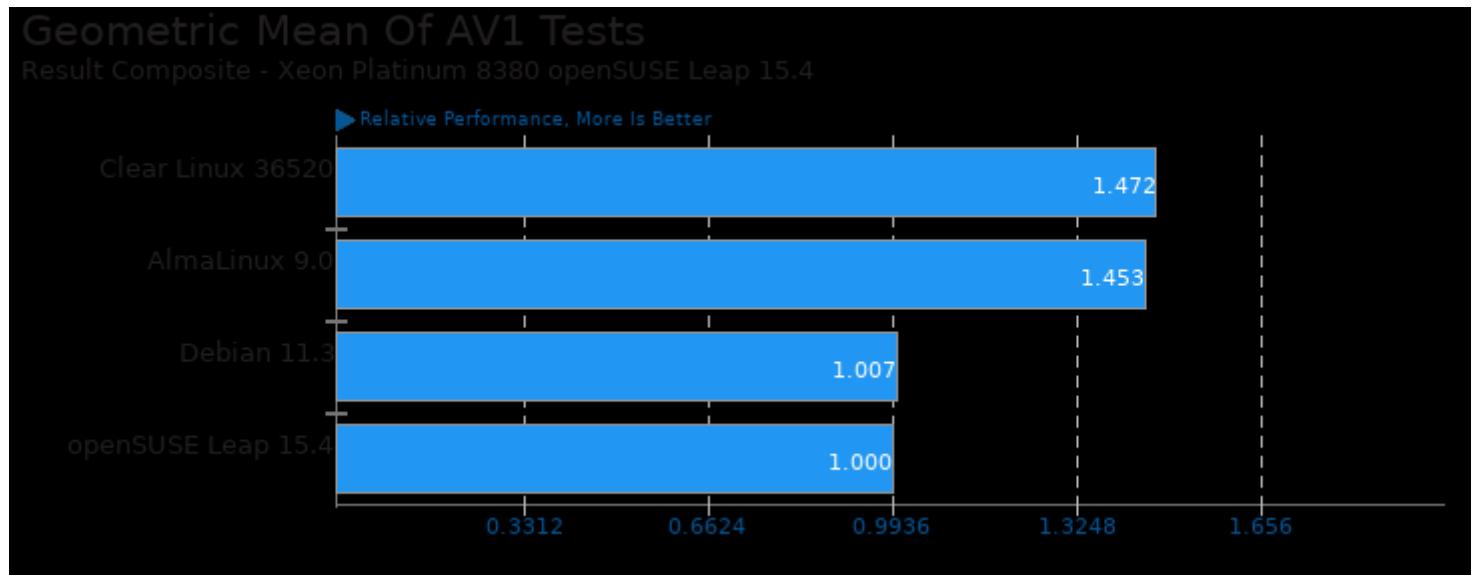


PHPBench 0.8.1

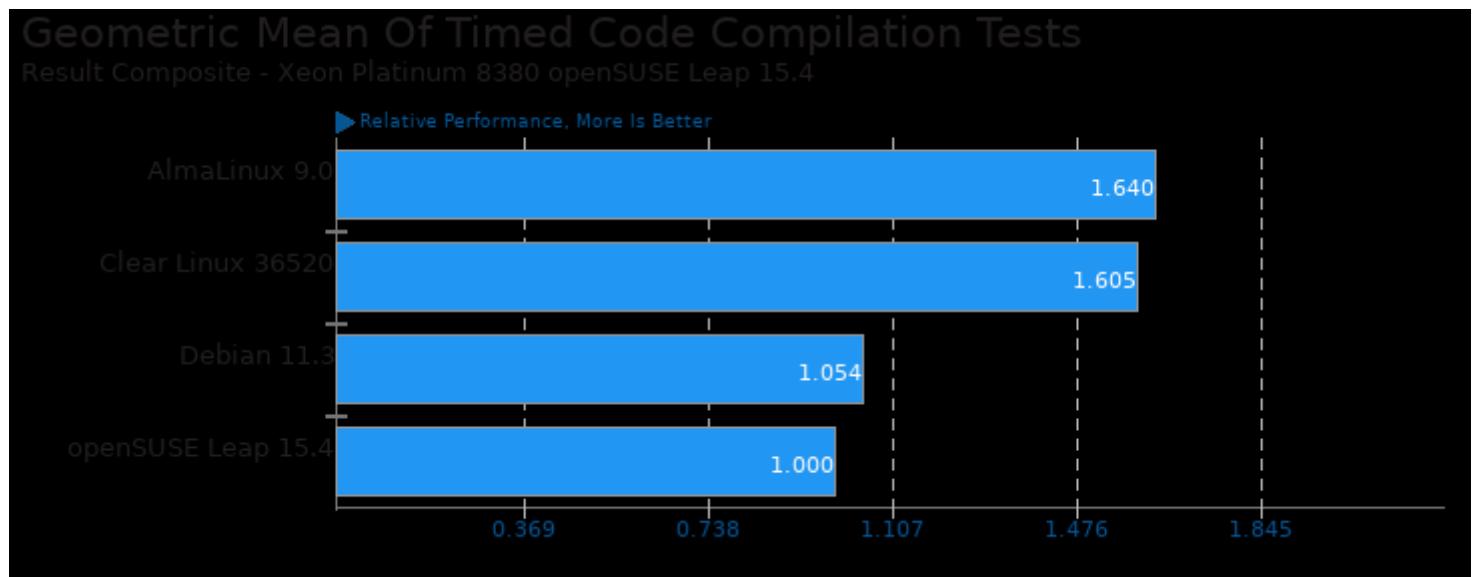
PHP Benchmark Suite



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



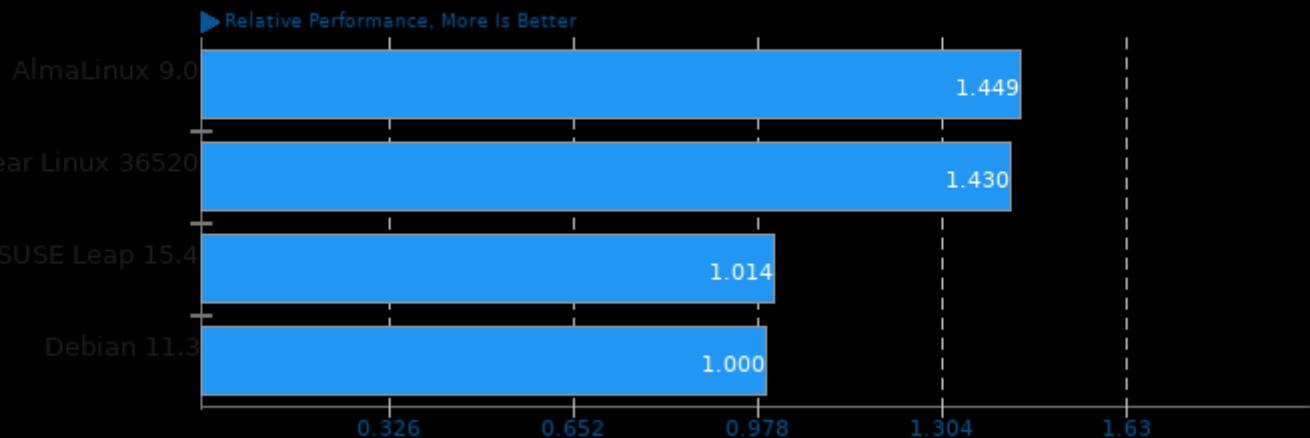
Geometric mean based upon tests: pts/svt-av1 and pts/avifenc



Geometric mean based upon tests: pts/build-apache and pts/build-godot

Geometric Mean Of C/C++ Compiler Tests

