



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 Debian 11 via the Phoronix Test Suite.

Automated Executive Summary

AlmaLinux 9.0 had the most wins, coming in first place for 52% of the tests.

Based on the geometric mean of all complete results, the fastest (AlmaLinux 9.0) was 1.122x the speed of the slowest (openSUSE Leap 15.4). Debian 11.3 was 0.954x the speed of AlmaLinux 9.0 and openSUSE Leap 15.4 was 0.934x the speed of Debian 11.3.

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

PyPerformance (Benchmark: python_startup) at 2.317x
SVT-AV1 (Encoder Mode: Preset 12 - Input: Bosphorus 4K) at 2.141x
SVT-AV1 (Encoder Mode: Preset 10 - Input: Bosphorus 4K) at 2.068x
PyPerformance (Benchmark: 2to3) at 1.931x
PyPerformance (Benchmark: raytrace) at 1.839x
simdjson (Throughput Test: PartialTweets) at 1.829x
Timed Godot Game Engine Compilation (Time To Compile) at 1.783x
SVT-HEVC (Tuning: 10 - Input: Bosphorus 4K) at 1.752x

simdjson (Throughput Test: TopTweet) at 1.734x

SVT-AV1 (Encoder Mode: Preset 8 - Input: Bosphorus 4K) at 1.72x.

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-libcc1 --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/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbsds: 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,lto --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-lto --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/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbsds: 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-multiaarch --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,amdgc-nvptx=/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: 0xd000270

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 + srbds: Not affected + tsx_async_abort: Not affected

	openSUSE Leap 15.4	AlmaLinux 9.0	Debian 11.3
Graph500 - 26 (bfs max_TEPS)	1040490000	736362000	927177000
Normalized	100%	70.77%	89.11%
Graph500 - 26 (bfs median_TEPS)	1012470000	720707000	901991000
Normalized	100%	71.18%	89.09%
AOM AV1 - Speed 6 Realtime - Bosphorus			9.49
4K (FPS)			
Standard Deviation			1.1%
AOM AV1 - Speed 6 Two-Pass - Bosphorus			5.12
4K (FPS)			
Standard Deviation			2.2%
AOM AV1 - Speed 8 Realtime - Bosphorus			14.81
4K (FPS)			
Standard Deviation			1.9%
AOM AV1 - Speed 9 Realtime - Bosphorus			24.99
4K (FPS)			
Standard Deviation			1.5%
AOM AV1 - Speed 10 Realtime - Bosphorus			24.68
4K (FPS)			
Standard Deviation			2.3%
SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)	36.312	62.459	37.707
Normalized	58.14%	100%	60.37%
Standard Deviation	1.6%	2.6%	1.3%
SVT-AV1 - Preset 10 - Bosphorus 4K (FPS)	75.965	157.084	77.341
Normalized	48.36%	100%	49.24%
Standard Deviation	0.8%	0.7%	1.1%
SVT-AV1 - Preset 12 - Bosphorus 4K (FPS)	87.407	187.134	91.237
Normalized	46.71%	100%	48.75%
Standard Deviation	0.8%	0.9%	1.2%
SVT-HEVC - 1 - Bosphorus 4K (FPS)	10.01	10.60	10.60
Normalized	94.43%	100%	100%
Standard Deviation	0.8%	0.4%	0.5%
SVT-HEVC - 7 - Bosphorus 4K (FPS)	88.18	143.53	85.34
Normalized	61.44%	100%	59.46%

	Standard Deviation	1.3%	0.5%	1.1%
SVT-HEVC - 10 - Bosphorus 4K (FPS)		118.31	194.04	110.78
	Normalized	60.97%	100%	57.09%
	Standard Deviation	2.3%	1.1%	1.1%
SVT-VP9 - VMAF Optimized - Bosphorus 4K (FPS)		118.20	150.03	109.83
	Normalized	78.78%	100%	73.21%
	Standard Deviation	1.7%	1%	0.7%
SVT-VP9 - P.S.O - Bosphorus 4K (FPS)		120.27	155.41	116.09
	Normalized	77.39%	100%	74.7%
	Standard Deviation	2.5%	2.3%	0.5%
SVT-VP9 - V.Q.O - Bosphorus 4K (FPS)		100.11	145.87	102.54
	Normalized	68.63%	100%	70.3%
	Standard Deviation	1.4%	1.3%	1.6%
simdjson - TopTweet (GB/s)		3.23	5.60	5.57
	Normalized	57.68%	100%	99.46%
	Standard Deviation	0.2%	0.3%	0.2%
simdjson - PartialTweets (GB/s)		2.63	4.80	4.81
	Normalized	54.68%	99.79%	100%
	Standard Deviation	0.2%	0.2%	0.1%
High Performance Conjugate Gradient (GFLOP/s)		40.1429	40.3943	39.9749
	Normalized	99.38%	100%	98.96%
	Standard Deviation	0.2%	0.2%	0.7%
ONNX Runtime - GPT-2 - CPU - Standard (Inferences/min)		10295	9522	10531
	Normalized	97.76%	90.42%	100%
	Standard Deviation	7.9%	8.3%	10.3%
ONNX Runtime - yolov4 - CPU - Standard (Inferences/min)		643	649	665
	Normalized	96.69%	97.59%	100%
	Standard Deviation	3.5%	4.6%	3.5%
ONNX Runtime - bert squad-12 - CPU - Standard (Inferences/min)		958	1006	1015
	Normalized	94.38%	99.11%	100%
	Standard Deviation	0.9%	1.7%	9.1%
ONNX Runtime - fcn-resnet101-11 - CPU - Standard (Inferences/min)		465	517	436
	Normalized	89.94%	100%	84.33%
	Standard Deviation	10.5%	9.8%	0.3%
ONNX Runtime - ArcFace ResNet-100 - CPU - Standard (Inferences/min)		1831	1872	1951
	Normalized	93.85%	95.95%	100%
	Standard Deviation	3.6%	4.5%	1.2%
ONNX Runtime - super-resolution-10 - CPU - Standard (Inferences/min)		10469	12193	12198
	Normalized	85.83%	99.96%	100%
	Standard Deviation	0.1%	0.2%	1%
7-Zip Compression - Compression Rating (MIPS)		462281	481042	450248
	Normalized	96.1%	100%	93.6%
	Standard Deviation	2.4%	0.5%	1.3%
7-Zip Compression - D.R (MIPS)		353639	374319	359651
	Normalized	94.48%	100%	96.08%

	Standard Deviation	0.4%	0.2%	2.8%
GROMACS - MPI CPU - water_GMX50_bare		9.163	8.874	9.422
	(Ns/Day)			
	Normalized	97.25%	94.18%	100%
	Standard Deviation	2.5%	1.6%	0.3%
Apache HTTP Server - 200 (Reqs/sec)		209633	123923	
	Normalized	100%	59.11%	
	Standard Deviation	19.8%	0.2%	
Apache HTTP Server - 500 (Reqs/sec)		116204	132836	
	Normalized	87.48%	100%	
	Standard Deviation	1.1%	0.3%	
Apache HTTP Server - 1000 (Reqs/sec)		122325	127435	
	Normalized	95.99%	100%	
	Standard Deviation	0.2%	0.2%	
Numpy Benchmark (Score)		345.44	422.70	396.07
	Normalized	81.72%	100%	93.7%
	Standard Deviation	1.1%	0.4%	0.1%
PHPBench - P.B.S (Score)		768303	769527	730250
	Normalized	99.84%	100%	94.9%
	Standard Deviation	1.1%	0.1%	0.3%
Graph500 - 26 (sssp max_TEPS)		394038000	331385000	400884000
	Normalized	98.29%	82.66%	100%
Graph500 - 26 (sssp median_TEPS)		295594000	261281000	310838000
	Normalized	95.1%	84.06%	100%
NAMD - ATPase Simulation - 327,506 Atoms		0.29179	0.28140	0.27376
	(days/ns)			
	Normalized	93.82%	97.29%	100%
	Standard Deviation	0.7%	0.7%	0.4%
WebP Image Encode - Default (Encode Time		2.204	1.803	1.927
	- sec)			
	Normalized	81.81%	100%	93.57%
	Standard Deviation	11.3%	0.1%	7.4%
WebP Image Encode - Quality 100 (Encode		3.014	2.802	3.140
	Time - sec)			
	Normalized	92.97%	100%	89.24%
	Standard Deviation	4.5%	0.1%	8%
WebP Image Encode - Q.1.L (Encode Time -		21.833	20.844	20.876
	sec)			
	Normalized	95.47%	100%	99.85%
	Standard Deviation	1.5%	0.1%	0.5%
WebP Image Encode - Q.1.H.C (Encode Time		9.157	8.411	8.499
	- sec)			
	Normalized	91.85%	100%	98.96%
	Standard Deviation	2.2%	0.1%	0.5%
WebP Image Encode - Q.1.L.H.C (Encode		43.432	41.048	40.751
	Time - sec)			
	Normalized	93.83%	99.28%	100%
	Standard Deviation	1%	0.1%	2.4%
TensorFlow Lite - SqueezeNet (us)		5473	33421	4637
	Normalized	84.72%	13.87%	100%
	Standard Deviation	3.2%	180.9%	2%
TensorFlow Lite - Inception V4 (us)		36694	129983	31396
	Normalized	85.56%	24.15%	100%
	Standard Deviation	4.2%	99.9%	2.4%

TensorFlow Lite - NASNet Mobile (us)	68645	73098	55969
Normalized	81.53%	76.57%	100%
Standard Deviation	1.3%	19.1%	1.5%
TensorFlow Lite - Mobilenet Float (us)	3418	3317	2826
Normalized	82.68%	85.19%	100%
Standard Deviation	2.5%	2.4%	2.2%
TensorFlow Lite - Mobilenet Quant (us)	9663	8957	8857
Normalized	91.66%	98.88%	100%
Standard Deviation	5.4%	2.4%	2%
TensorFlow Lite - I.R.V (us)	48899	48063	42302
Normalized	86.51%	88.01%	100%
Standard Deviation	4.5%	7.5%	4%
PyBench - T.F.A.T.T (Milliseconds)	1438	1148	980
Normalized	68.15%	85.37%	100%
Standard Deviation	0.2%	0.6%	0.2%
PyPerformance - go (Milliseconds)	363	278	299
Normalized	76.58%	100%	92.98%
Standard Deviation	0.3%	0.2%	5.7%
PyPerformance - 2to3 (Milliseconds)	647	335	505
Normalized	51.78%	100%	66.34%
Standard Deviation	0%	0.2%	0.3%
PyPerformance - chaos (Milliseconds)	177	126	121
Normalized	68.36%	96.03%	100%
Standard Deviation	1.3%	0.5%	1.7%
PyPerformance - float (Milliseconds)	159	125	149
Normalized	78.62%	100%	83.89%
Standard Deviation	4%	0%	7.3%
PyPerformance - nbody (Milliseconds)	179	137	140
Normalized	76.54%	100%	97.86%
Standard Deviation	1.3%	0%	
PyPerformance - pathlib (Milliseconds)	26.9	18.3	25.0
Normalized	68.03%	100%	73.2%
Standard Deviation	8.7%	0.3%	6.5%
PyPerformance - raytrace (Milliseconds)	844	549	459
Normalized	54.38%	83.61%	100%
Standard Deviation	0.3%	0.2%	1.2%
PyPerformance - json_loads (Milliseconds)	32.0	24.6	30.1
Normalized	76.88%	100%	81.73%
Standard Deviation	2.4%	0%	5.5%
PyPerformance - crypto_pyaes	150	121	132
Normalized	80.67%	100%	91.67%
Standard Deviation	2.5%	0%	7.9%
PyPerformance - regex_compile	257	187	200
Normalized	72.76%	100%	93.5%
Standard Deviation	1.6%	0%	0.5%
PyPerformance - python_startup	20	8.63	17.4
Normalized	43.15%	100%	49.6%
Standard Deviation	0%	0.1%	0.7%
PyPerformance - django_template (Milliseconds)	102	53.0	57.7
Normalized	51.96%	100%	91.85%
Standard Deviation	0.6%	0.2%	7.2%

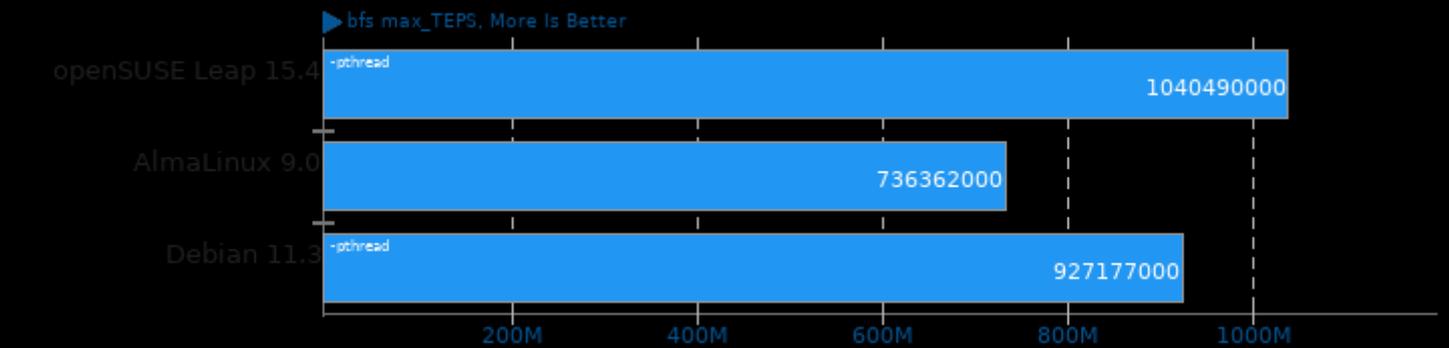
PyPerformance - pickle_pure_python (Milliseconds)	695	475	565
Normalized	68.35%	100%	84.07%
Standard Deviation	2%	0.2%	8.7%
OSPray Studio - 1 - 1080p - 16 - Path Tracer (ms)	5033	5037	4964
Normalized	98.63%	98.55%	100%
Standard Deviation	0.6%	0.4%	0.4%
OSPray Studio - 1 - 1080p - 32 - Path Tracer (ms)	10065	9949	9996
Normalized	98.85%	100%	99.53%
Standard Deviation	0.4%	0.3%	0.3%
OSPray Studio - 2 - 1080p - 16 - Path Tracer (ms)	5072	5086	4996
Normalized	98.5%	98.23%	100%
Standard Deviation	0.5%	0.4%	0.9%
OSPray Studio - 2 - 1080p - 32 - Path Tracer (ms)	10162	10102	10026
Normalized	98.66%	99.25%	100%
Standard Deviation	0.2%	0.8%	0.8%
OSPray Studio - 3 - 1080p - 16 - Path Tracer (ms)	5992	6045	5968
Normalized	99.6%	98.73%	100%
Standard Deviation	0.2%	0.2%	0.5%
OSPray Studio - 3 - 1080p - 32 - Path Tracer (ms)	11993	12009	11808
Normalized	98.46%	98.33%	100%
Standard Deviation	0.4%	1%	0.6%
Timed MrBayes Analysis - P.P.A (sec)	157.212	167.303	169.330
Normalized	100%	93.97%	92.84%
Standard Deviation	0.4%	0.3%	0.3%
Xcompact3d Incompact3d - X.b.i.i (sec)	300.673177	325.482727	291.486185
Normalized	96.94%	89.56%	100%
Standard Deviation	2.5%	0.1%	0.8%
Xcompact3d Incompact3d - i.i.1.C.P.D (sec)	2.96871304	3.08125238	2.89126166
Normalized	97.39%	93.83%	100%
Standard Deviation	0.3%	7.1%	1.2%
Xcompact3d Incompact3d - i.i.1.C.P.D (sec)	11.7862835	12.3476836	11.1820466
Normalized	94.87%	90.56%	100%
Standard Deviation	0.5%	1.9%	0.7%
libavif avifenc - 0 (sec)	82.336	81.654	85.020
Normalized	99.17%	100%	96.04%
Standard Deviation	1.4%	2.1%	1.1%
libavif avifenc - 2 (sec)	47.850	46.807	47.928
Normalized	97.82%	100%	97.66%
Standard Deviation	0.2%	0.8%	0.9%
libavif avifenc - 6 (sec)	6.145	4.742	5.823
Normalized	77.17%	100%	81.44%
Standard Deviation	1.1%	0.7%	5.5%
libavif avifenc - 6, Lossless (sec)	10.179	7.560	10.510
Normalized	74.27%	100%	71.93%
Standard Deviation	2.2%	0.8%	1.5%
libavif avifenc - 10, Lossless (sec)	7.239	4.988	7.450
Normalized	68.9%	100%	66.95%