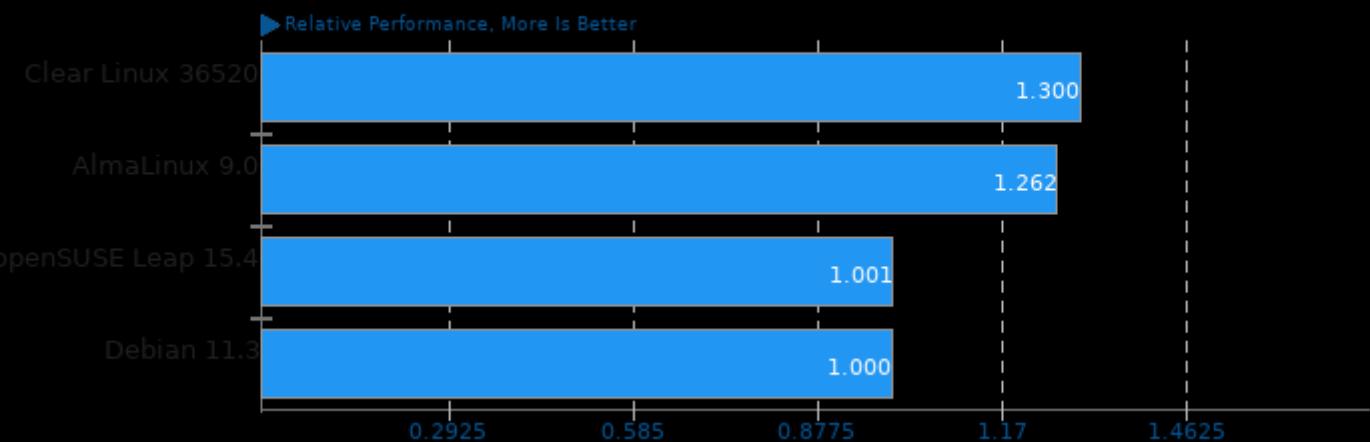
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/mrbayes, pts/svt-av1, pts/svt-vp9, pts/gromacs and pts/build-apache

Geometric Mean Of CPU Massive Tests

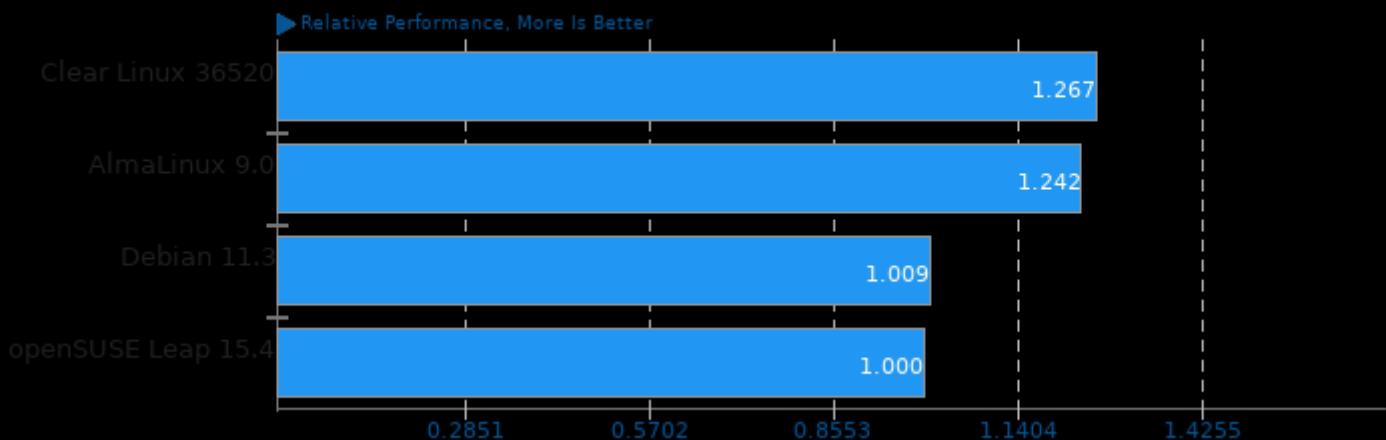
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/build-apache, pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/hpcg, pts/mrbayes, pts/namd, pts/numpy, pts/phpbench and pts/blender

Geometric Mean Of Creator Workloads Tests

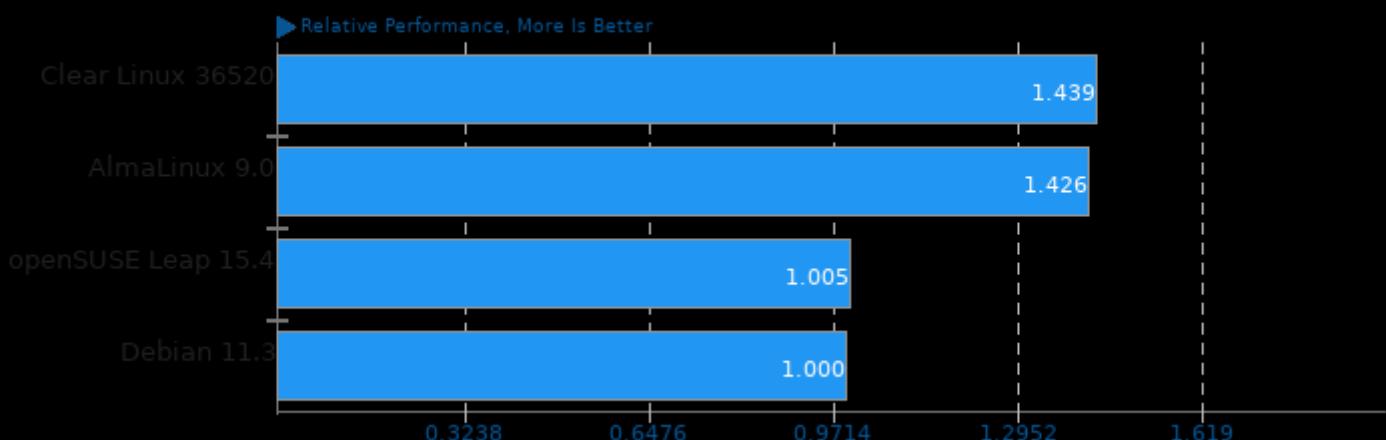
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/ospray-studio, pts/blender, pts/appleseed, pts/svt-vp9, pts/svt-hevc, pts/svt-av1, pts/avifenc, pts/webp and pts/build-godot

Geometric Mean Of Encoding Tests

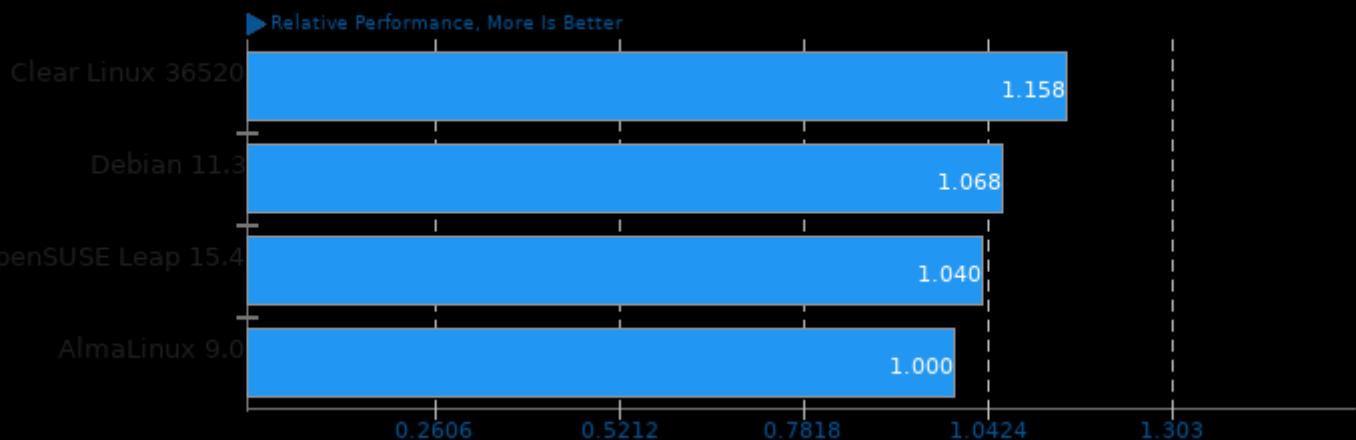
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/svt-av1 and pts/avifenc

Geometric Mean Of Fortran Tests

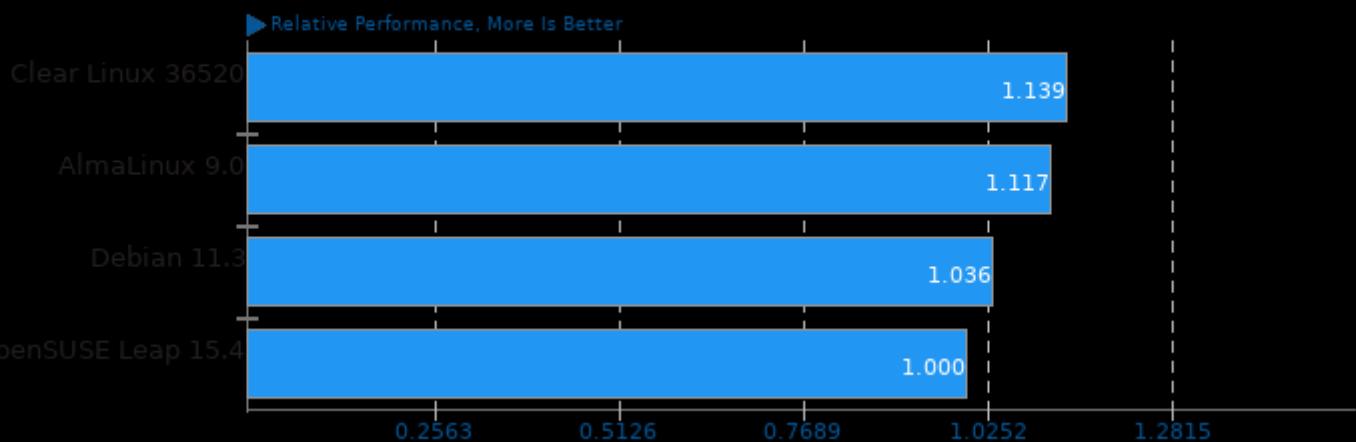
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/hpcg and pts/incompact3d

Geometric Mean Of Game Development Tests

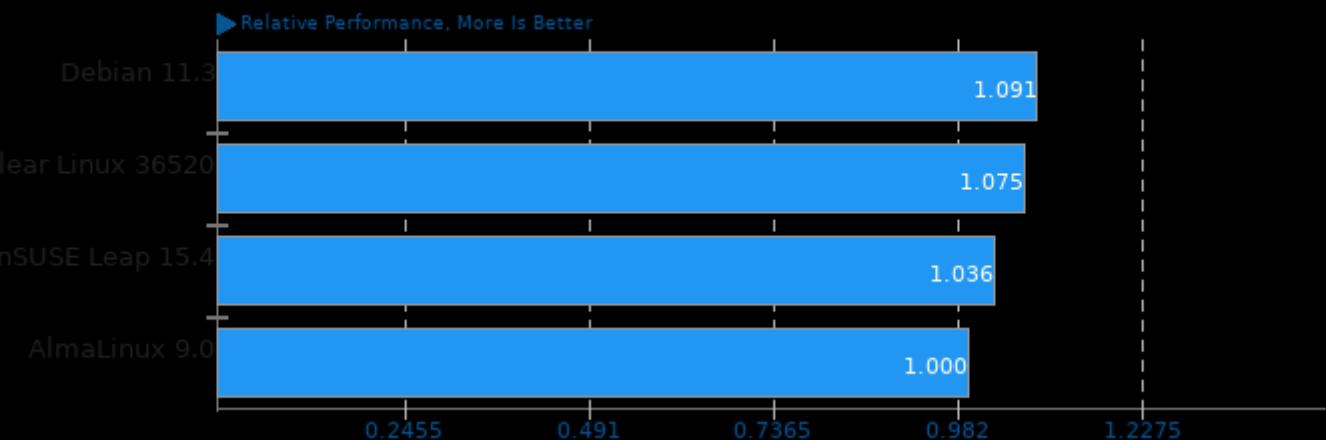
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/build-godot and pts/blender