	Standard Deviation	4.9%	0.8%	2.1%
Timed Apache Compilation - Time To Compile (sec)		31.249	20.729	34.164
	Normalized	66.33%	100%	60.67%
	Standard Deviation	0.5%	0%	0.1%
Timed Godot Game Engine Compilation - Time To Compile (sec)		91.213	51.151	75.089
	Normalized	56.08%	100%	68.12%
	Standard Deviation	0.9%	0.7%	1%
Timed LLVM Compilation - Ninja (sec)		128.681	134.132	129.792
	Normalized	100%	95.94%	99.14%
	Standard Deviation	0.3%	0.6%	0.5%
Timed LLVM Compilation - Unix Makefiles		186.659	202.363	205.775
	Normalized	100%	92.24%	90.71%
	Standard Deviation	0.3%	1.8%	0.3%
Timed MPlayer Compilation - Time To Compile (sec)		9.324	10.167	9.843
	Normalized	100%	91.71%	94.73%
	Standard Deviation	0.4%	0.6%	0.5%
Timed PHP Compilation - Time To Compile (sec)		32.118	37.817	40.641
	Normalized	100%	84.93%	79.03%
	Standard Deviation	1.3%	0.8%	0.7%
WebP2 Image Encode - Default (sec)		2.845	2.444	2.746
	Normalized	85.91%	100%	89%
	Standard Deviation	7.6%	2.5%	4.5%
WebP2 Image Encode - Q.7.C.E.7 (sec)		113.553	110.883	113.255
	Normalized	97.65%	100%	97.91%
	Standard Deviation	0.2%	0%	0.2%
WebP2 Image Encode - Q.9.C.E.7 (sec)		238.880	233.510	238.640
	Normalized	97.75%	100%	97.85%
	Standard Deviation	0.4%	0.1%	0.7%
WebP2 Image Encode - Q.1.C.E.5 (sec)		3.560	3.191	3.577
	Normalized	89.63%	100%	89.21%
	Standard Deviation	2.9%	0.3%	10.5%
WebP2 Image Encode - Q.1.L.C (sec)		513.494	540.348	530.385
	Normalized	100%	95.03%	96.82%
	Standard Deviation	0.1%	0%	0.1%
Blender - BMW27 - CPU-Only (sec)		24.96	24.36	24.64
	Normalized	97.6%	100%	98.86%
	Standard Deviation	0.9%	0.2%	0.3%
Blender - Classroom - CPU-Only (sec)		64.81	64.38	63.81
	Normalized	98.46%	99.11%	100%
	Standard Deviation	0%	0.5%	0%
Blender - Fishy Cat - CPU-Only (sec)		33.55	32.26	34.75
	Normalized	96.15%	100%	92.83%
	Standard Deviation	0.5%	0.6%	0.9%
Blender - Barbershop - CPU-Only (sec)		256.09	253.86	253.15
	Normalized	98.85%	99.72%	100%
	Standard Deviation	0.4%	0.2%	0.3%
Blender - Pabellon Barcelona - CPU-Only		82.58	81.96	81.49
	Normalized	98.68%	99.43%	100%
	Standard Deviation	0.4%	0.1%	0.7%
Appleseed - Emily (sec)		175.859044	122.838045	180.867399
	Normalized	69.85%	100%	67.92%

Appleseed - Disney Material (sec)	80.994292	57.927881	81.094078
Normalized	71.52%	100%	71.43%
Appleseed - Material Tester (sec)	185.911815	190.024634	192.017755
Normalized	100%	97.84%	96.82%
Timed Node.js Compilation - Time To Compile (sec)		128.680	138.661
Normalized		100%	92.8%
Standard Deviation		0.5%	0.7%

Graph500 3.0

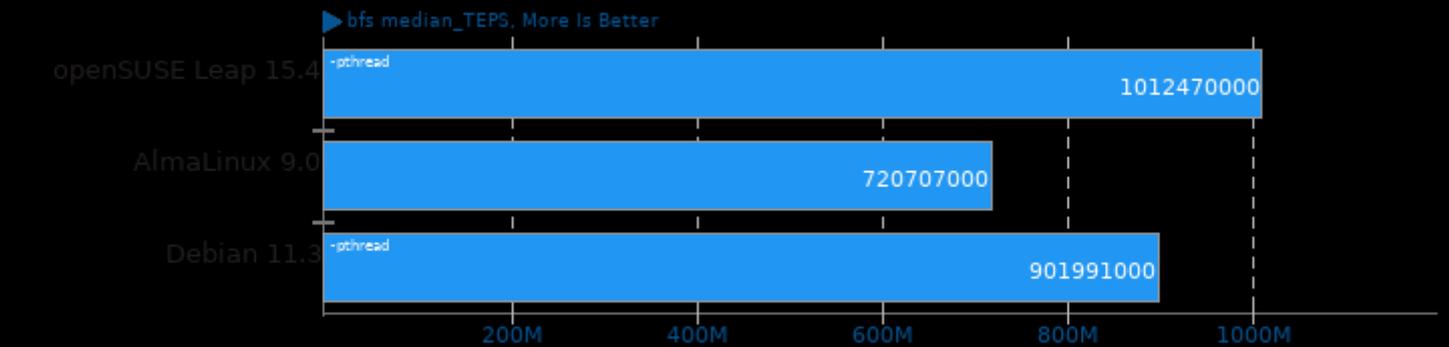
Scale: 26



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

Graph500 3.0

Scale: 26



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

AOM AV1 3.4

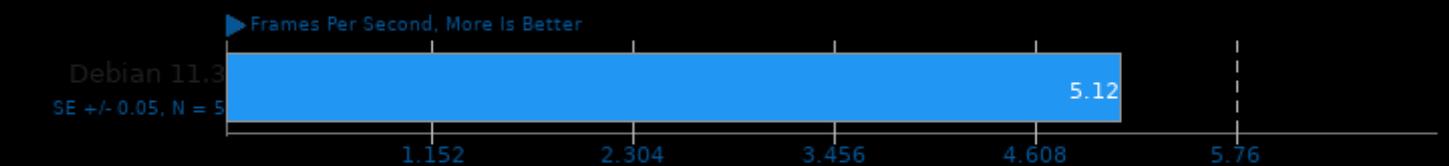
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.4

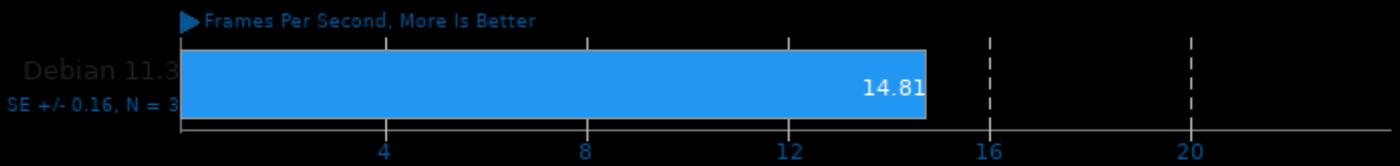
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.4

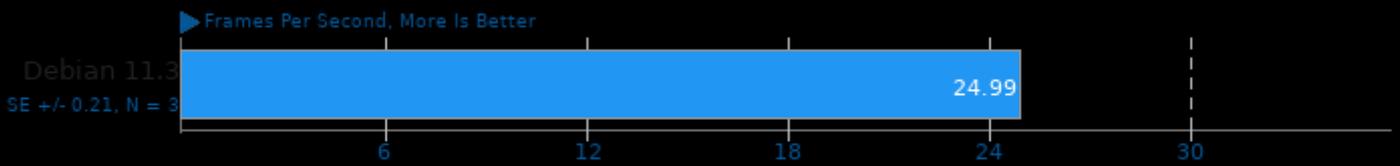
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -pthread

AOM AV1 3.4

Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -pthread

AOM AV1 3.4

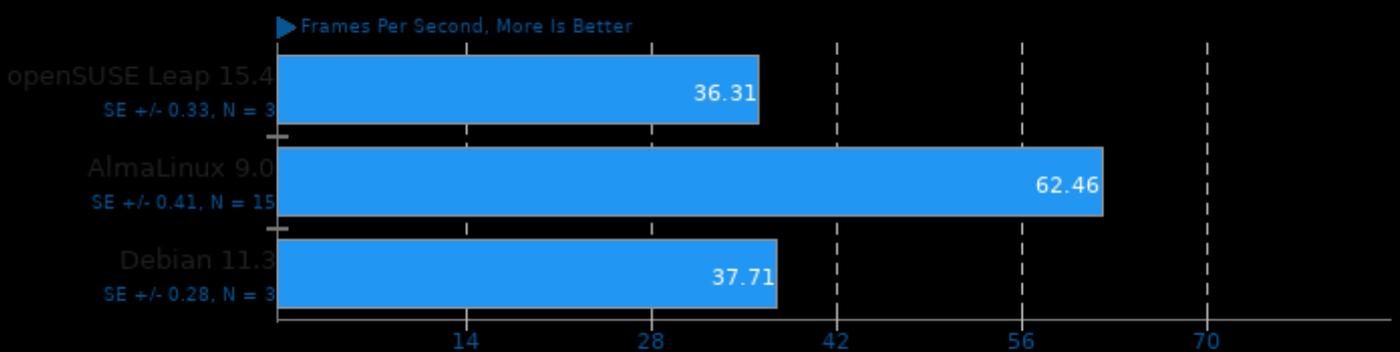
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -pthread

SVT-AV1 1.0

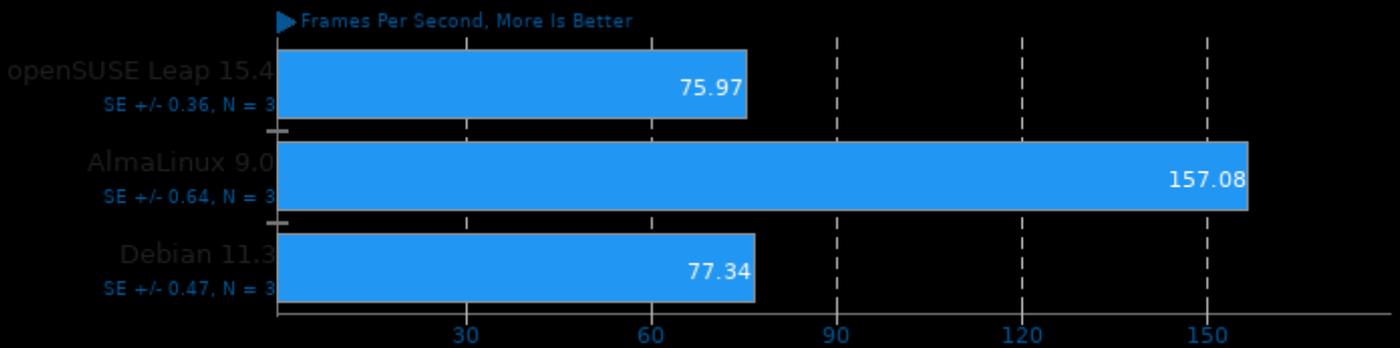
Encoder Mode: Preset 8 - Input: Bosphorus 4K



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

SVT-AV1 1.0

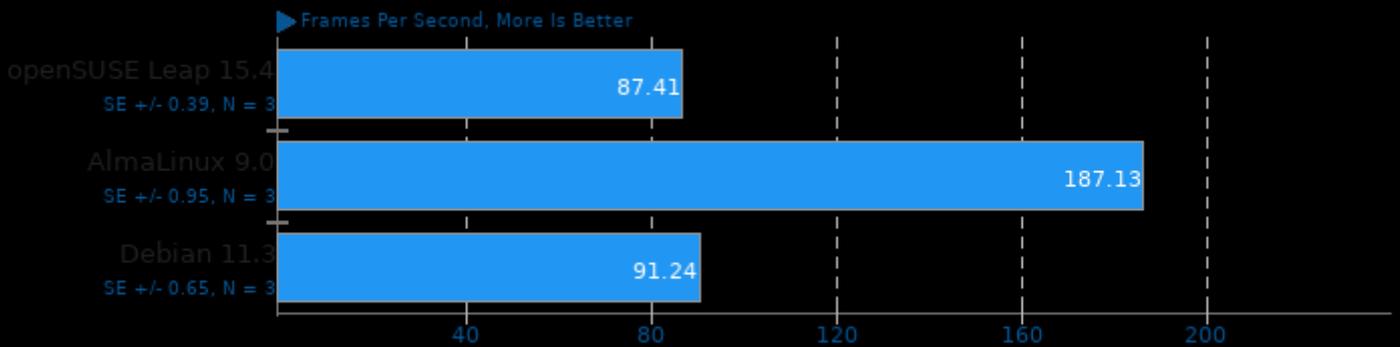
Encoder Mode: Preset 10 - Input: Bosphorus 4K



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

SVT-AV1 1.0

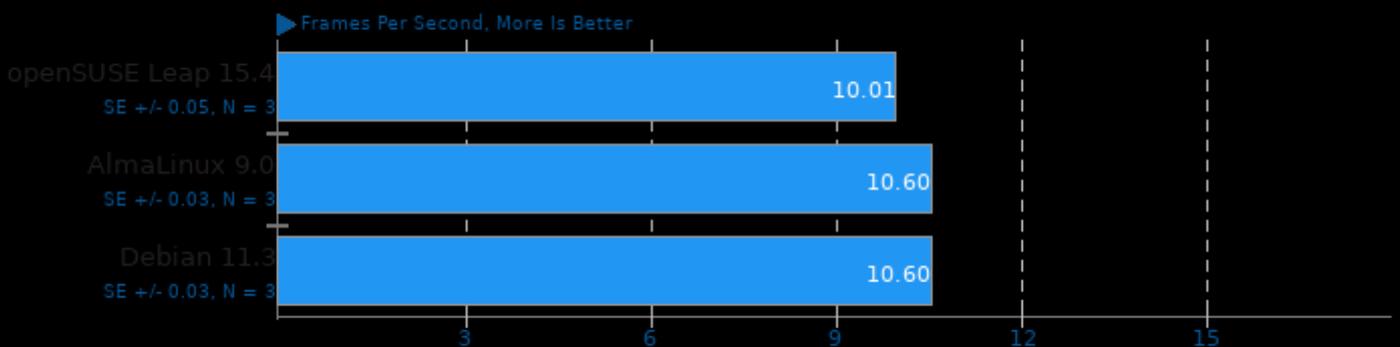
Encoder Mode: Preset 12 - Input: Bosphorus 4K