Geometric Mean Of HPC - High Performance Computing Tests

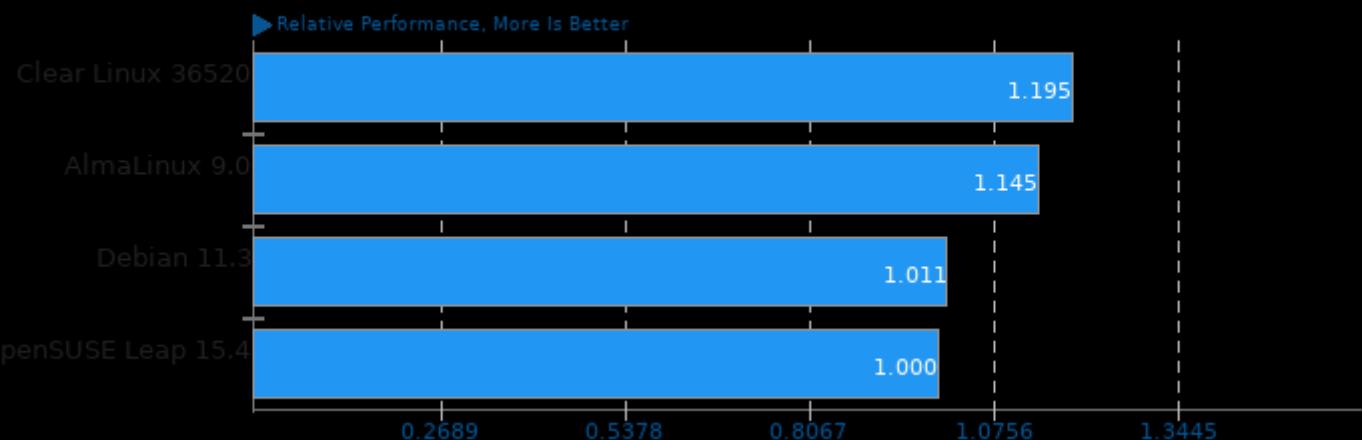
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/hpcg, pts/namd, pts/gromacs, pts/incompact3d, pts/mrbayes, pts/numpy, pts/tensorflow-lite, pts/onnx and pts/graph500

Geometric Mean Of Imaging Tests

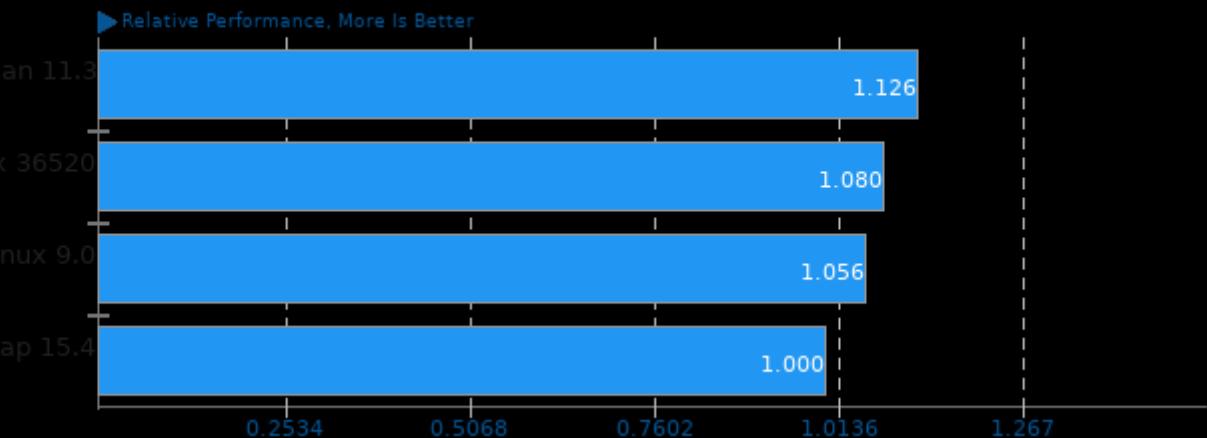
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/webp and pts/avifenc

Geometric Mean Of Machine Learning Tests

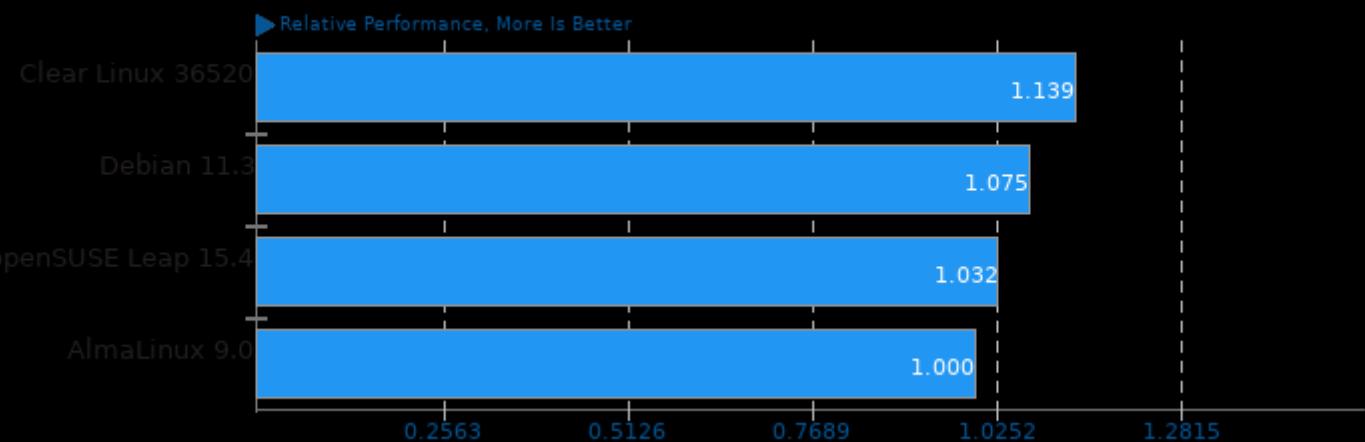
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/numpy, pts/tensorflow-lite and pts/onnx

Geometric Mean Of Molecular Dynamics Tests

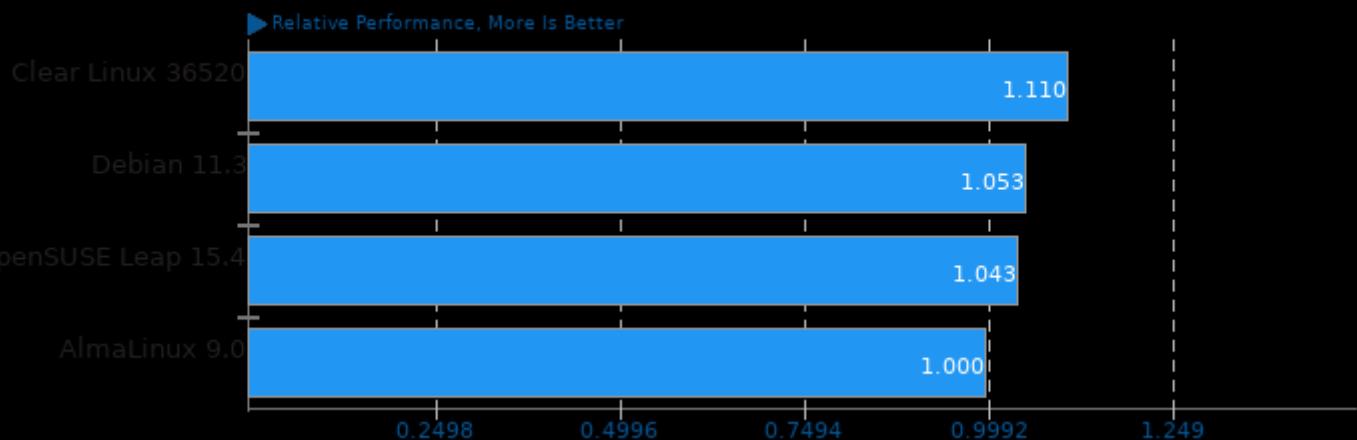
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/namd, pts/gromacs and pts/incompact3d

Geometric Mean Of MPI Benchmarks Tests

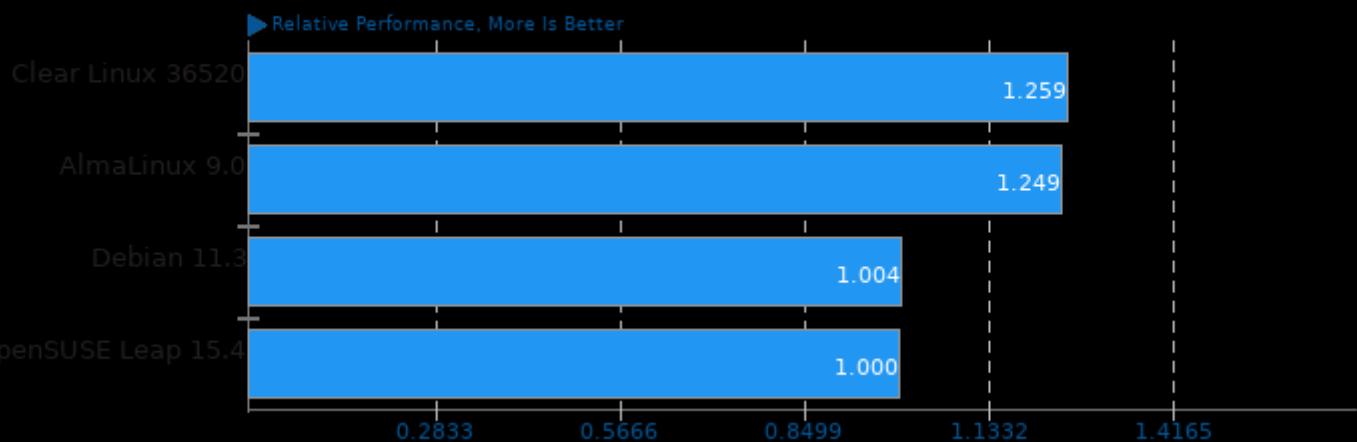
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/incompact3d, pts/gromacs, pts/hpcg and pts/mrbayes

Geometric Mean Of Multi-Core Tests

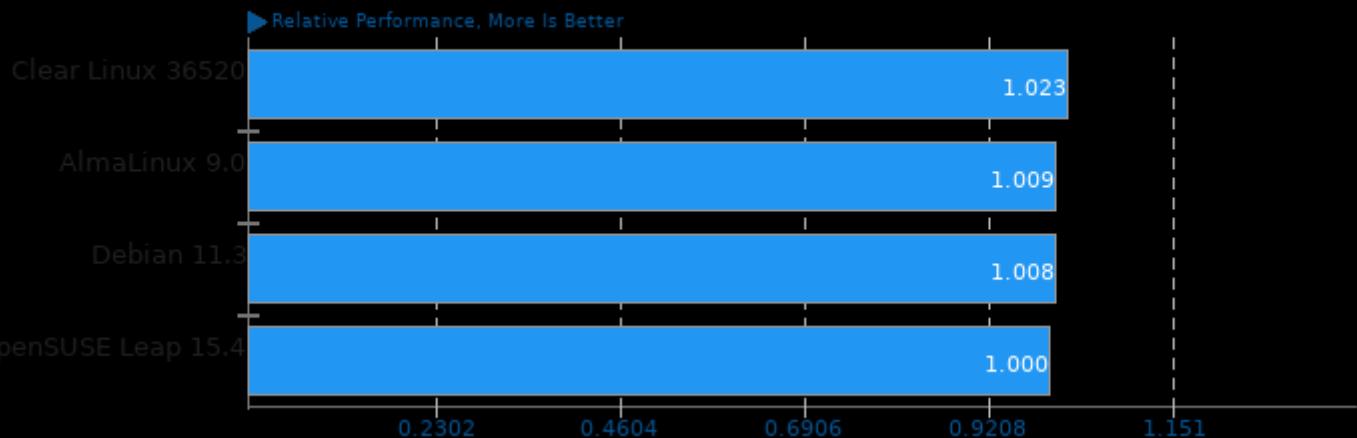
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/blender, pts/ospray-studio, pts/svt-vp9, pts/svt-hevc, pts/svt-av1, pts/avifenc, pts/namd, pts/gromacs, pts/build-apache, pts/build-godot, pts/appleseed and pts/hpcg