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

SVT-HEVC 1.5.0

Tuning: 1 - Input: Bosphorus 4K

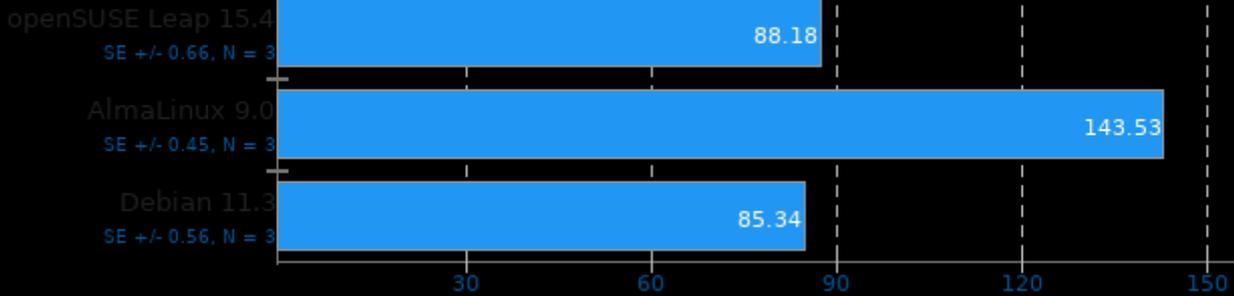


1. (C) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt

SVT-HEVC 1.5.0

Tuning: 7 - Input: Bosphorus 4K

▶ Frames Per Second, More Is Better

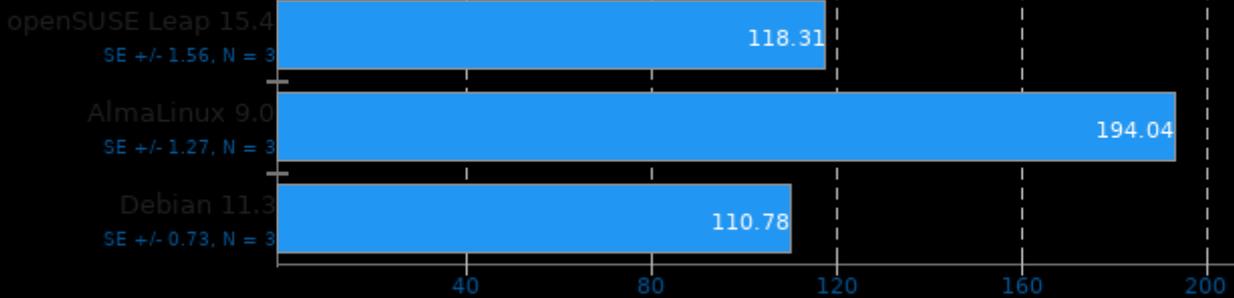


1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lthread -lrt

SVT-HEVC 1.5.0

Tuning: 10 - Input: Bosphorus 4K

▶ Frames Per Second, More Is Better

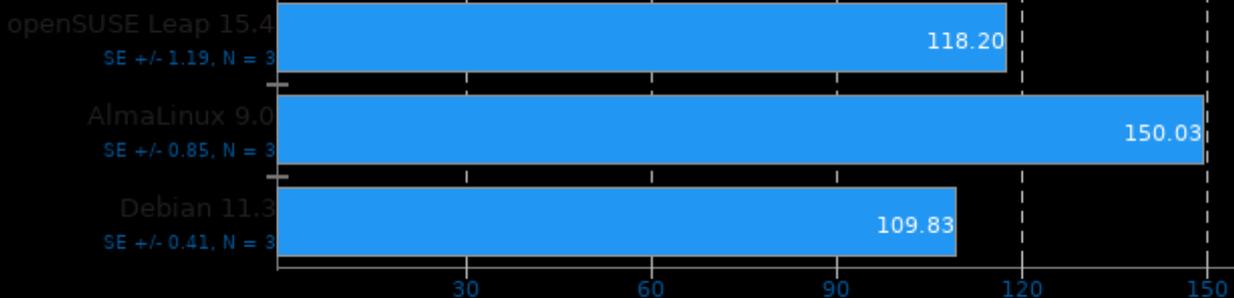


1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lthread -lrt

SVT-VP9 0.3

Tuning: VMAF Optimized - Input: Bosphorus 4K

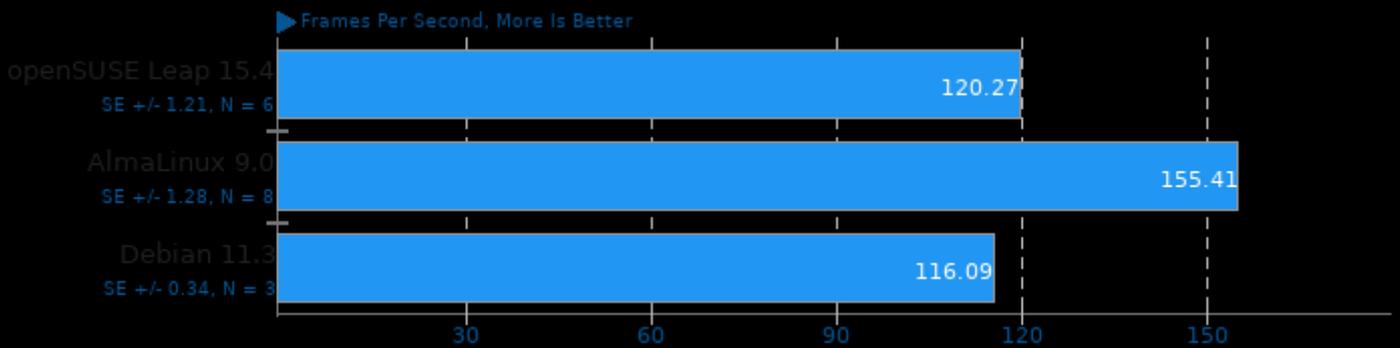
▶ Frames Per Second, More Is Better



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

SVT-VP9 0.3

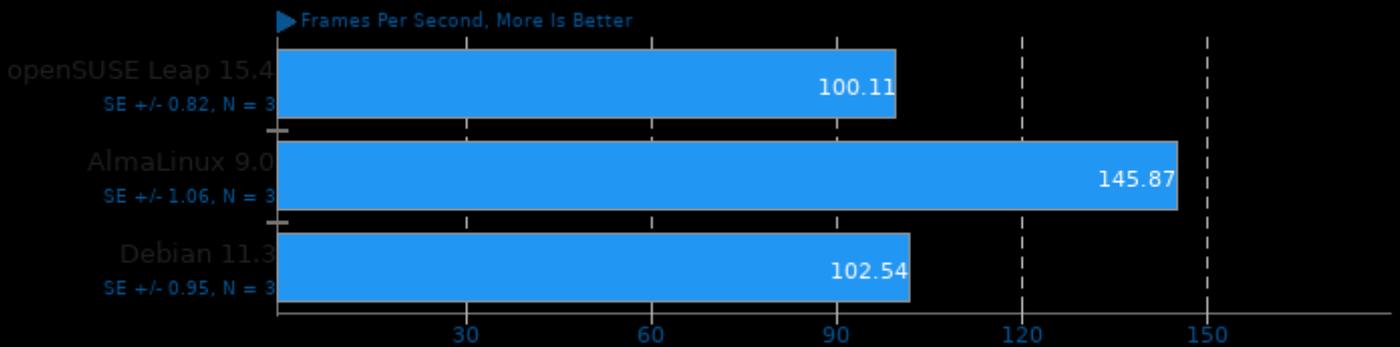
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 4K



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

SVT-VP9 0.3

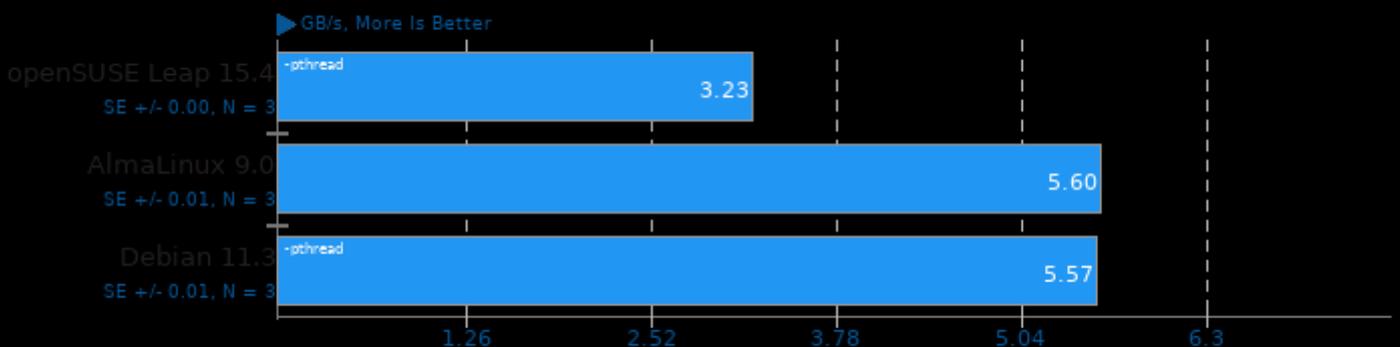
Tuning: Visual Quality Optimized - Input: Bosphorus 4K



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

simdjson 2.0

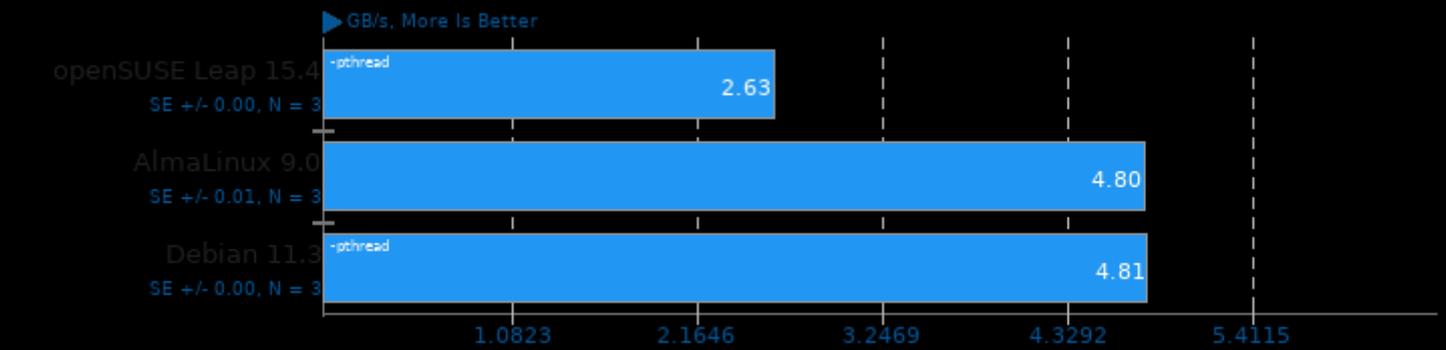
Throughput Test: TopTweet



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

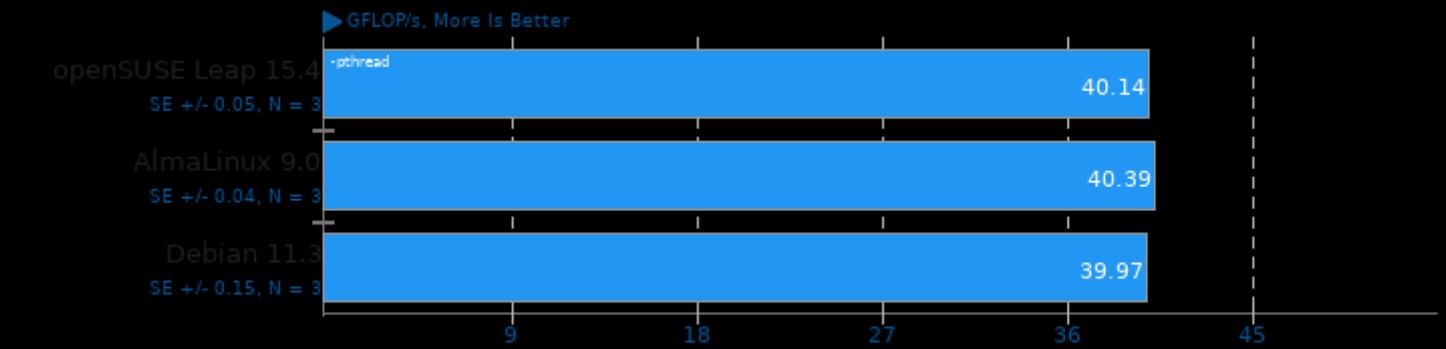
simdjson 2.0

Throughput Test: PartialTweets



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

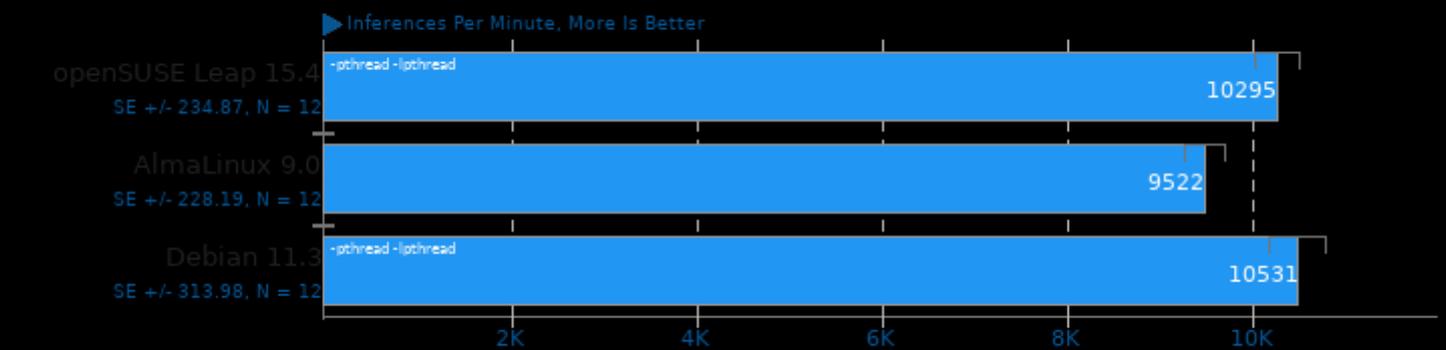
High Performance Conjugate Gradient 3.1



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

ONNX Runtime 1.11

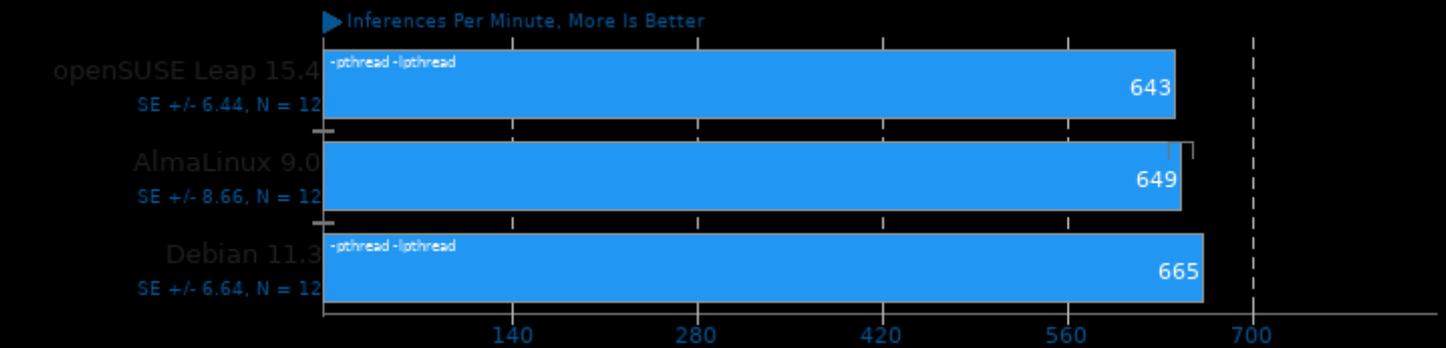
Model: GPT-2 - Device: CPU - Executor: Standard



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

ONNX Runtime 1.11

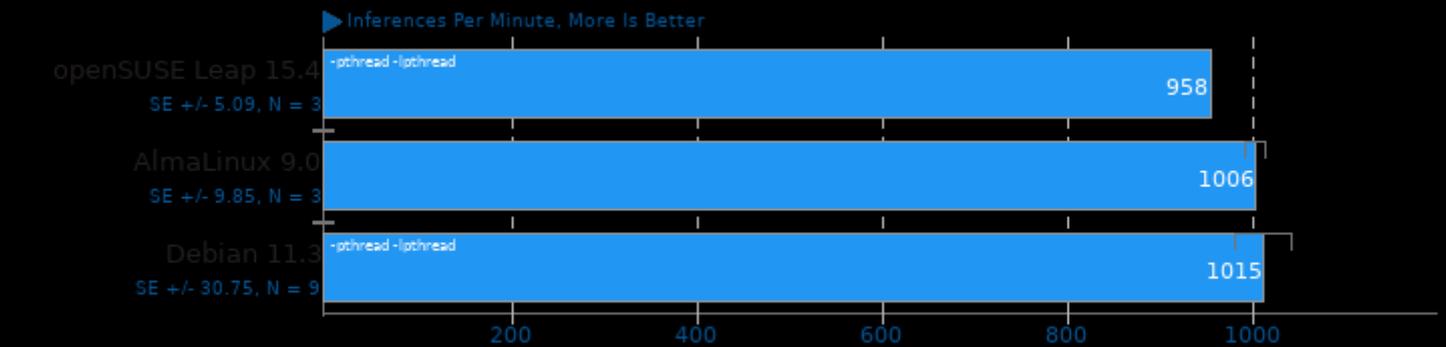
Model: yolov4 - Device: CPU - Executor: Standard



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

ONNX Runtime 1.11

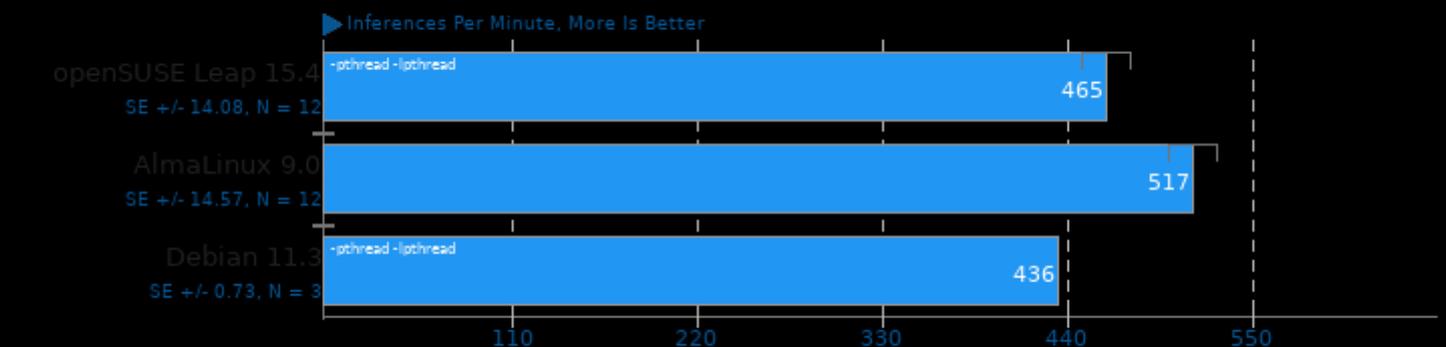
Model: bertseq-12 - Device: CPU - Executor: Standard



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

ONNX Runtime 1.11

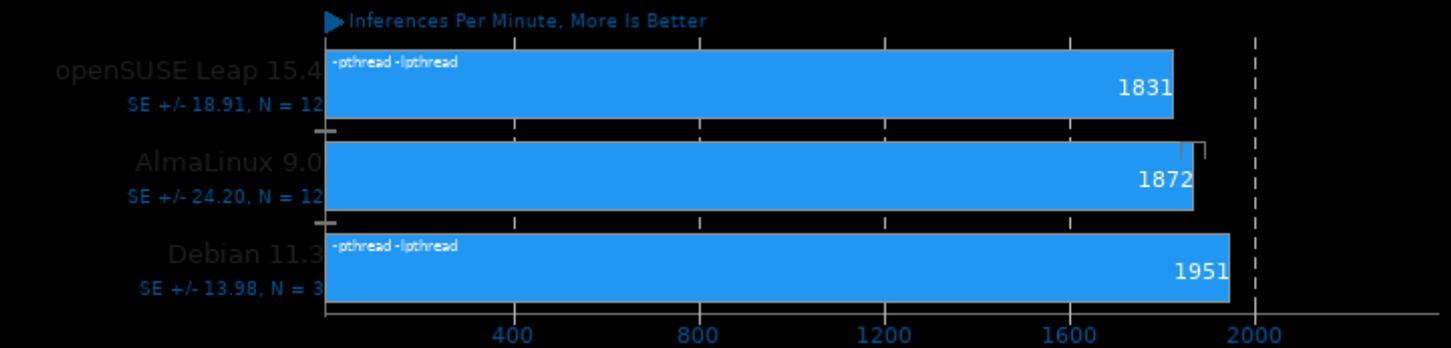
Model: fcn-resnet101-11 - Device: CPU - Executor: Standard



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

ONNX Runtime 1.11

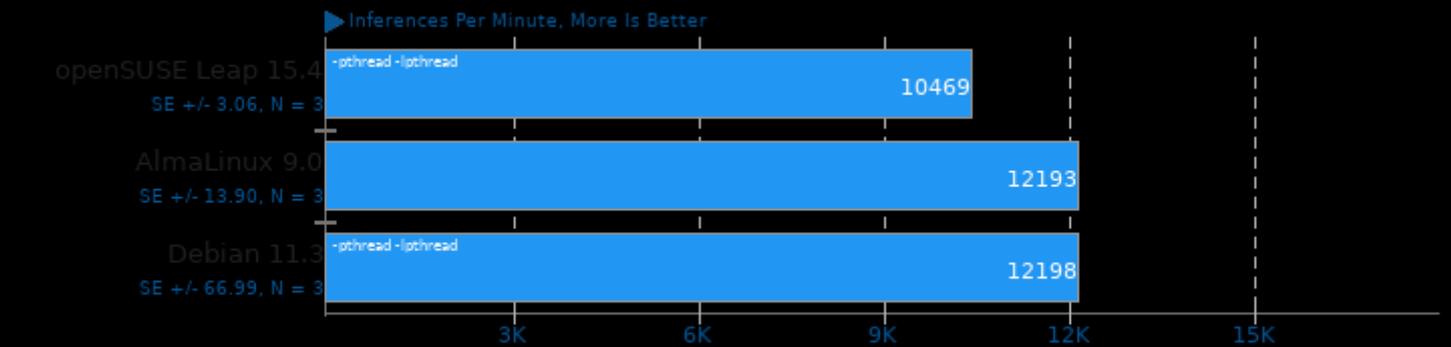
Model: ArcFace ResNet-100 - Device: CPU - Executor: Standard