Geometric Mean Of NVIDIA GPU Compute Tests

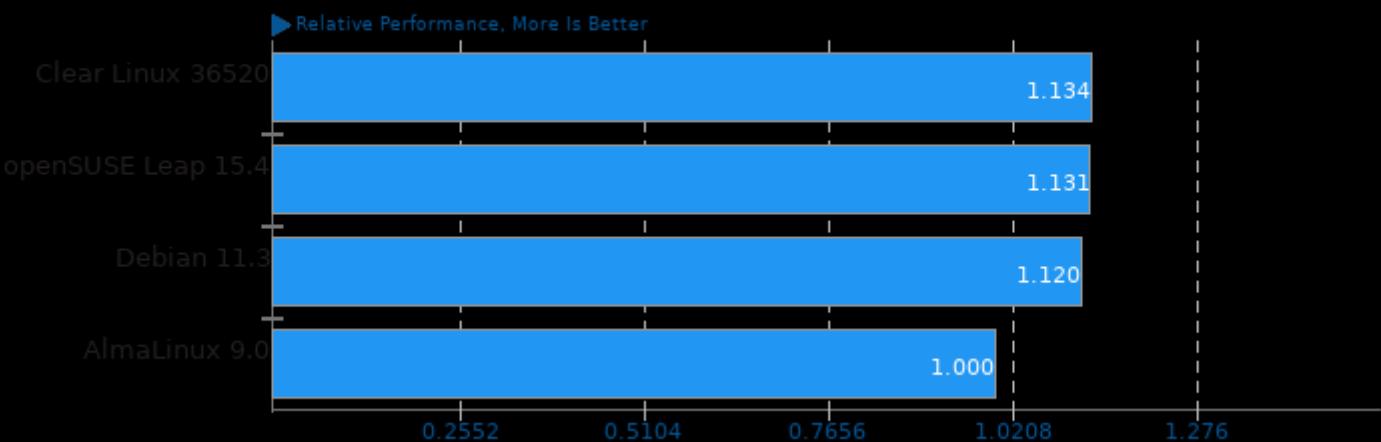
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/gromacs and pts/blender

Geometric Mean Of OpenMPI Tests

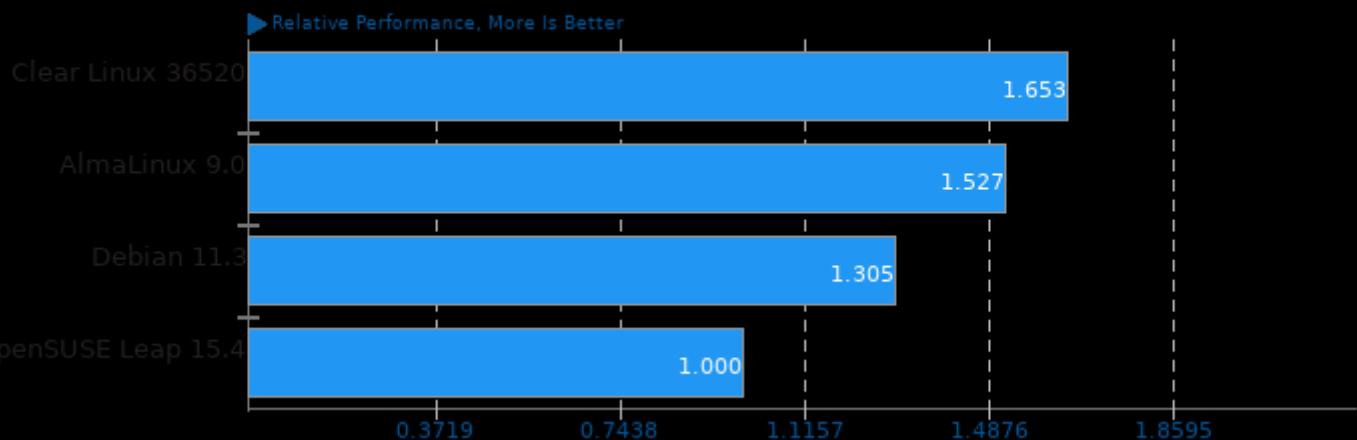
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/hpcg, pts/mrbayes, pts/incompact3d, pts/graph500 and pts/gromacs

Geometric Mean Of Programmer / Developer System Benchmarks Tests

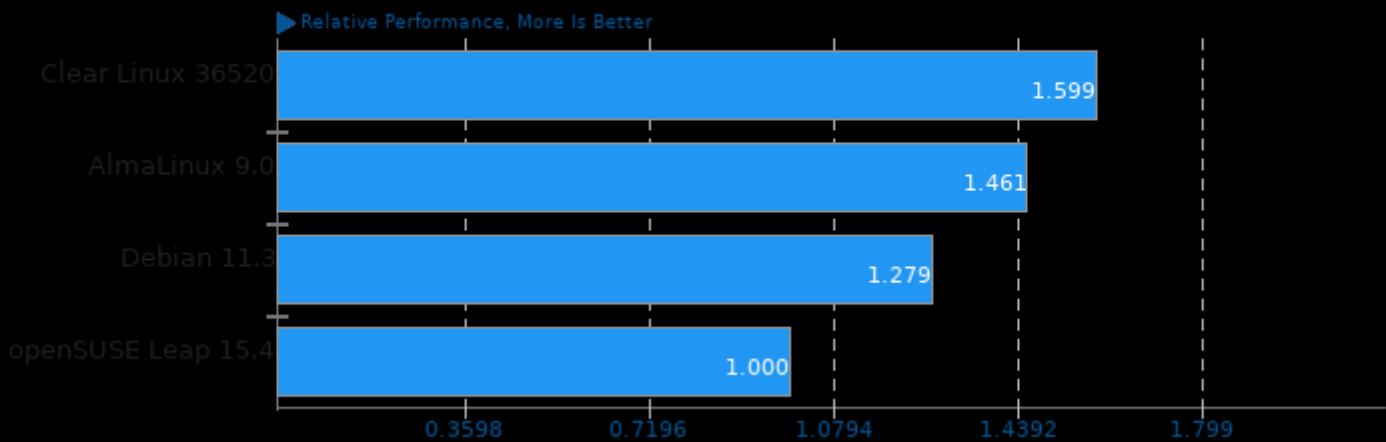
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/simdjson, pts/pyperformance, pts/pybench, pts/build-apache and pts/build-godot

Geometric Mean Of Python Tests

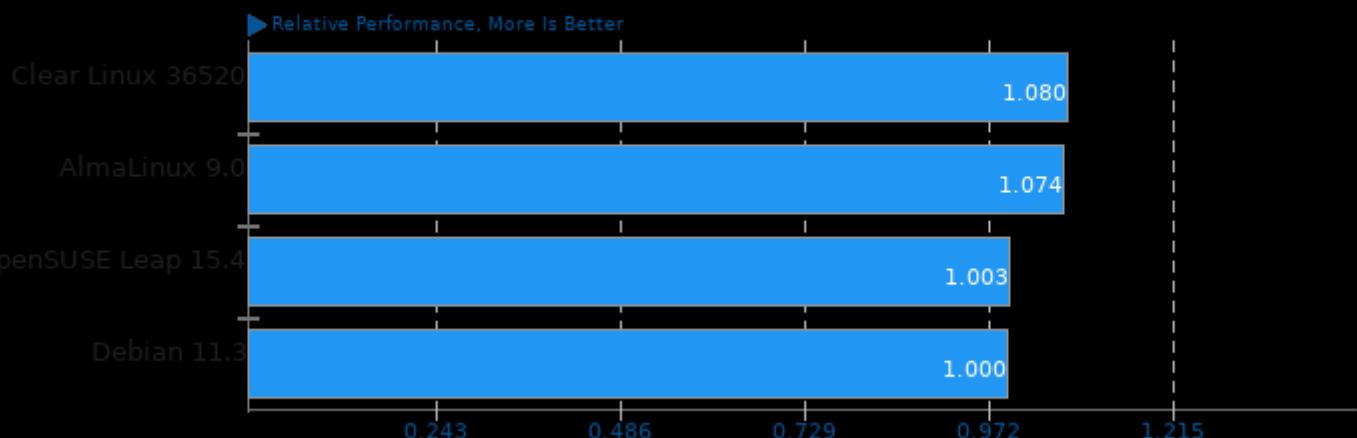
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/pybench, pts/numpy and pts/pyperformance

Geometric Mean Of Renderers Tests

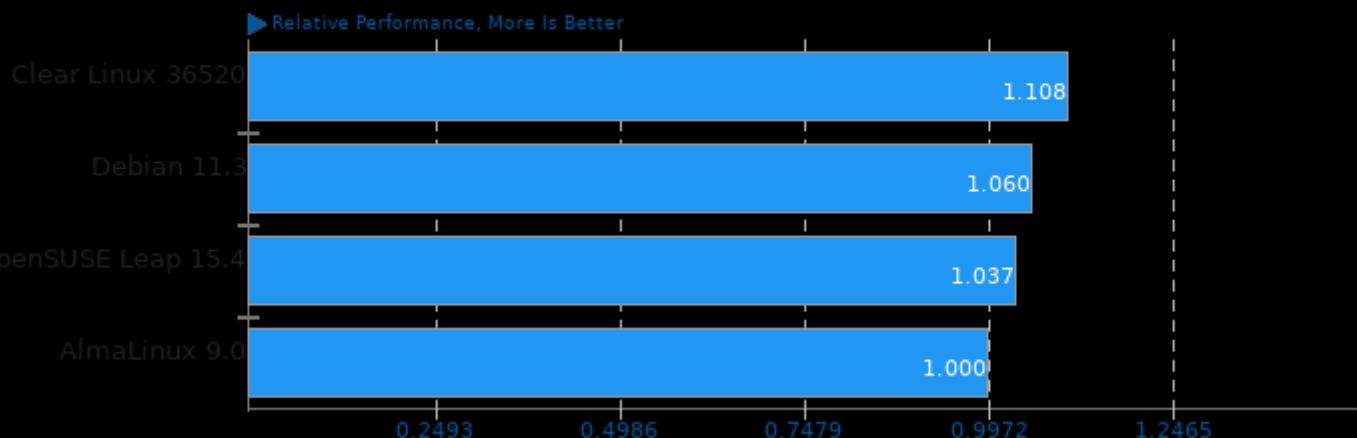
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/ospray-studio, pts/blender and pts/appleseed

Geometric Mean Of Scientific Computing Tests

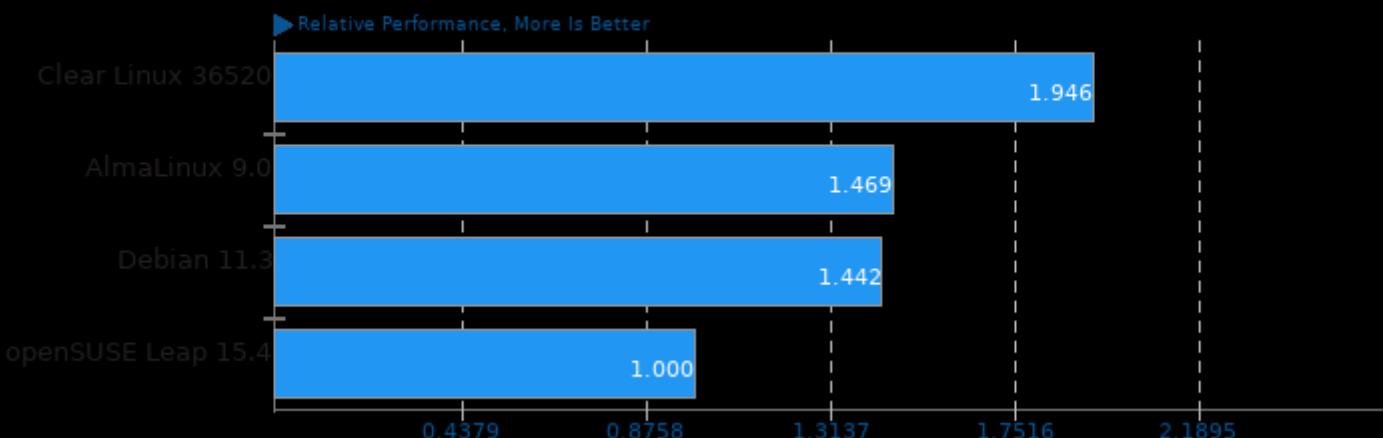
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/namd, pts/gromacs, pts/incompact3d and pts/mrbayes