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

ONNX Runtime 1.11

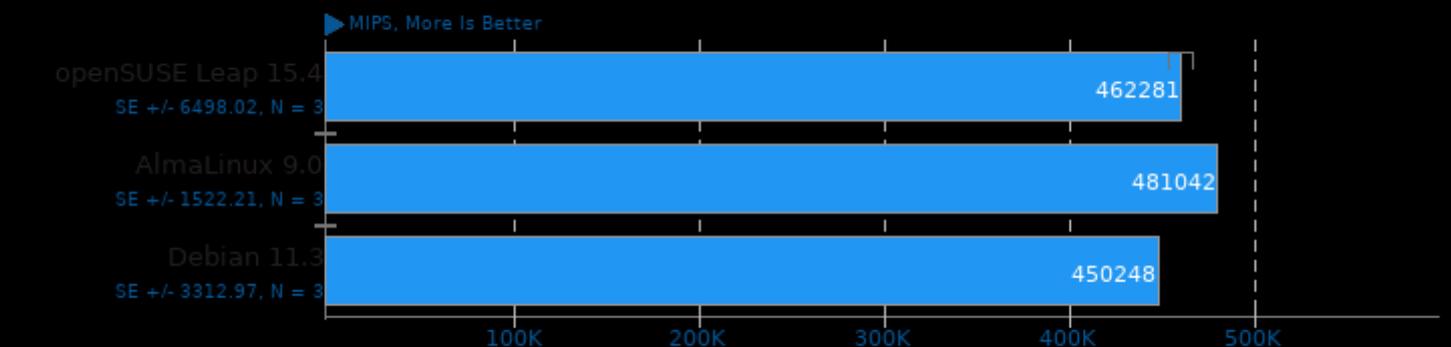
Model: super-resolution-10 - Device: CPU - Executor: Standard



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

7-Zip Compression 22.00

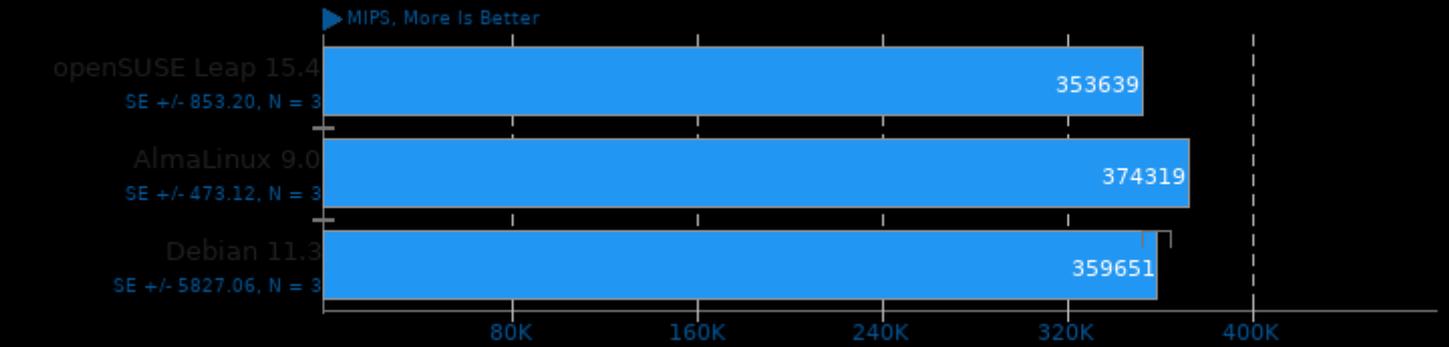
Test: Compression Rating



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

7-Zip Compression 22.00

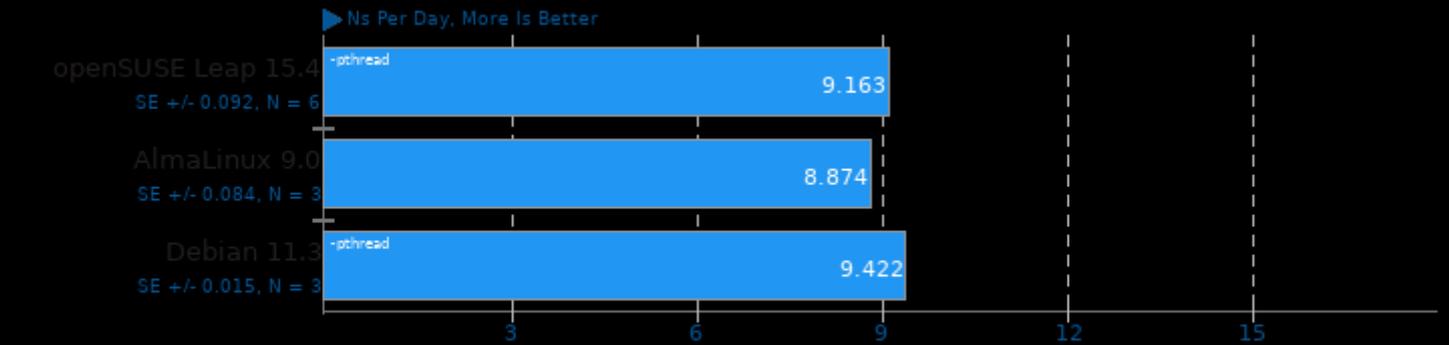
Test: Decompression Rating



1. (CXX) g++ options: -pthread -ldl -O2 -fPIC

GROMACS 2022.1

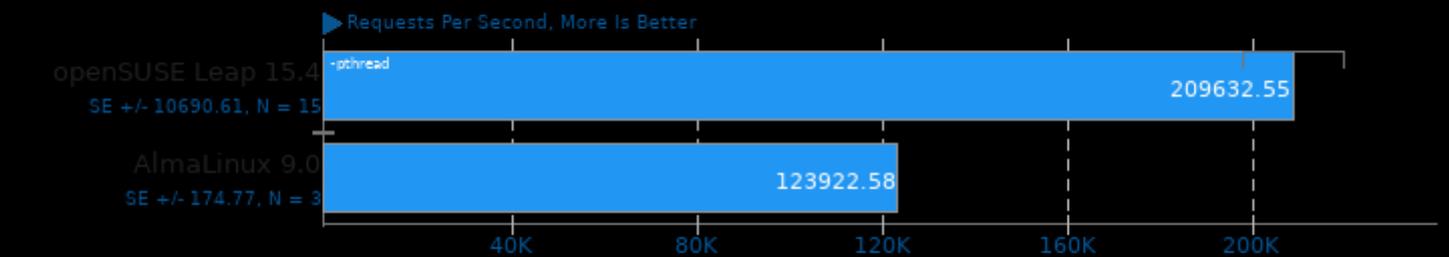
Implementation: MPI CPU - Input: water_GMX50_bare