Geometric Mean Of Server Tests

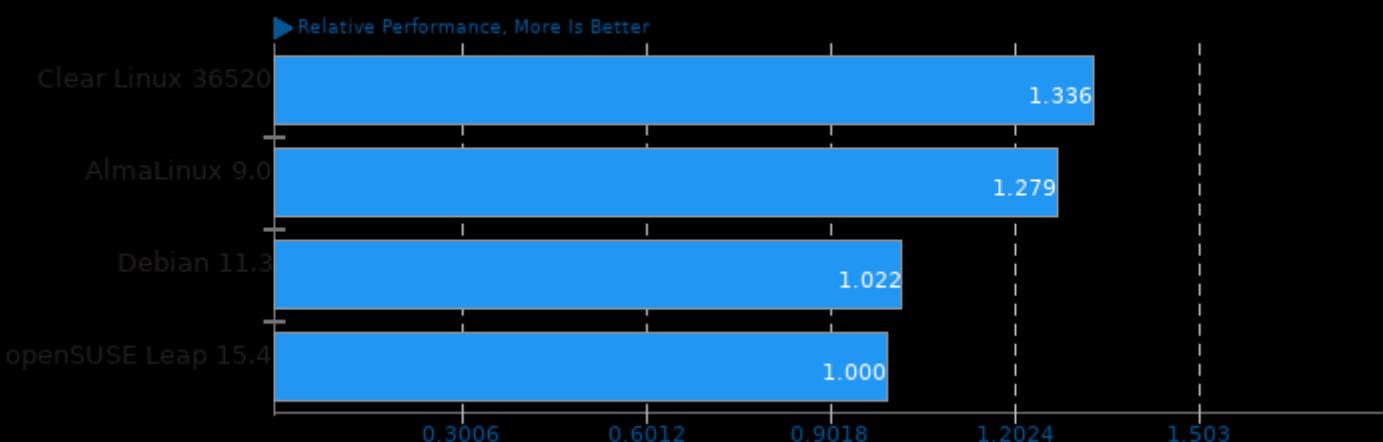
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/phpbench and pts/simdjson

Geometric Mean Of Server CPU Tests

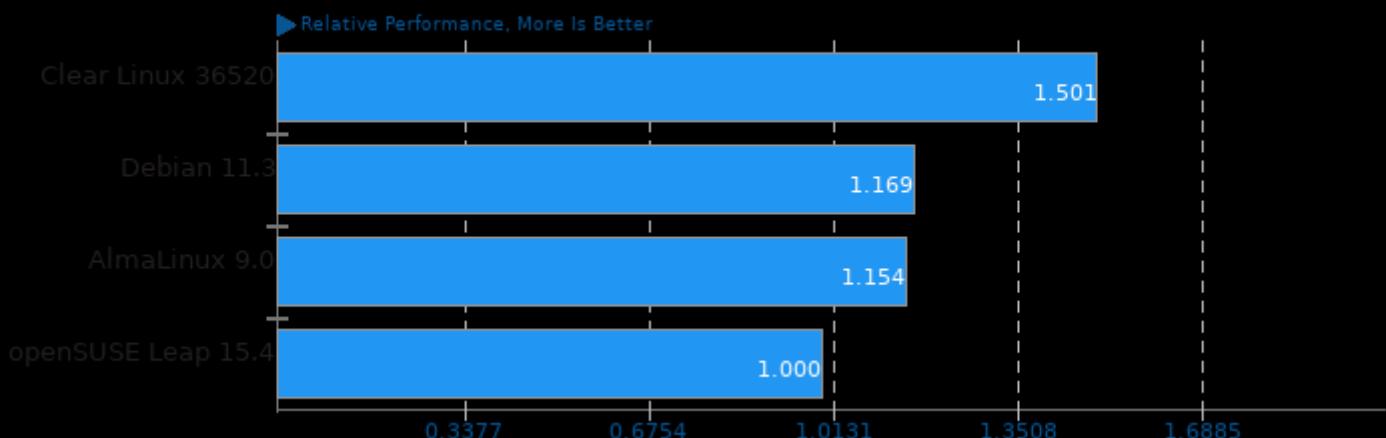
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/namd, pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/blender, pts/appleseed, pts/pybench, pts/numpy and pts/phpbench

Geometric Mean Of Single-Threaded Tests

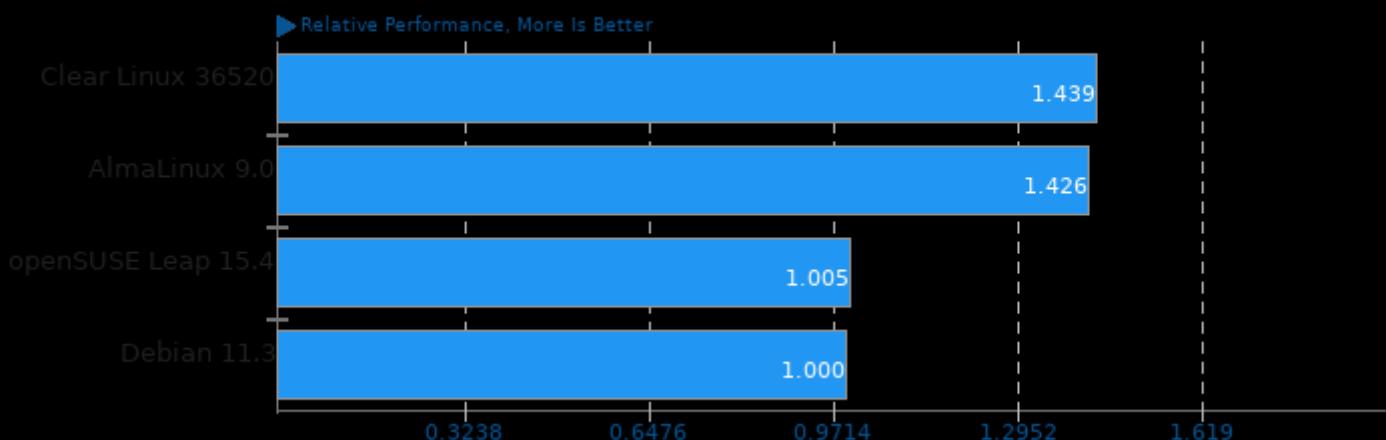
Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/numpy, pts/pybench and pts/phpbench

Geometric Mean Of Video Encoding Tests

Result Composite - Xeon Platinum 8380 openSUSE Leap 15.4



Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/svt-av1 and pts/avifenc

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 12:10.