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

Apache HTTP Server 2.4.48

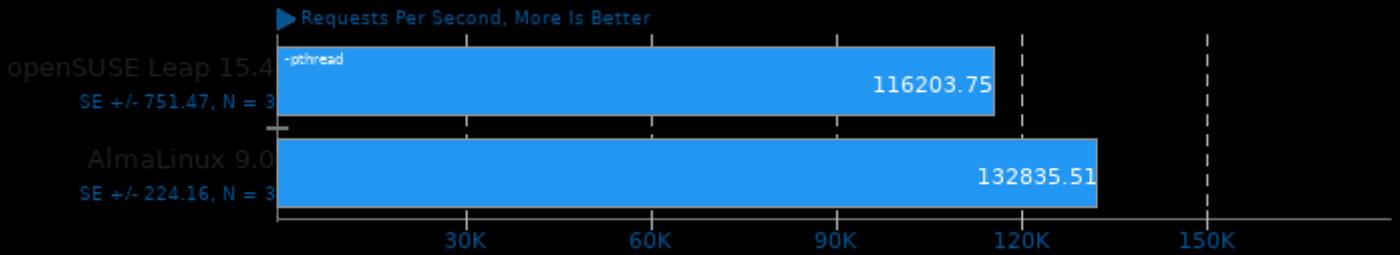
Concurrent Requests: 200



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

Apache HTTP Server 2.4.48

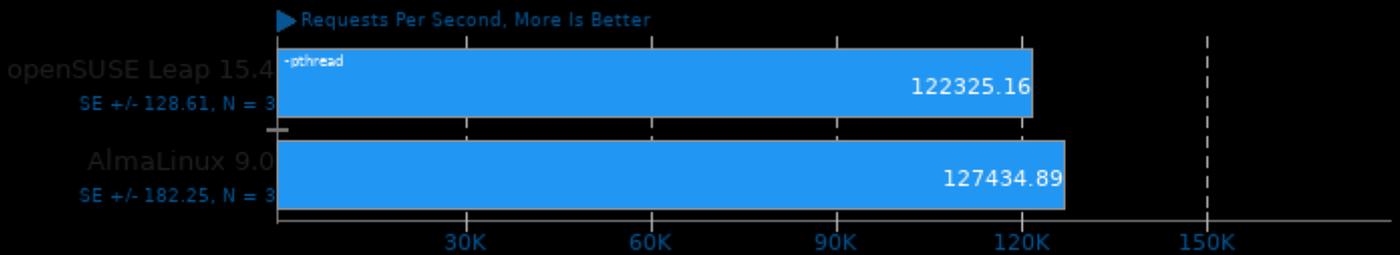
Concurrent Requests: 500



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

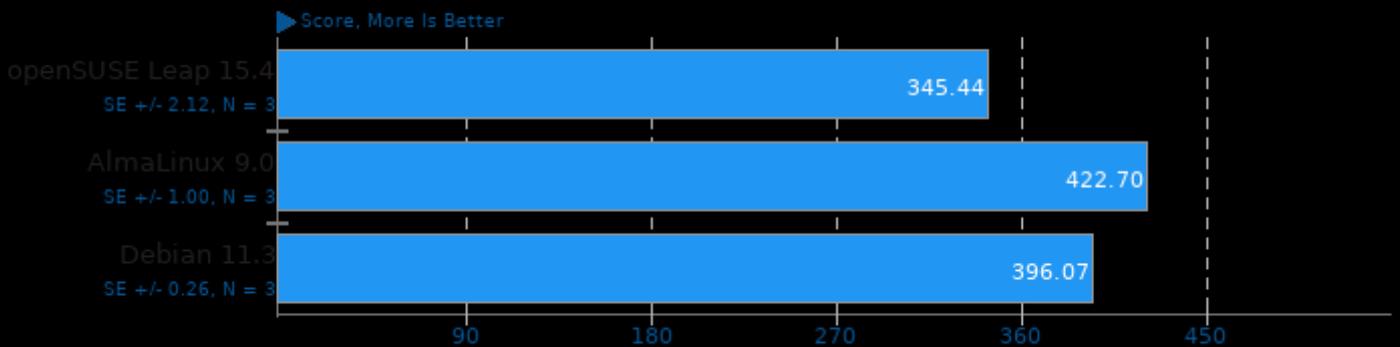
Apache HTTP Server 2.4.48

Concurrent Requests: 1000



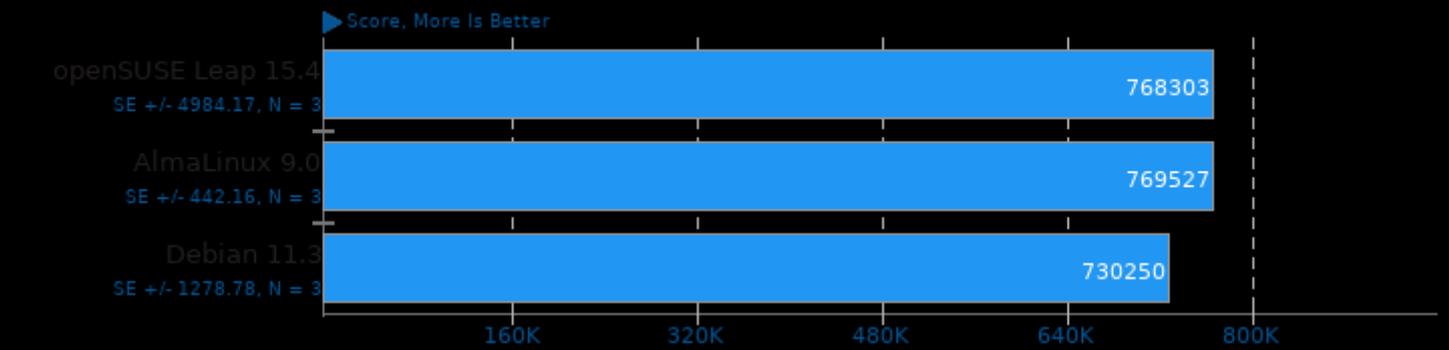
1. (CC) gcc options: -shared -fPIC -O2

Numpy Benchmark



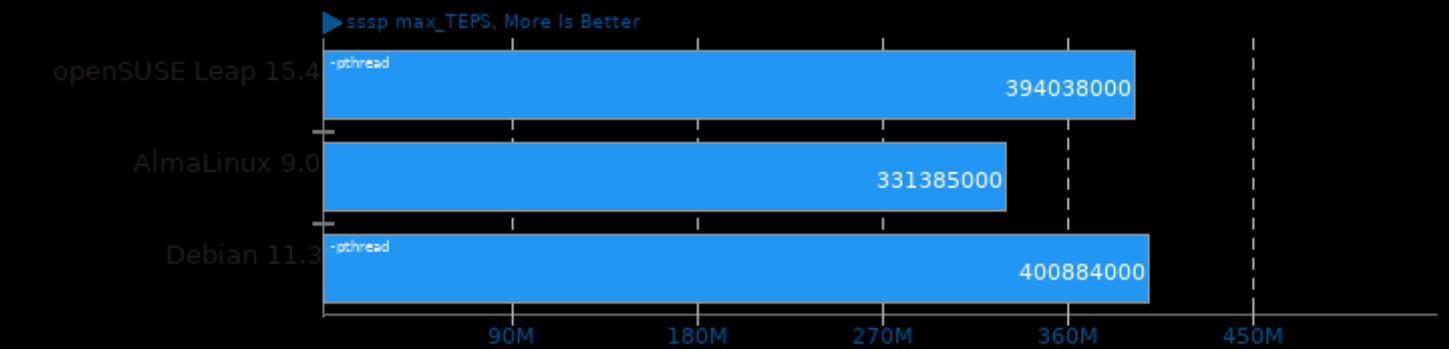
PHPBench 0.8.1

PHP Benchmark Suite



Graph500 3.0

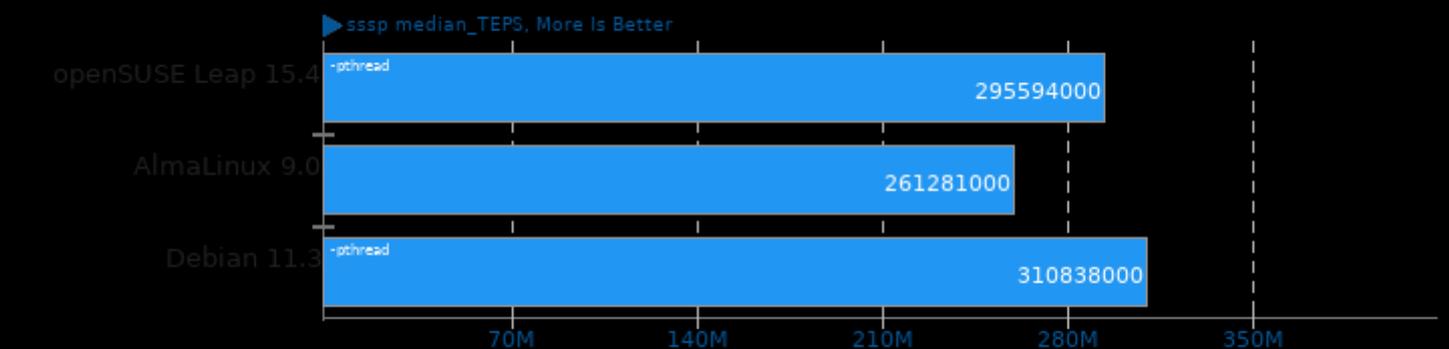
Scale: 26



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

Graph500 3.0

Scale: 26

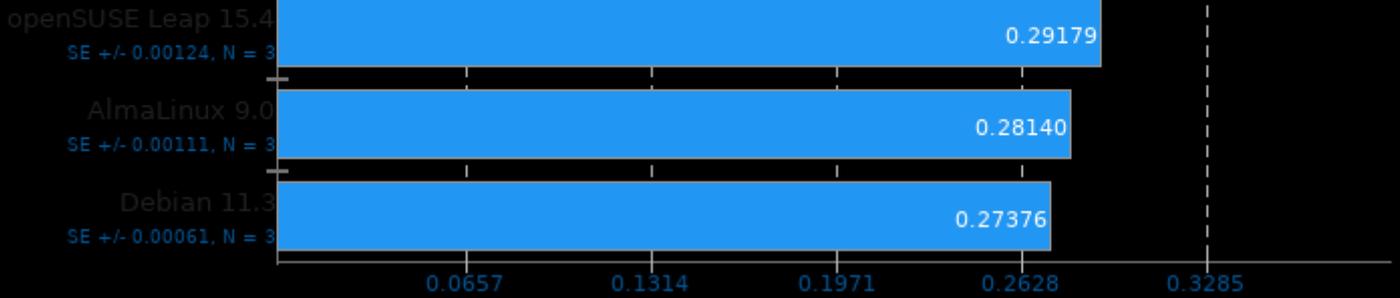


1. (CC) gcc options: -fcommon -O3 -lthread -lm -lmpi

NAMD 2.14

ATPase Simulation - 327,506 Atoms

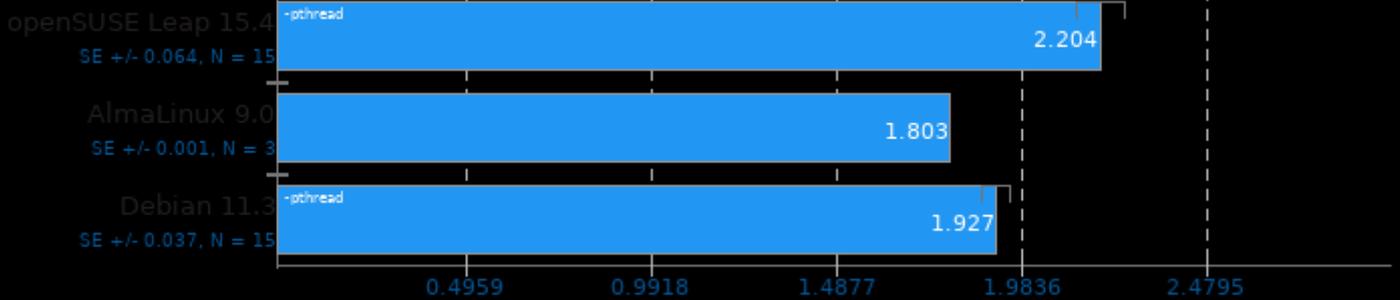
days/ns, Fewer Is Better



WebP Image Encode 1.1

Encode Settings: Default

Encode Time - Seconds, Fewer Is Better

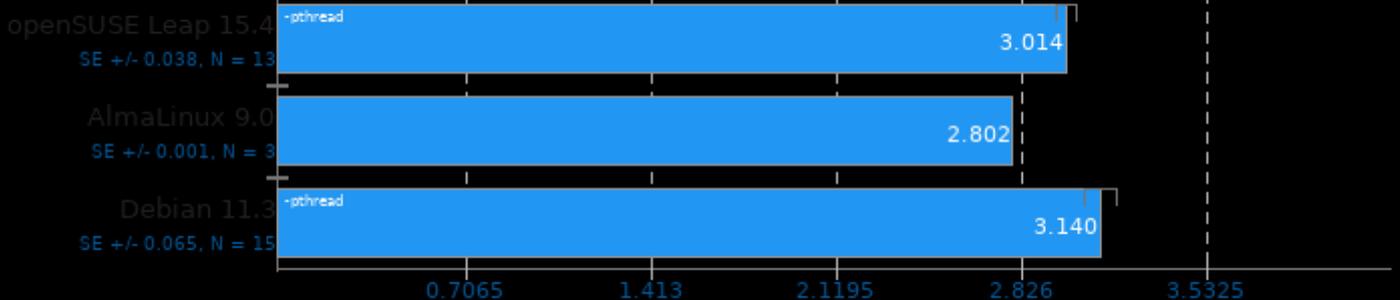


1. (CC) gcc options: -fvisibility=hidden -O2 -lm -lpng16 -ljpeg

WebP Image Encode 1.1

Encode Settings: Quality 100

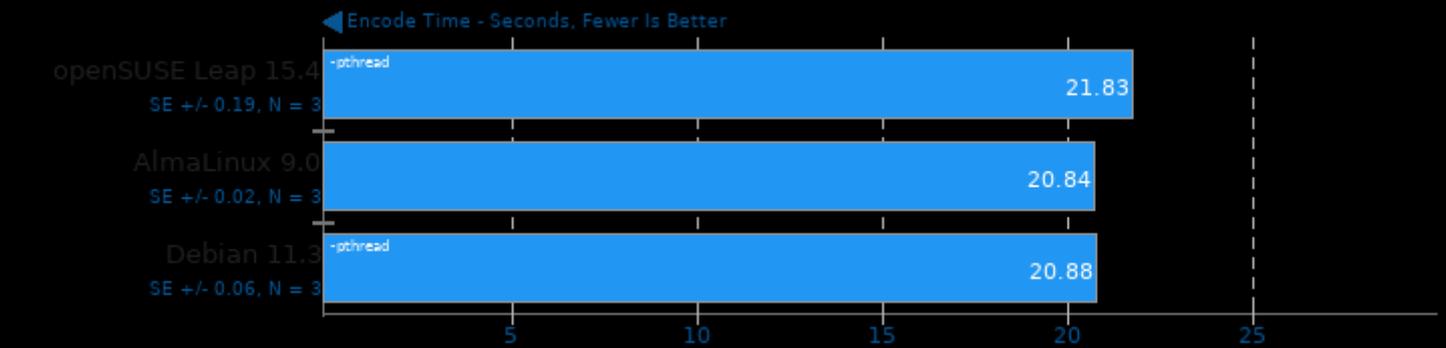
Encode Time - Seconds, Fewer Is Better



1. (CC) gcc options: -fvisibility=hidden -O2 -lm -lpng16 -ljpeg

WebP Image Encode 1.1

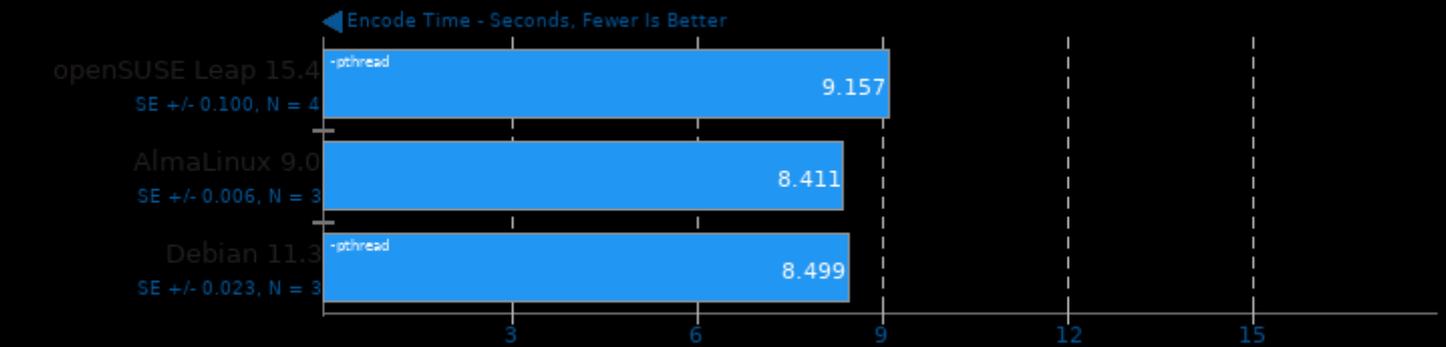
Encode Settings: Quality 100, Lossless



1. (CC) gcc options: -fvisibility=hidden -O2 -lm -lpng16 -ljpeg

WebP Image Encode 1.1

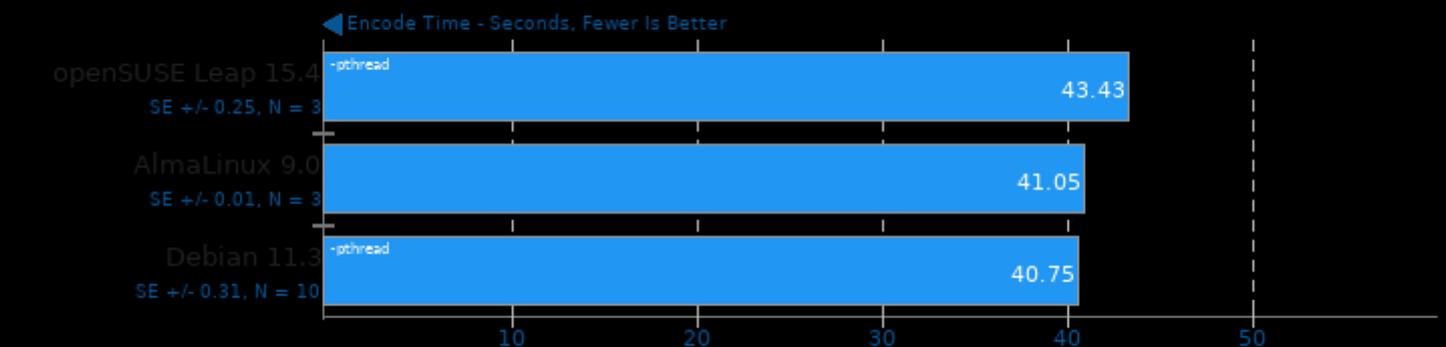
Encode Settings: Quality 100, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O2 -lm -lpng16 -ljpeg

WebP Image Encode 1.1

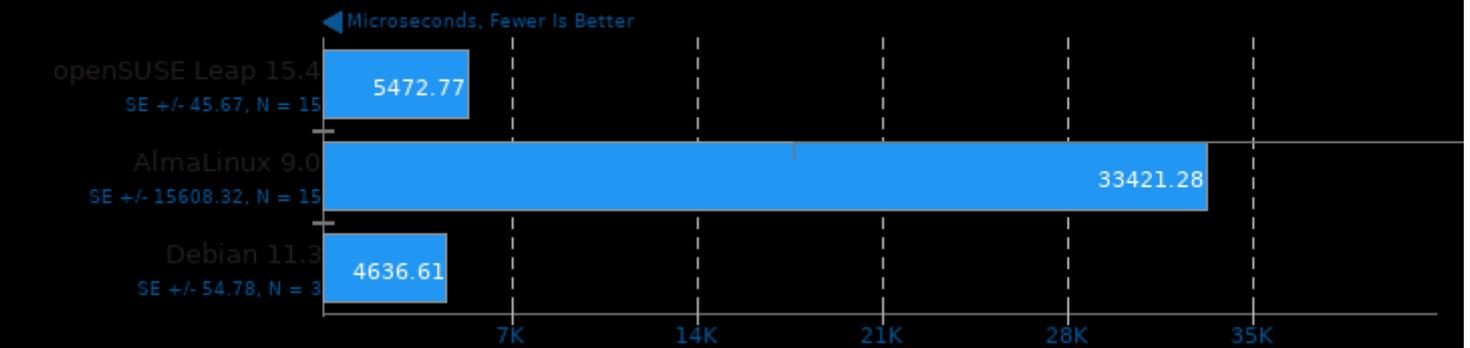
Encode Settings: Quality 100, Lossless, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O2 -lm -lpng16 -ljpeg

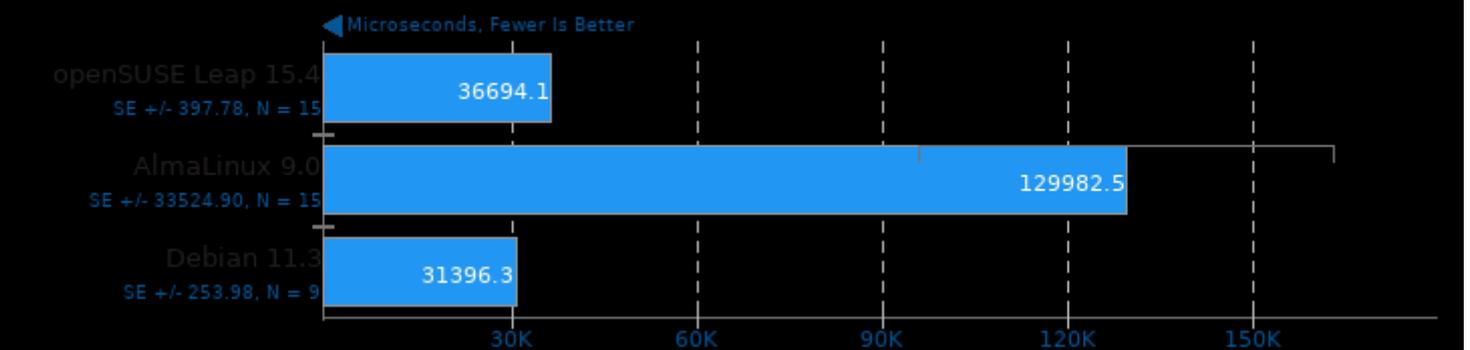
TensorFlow Lite 2022-05-18

Model: SqueezeNet



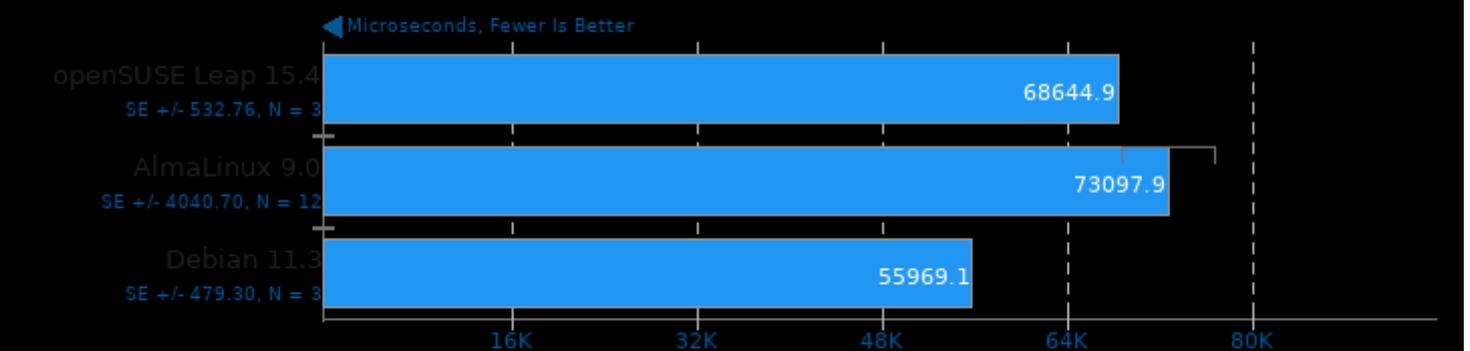
TensorFlow Lite 2022-05-18

Model: Inception V4



TensorFlow Lite 2022-05-18

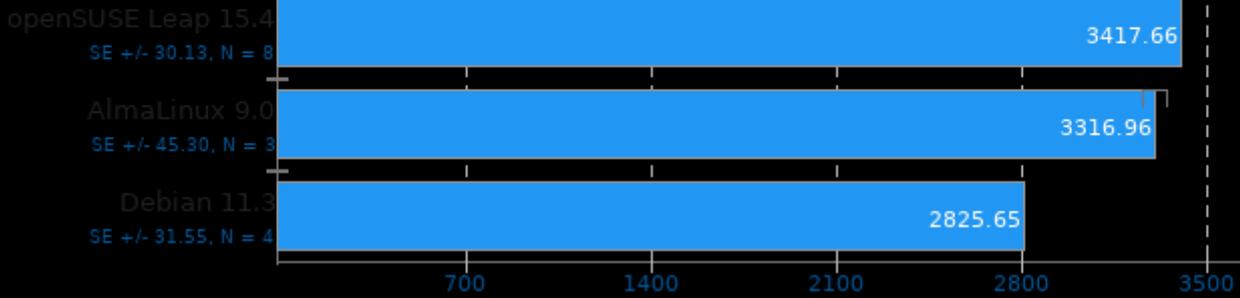
Model: NASNet Mobile



TensorFlow Lite 2022-05-18

Model: Mobilenet Float

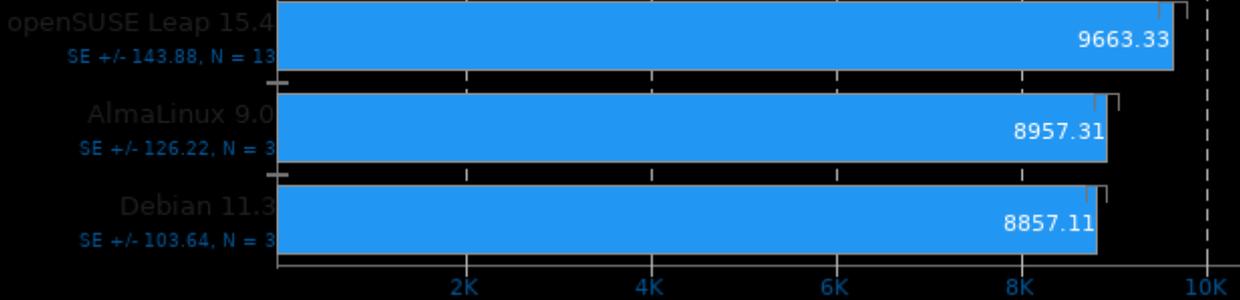
Microseconds, Fewer Is Better



TensorFlow Lite 2022-05-18

Model: Mobilenet Quant

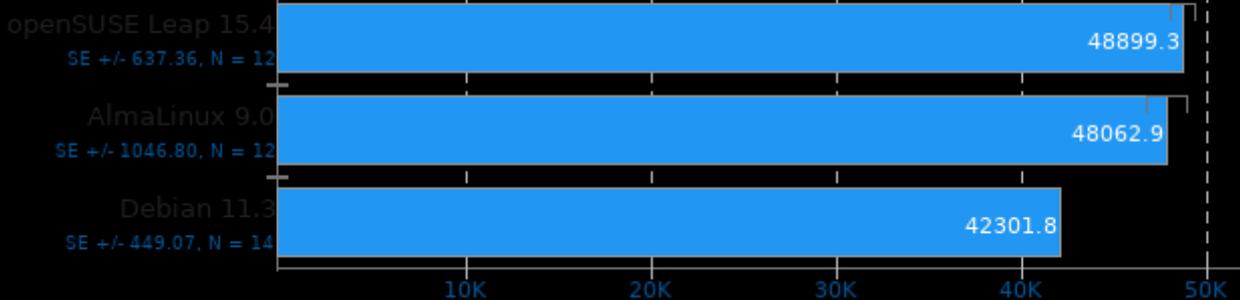
Microseconds, Fewer Is Better



TensorFlow Lite 2022-05-18

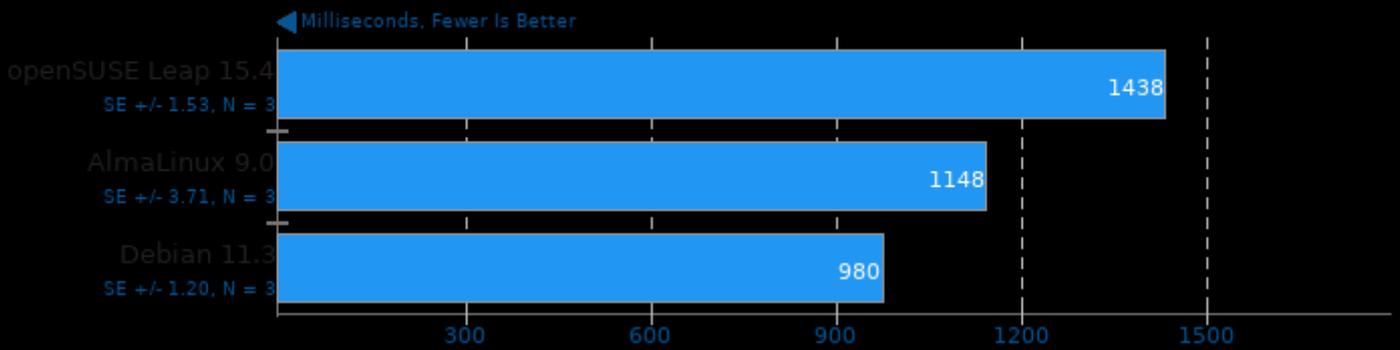
Model: Inception ResNet V2

Microseconds, Fewer Is Better



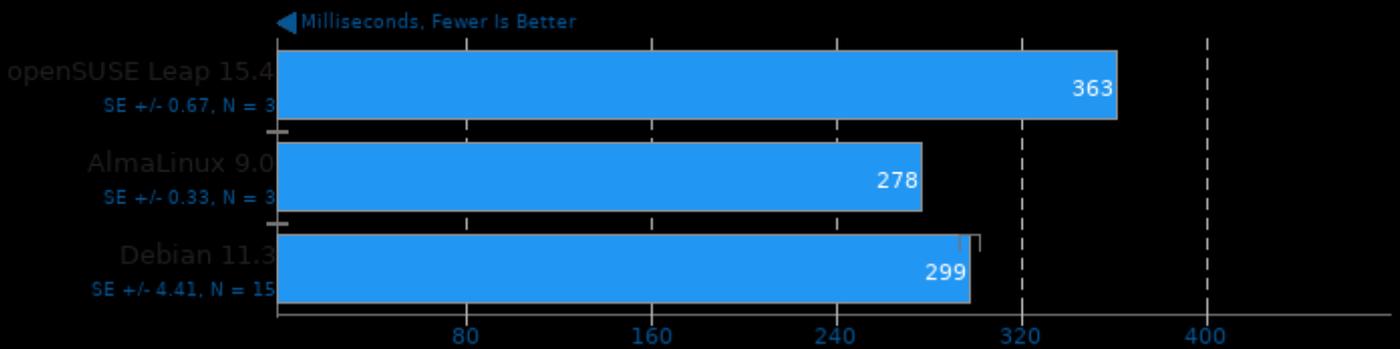
PyBench 2018-02-16

Total For Average Test Times



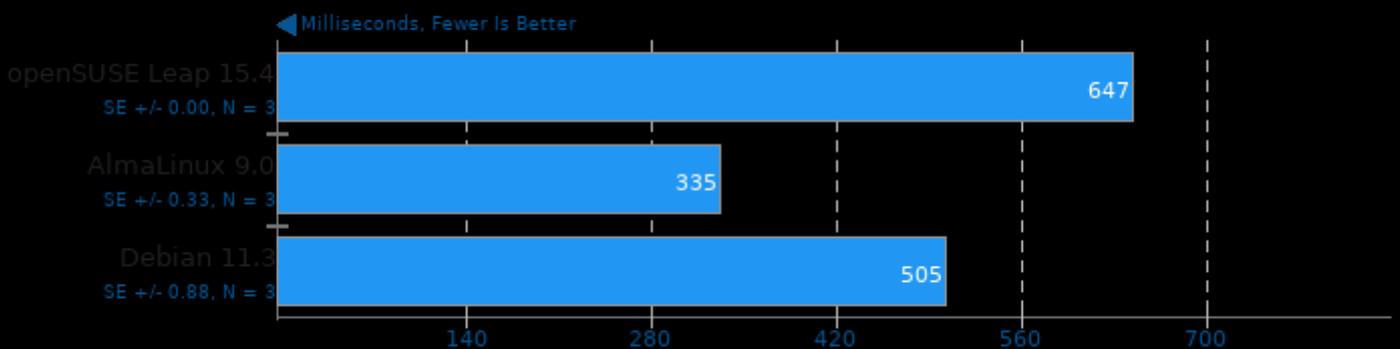
PyPerformance 1.0.0

Benchmark: go



PyPerformance 1.0.0

Benchmark: 2to3



PyPerformance 1.0.0

Benchmark: chaos

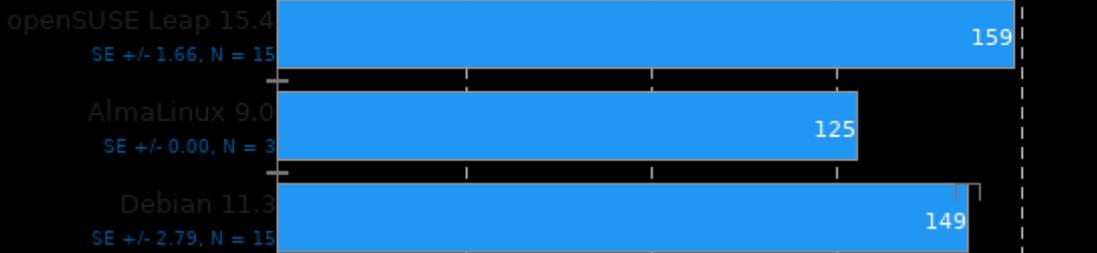
◀ Milliseconds, Fewer Is Better



PyPerformance 1.0.0

Benchmark: float

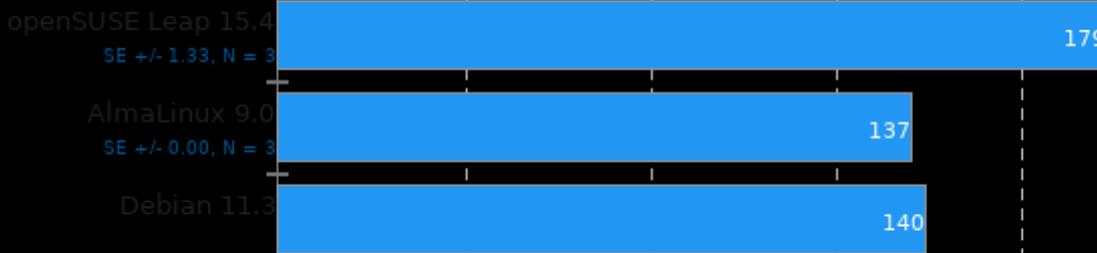
◀ Milliseconds, Fewer Is Better



PyPerformance 1.0.0

Benchmark: nbody

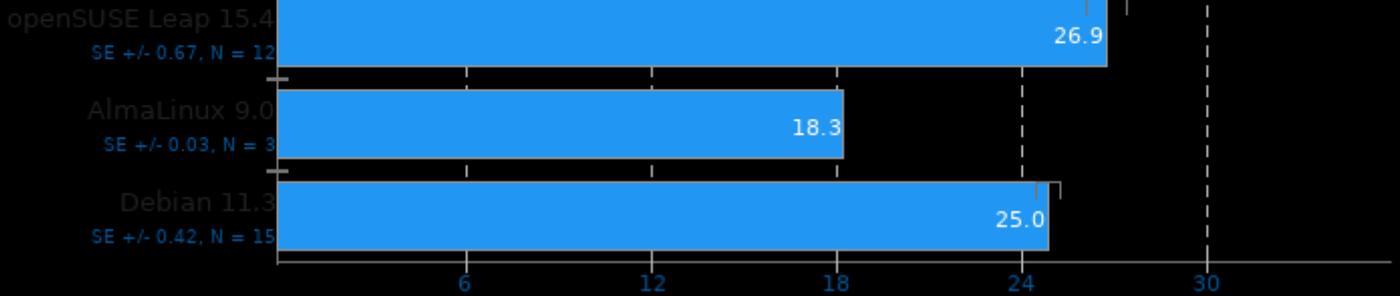
◀ Milliseconds, Fewer Is Better



PyPerformance 1.0.0

Benchmark: pathlib

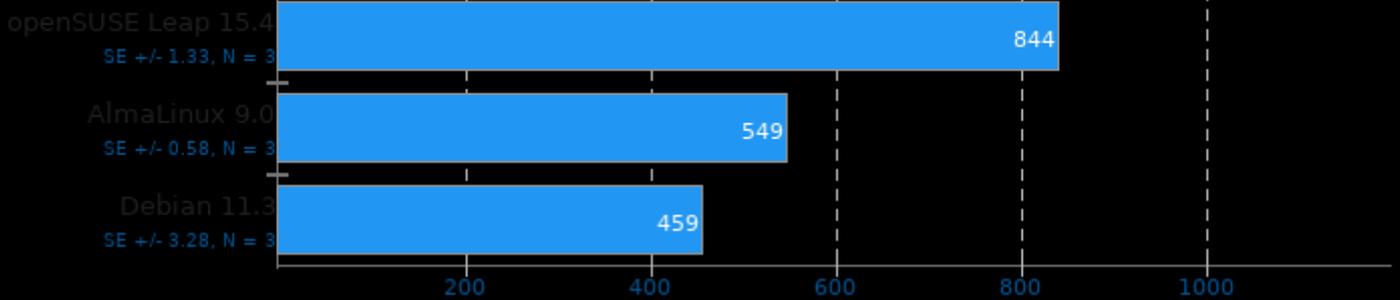
◀ Milliseconds, Fewer Is Better



PyPerformance 1.0.0

Benchmark: raytrace

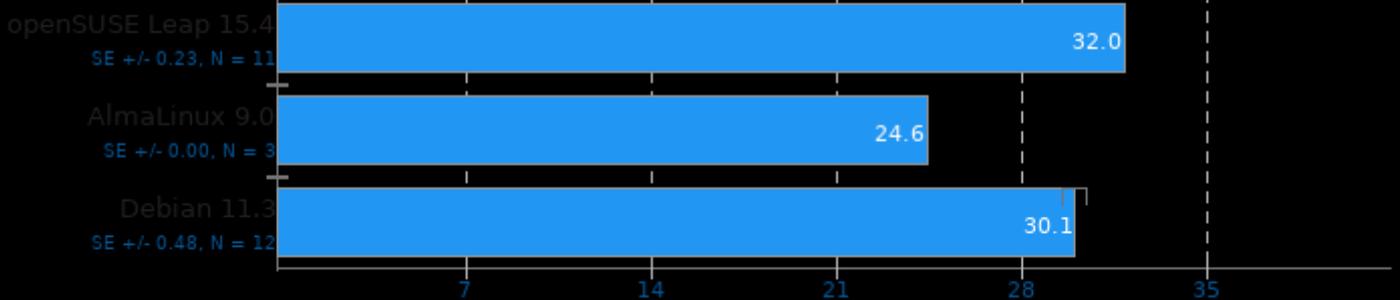
◀ Milliseconds, Fewer Is Better



PyPerformance 1.0.0

Benchmark: json_loads

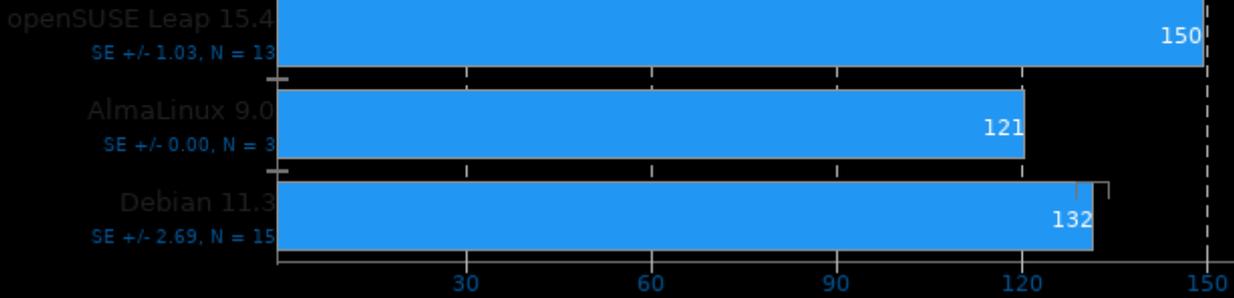
◀ Milliseconds, Fewer Is Better



PyPerformance 1.0.0

Benchmark: crypto_pyaes

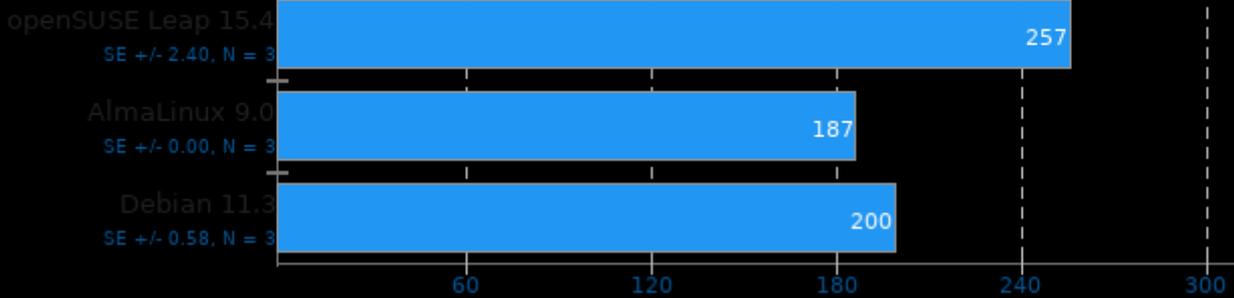
◀ Milliseconds, Fewer Is Better



PyPerformance 1.0.0

Benchmark: regex_compile

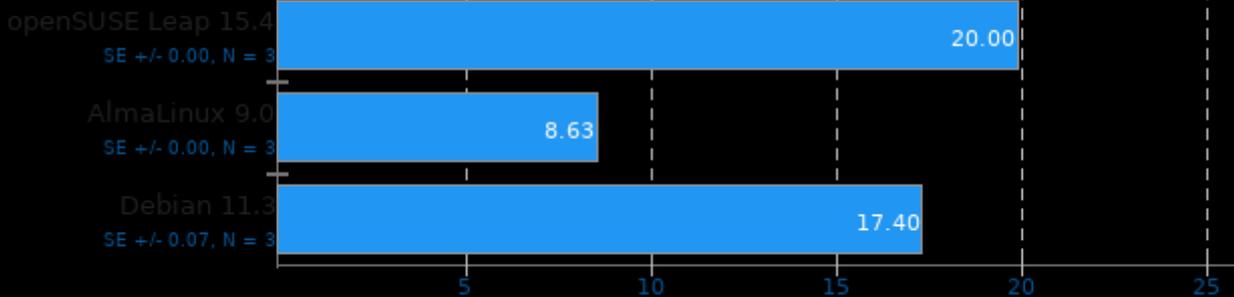
◀ Milliseconds, Fewer Is Better



PyPerformance 1.0.0

Benchmark: python_startup

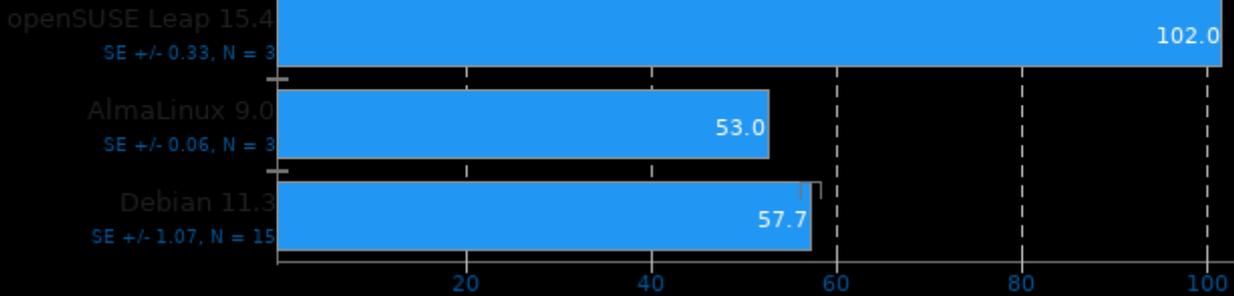
◀ Milliseconds, Fewer Is Better



PyPerformance 1.0.0

Benchmark: django_template

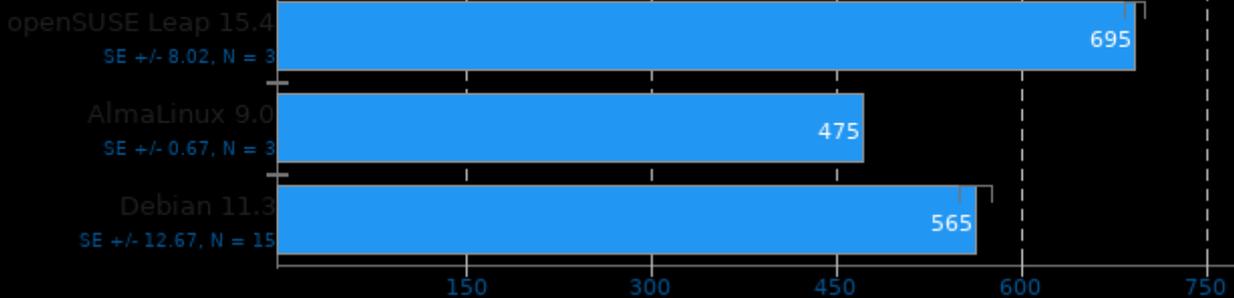
◀ Milliseconds, Fewer Is Better



PyPerformance 1.0.0

Benchmark: pickle_pure_python

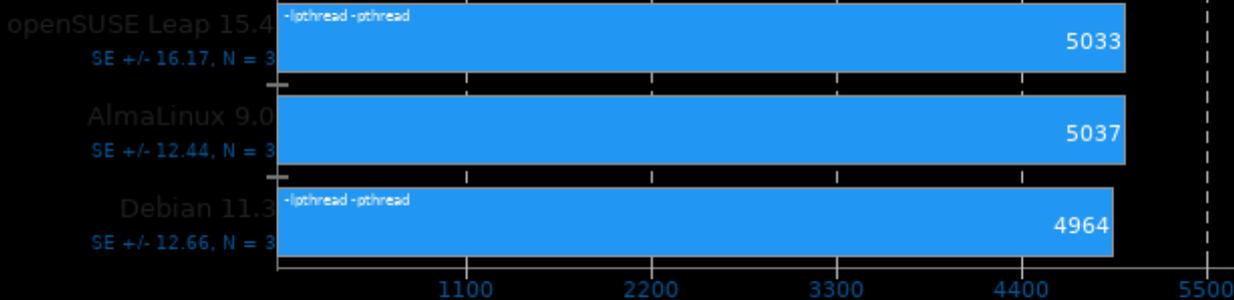
◀ Milliseconds, Fewer Is Better



OSPray Studio 0.10

Camera: 1 - Resolution: 1080p - Samples Per Pixel: 16 - Renderer: Path Tracer

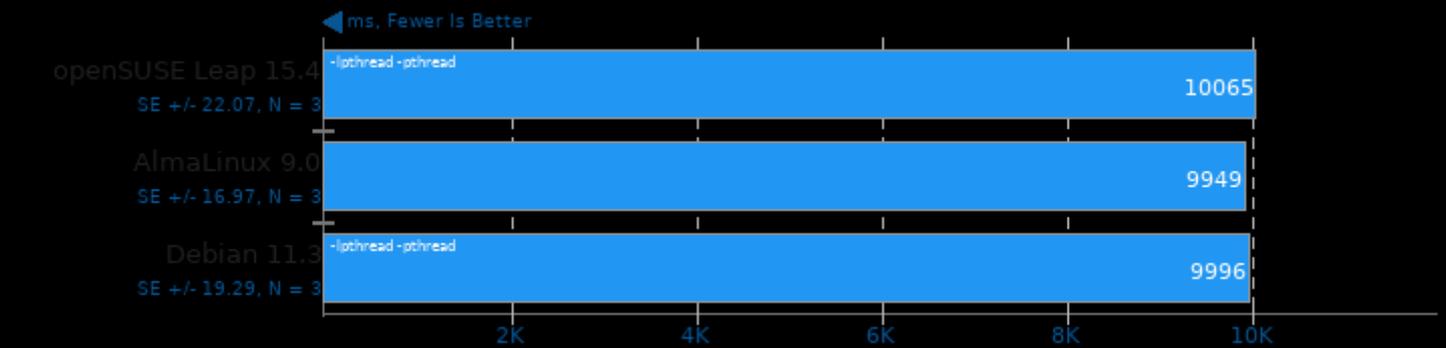
◀ ms, Fewer Is Better



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

OSPray Studio 0.10

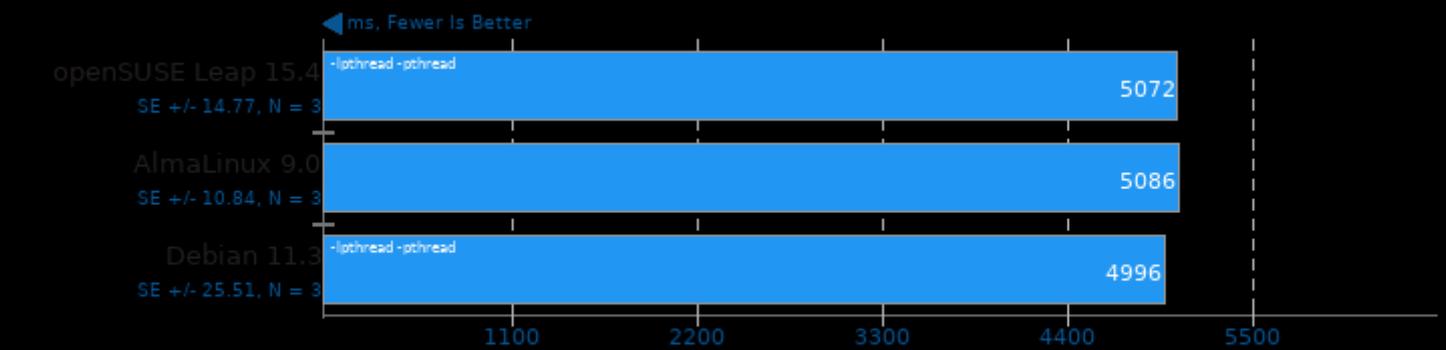
Camera: 1 - Resolution: 1080p - Samples Per Pixel: 32 - Renderer: Path Tracer



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

OSPray Studio 0.10

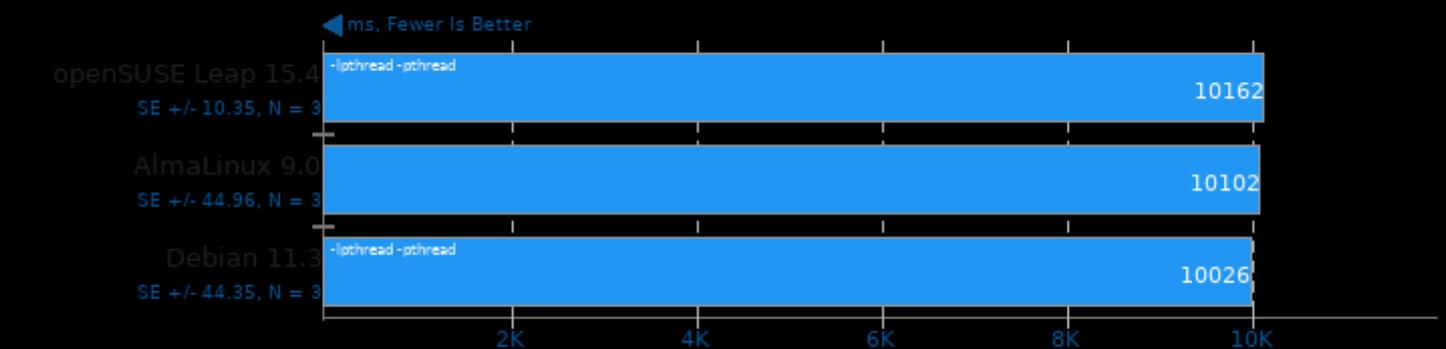
Camera: 2 - Resolution: 1080p - Samples Per Pixel: 16 - Renderer: Path Tracer



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

OSPray Studio 0.10

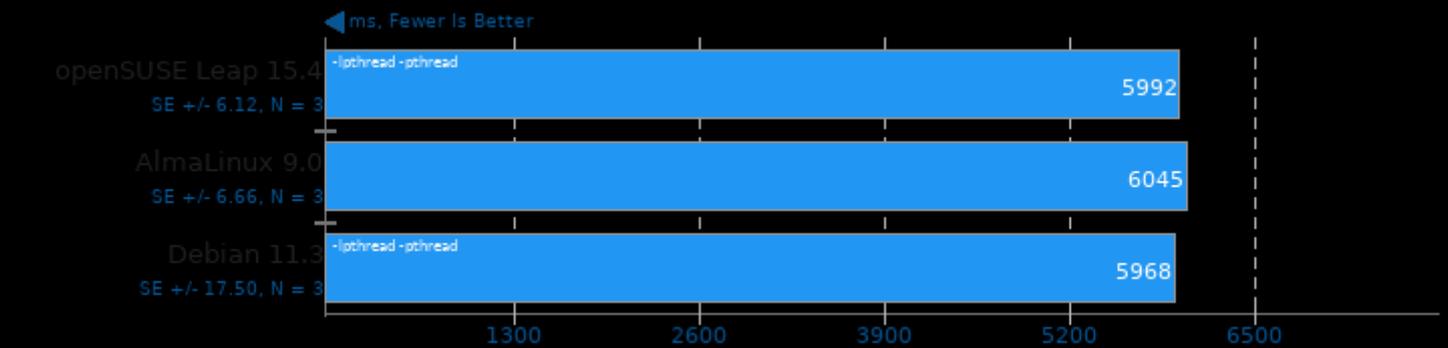
Camera: 2 - Resolution: 1080p - Samples Per Pixel: 32 - Renderer: Path Tracer



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

OSPray Studio 0.10

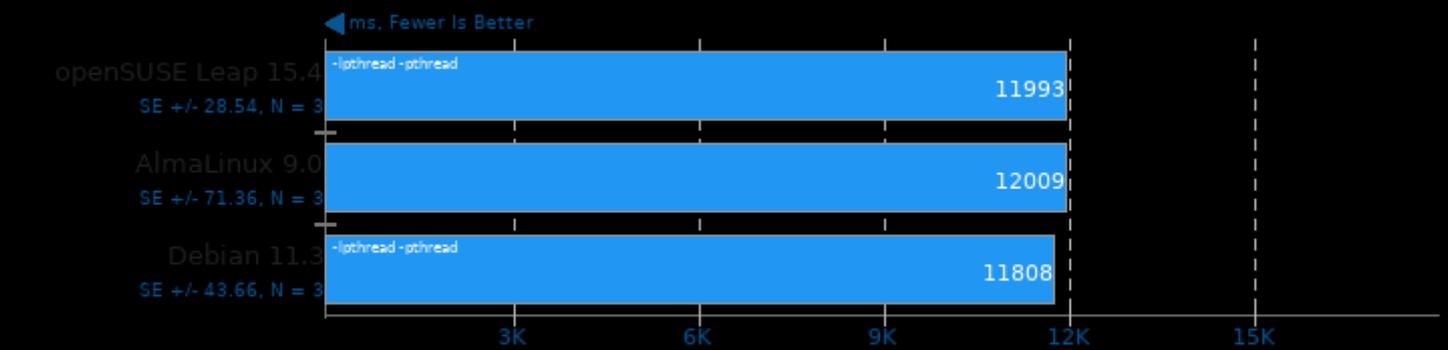
Camera: 3 - Resolution: 1080p - Samples Per Pixel: 16 - Renderer: Path Tracer



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

OSPray Studio 0.10

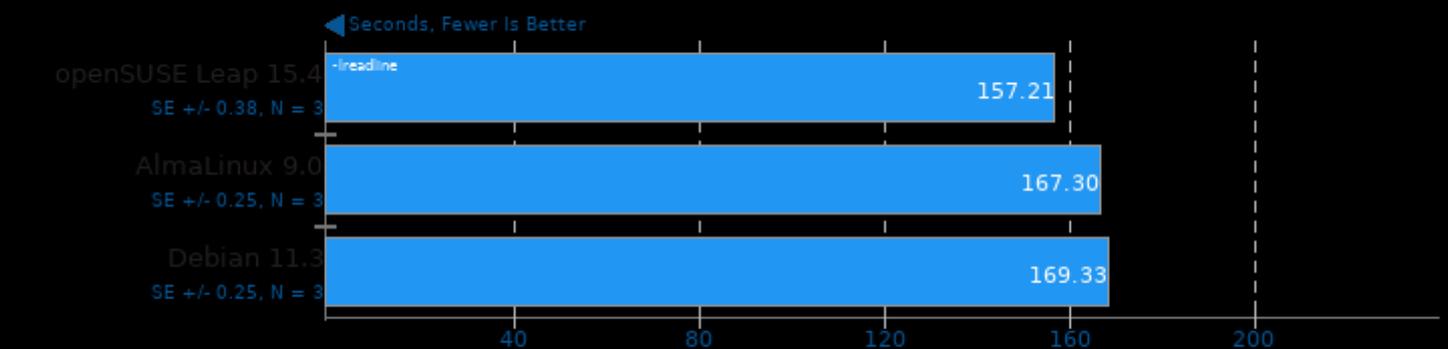
Camera: 3 - Resolution: 1080p - Samples Per Pixel: 32 - Renderer: Path Tracer



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

Timed MrBayes Analysis 3.2.7

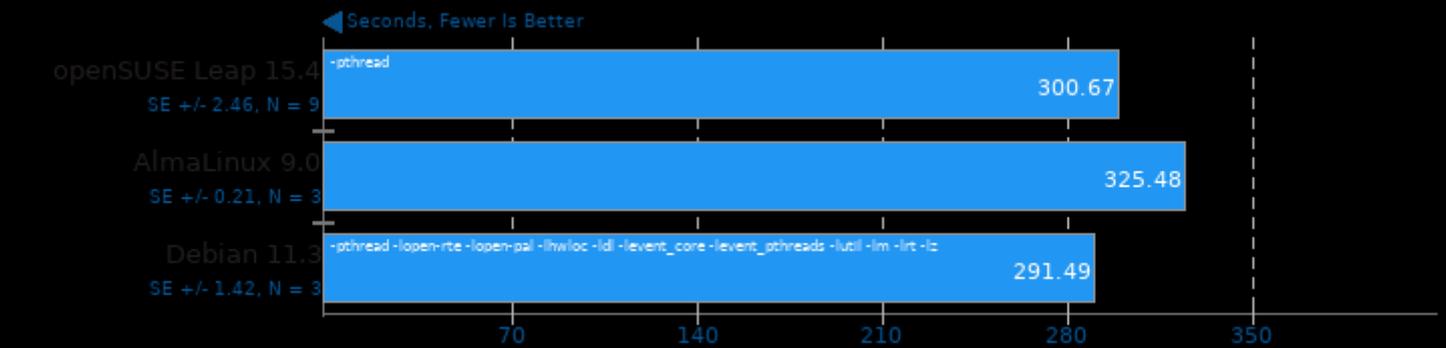
Primate Phylogeny Analysis



1. (CC) gcc options: -mmmx -msse -msse2 -msse3 -msse3 -msse4.1 -msse4.2 -msha -maes -mavx -mfma -mavx2 -mavx512f -mavx512cd -mavx512vl -ma

Xcompact3d Incompact3d 2021-03-11

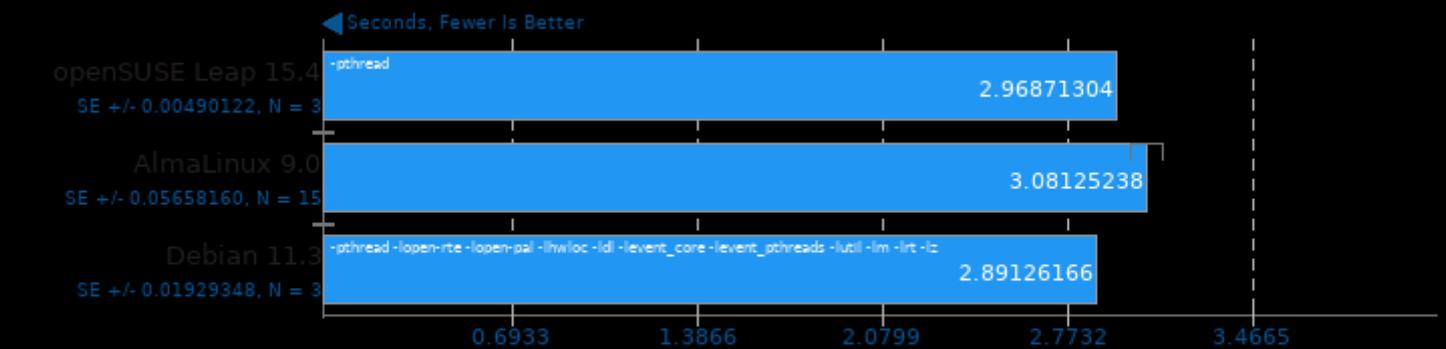
Input: X3D-benchmarking input.i3d



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

Xcompact3d Incompact3d 2021-03-11

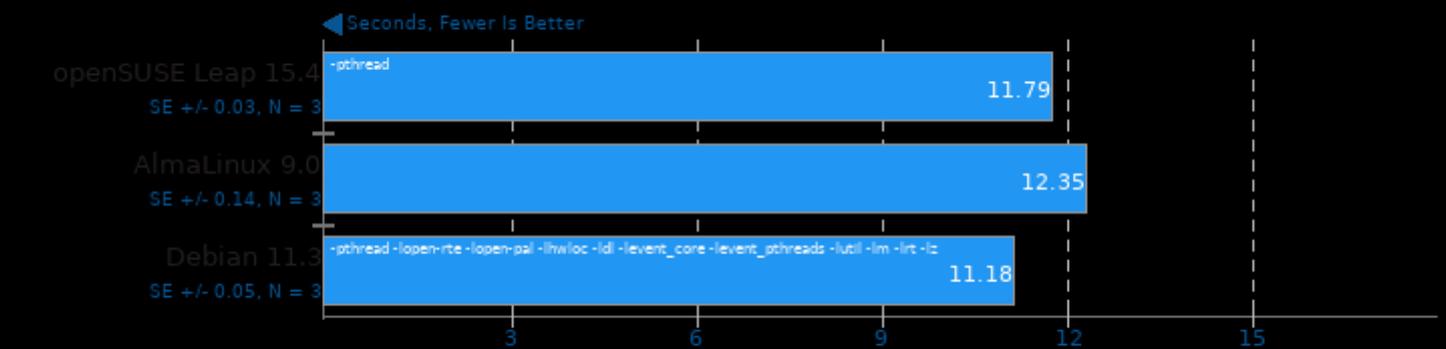
Input: input.i3d 129 Cells Per Direction



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

Xcompact3d Incompact3d 2021-03-11

Input: input.i3d 193 Cells Per Direction

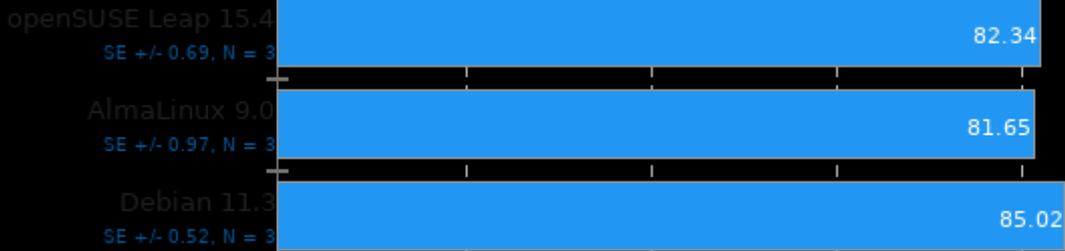


1. (F9X) gfortran options: -cpp -O2 -funroll-loops -floop-optimize -fcray-pointer -fbacktrace -lmpi_usempif08 -lmpi_mpi fh -lmpi

libavif avifenc 0.10

Encoder Speed: 0

← Seconds, Fewer Is Better

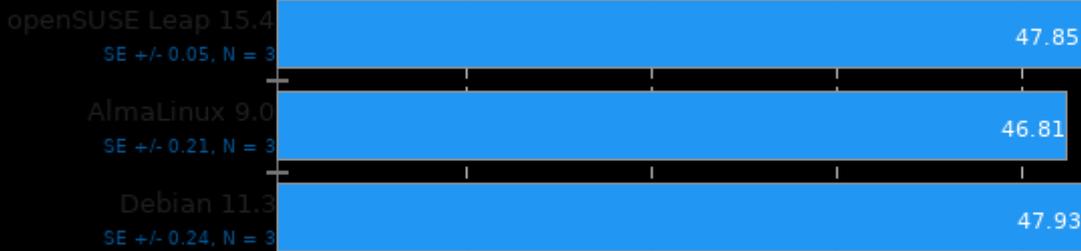


1. (CXX) g++ options: -O3 -fPIC -lm

libavif avifenc 0.10

Encoder Speed: 2

← Seconds, Fewer Is Better

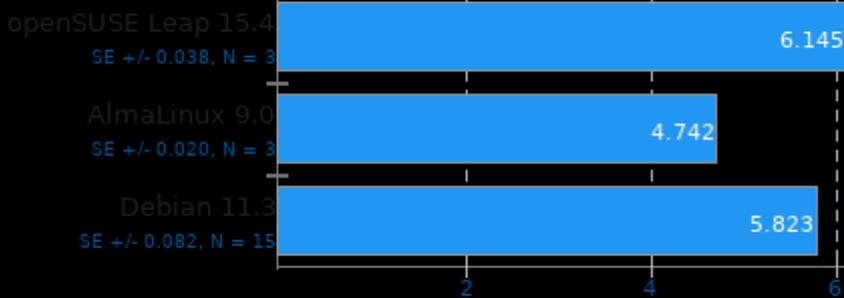


1. (CXX) g++ options: -O3 -fPIC -lm

libavif avifenc 0.10

Encoder Speed: 6

← Seconds, Fewer Is Better



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

libavif avifenc 0.10

Encoder Speed: 6, Lossless

← Seconds, Fewer Is Better

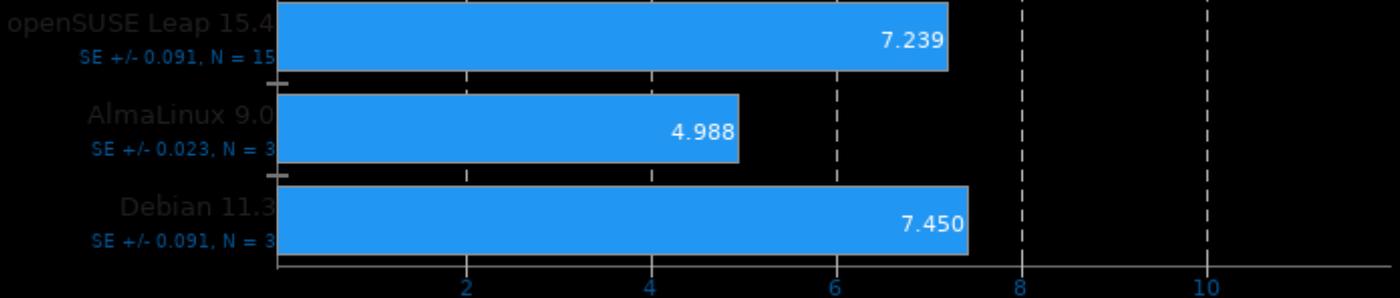


1. (CXX) g++ options: -O3 -fPIC -lm

libavif avifenc 0.10

Encoder Speed: 10, Lossless

← Seconds, Fewer Is Better

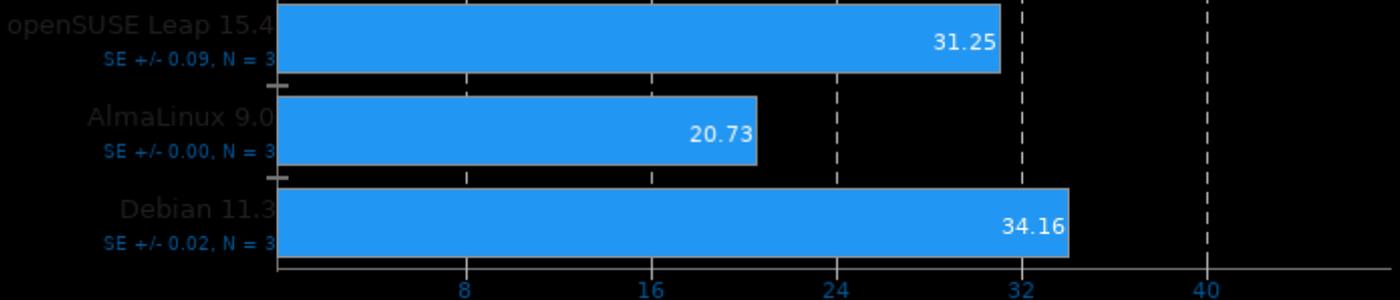


1. (CXX) g++ options: -O3 -fPIC -lm

Timed Apache Compilation 2.4.41

Time To Compile

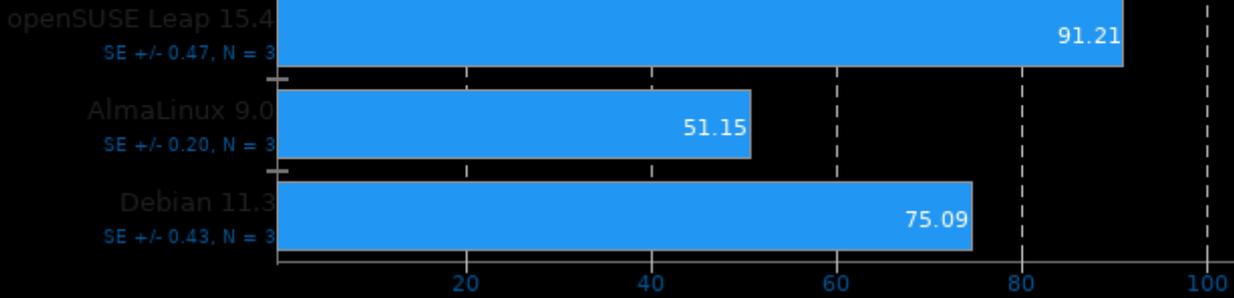
← Seconds, Fewer Is Better



Timed Godot Game Engine Compilation 3.2.3

Time To Compile

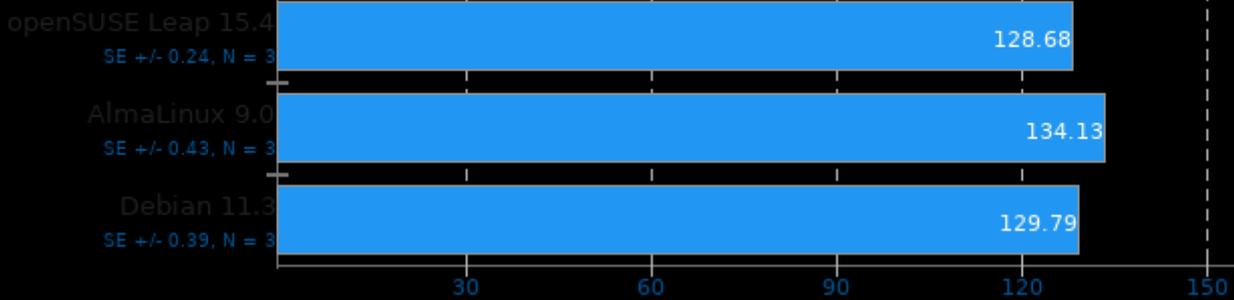
◀ Seconds, Fewer Is Better



Timed LLVM Compilation 13.0

Build System: Ninja

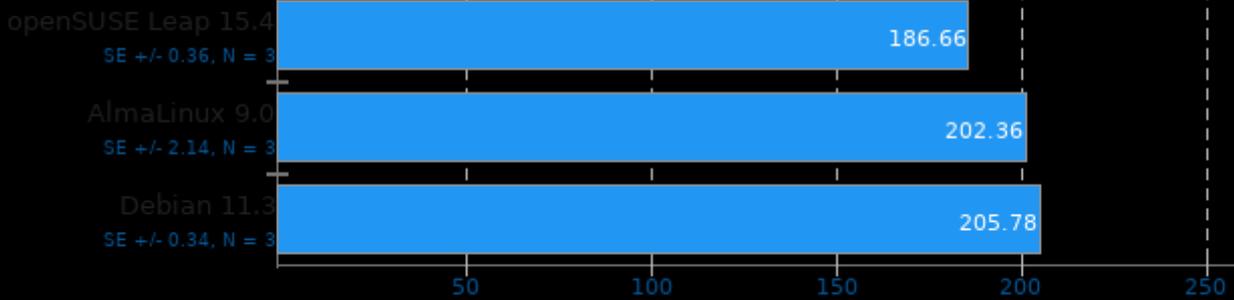
◀ Seconds, Fewer Is Better



Timed LLVM Compilation 13.0

Build System: Unix Makefiles

◀ Seconds, Fewer Is Better



Timed MPlayer Compilation 1.5

Time To Compile

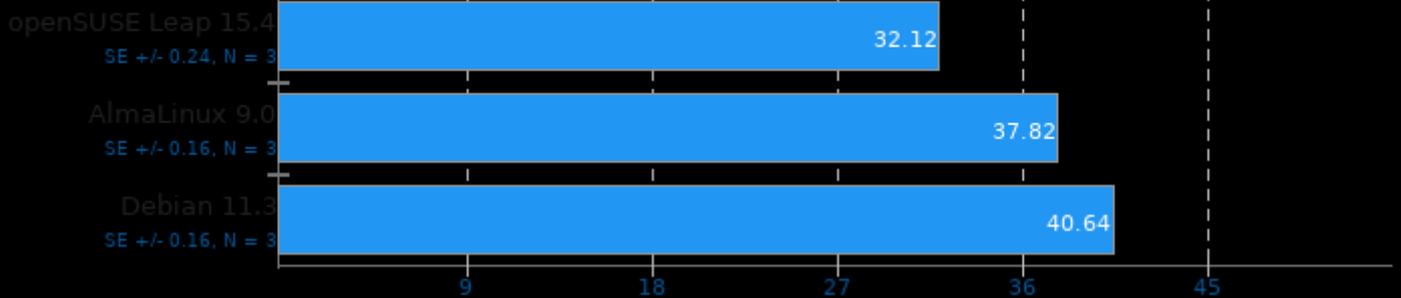
← Seconds, Fewer Is Better



Timed PHP Compilation 7.4.2

Time To Compile

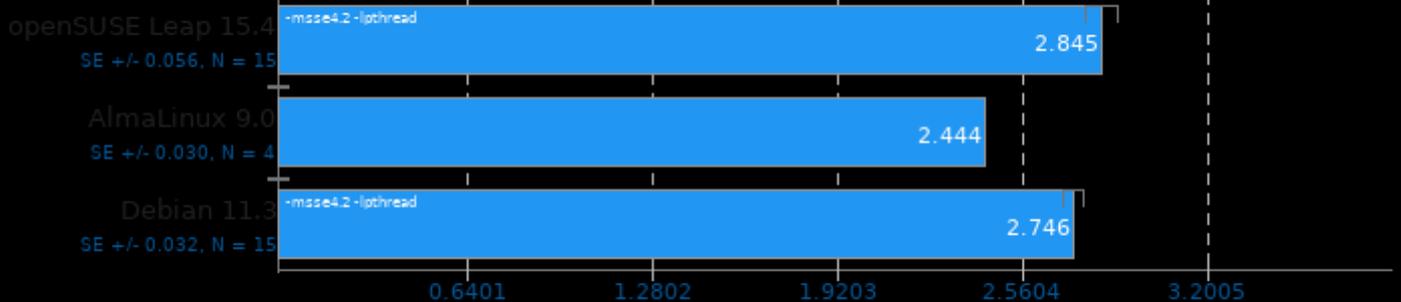
← Seconds, Fewer Is Better



WebP2 Image Encode 20220422

Encode Settings: Default

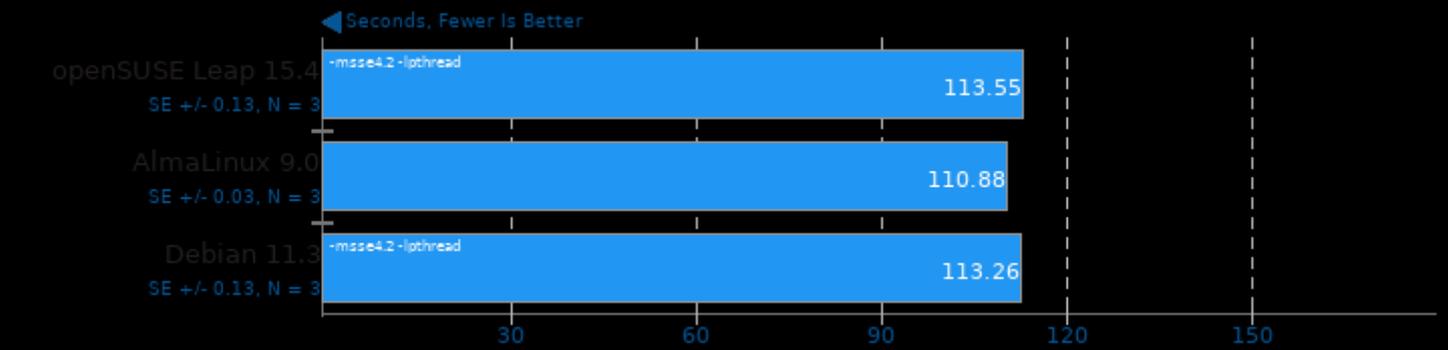
← Seconds, Fewer Is Better



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

WebP2 Image Encode 20220422

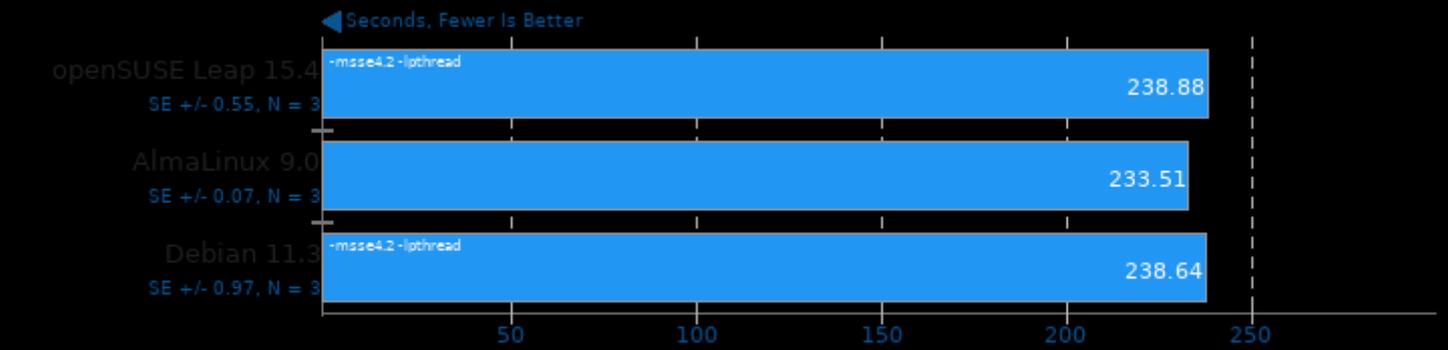
Encode Settings: Quality 75, Compression Effort 7



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

WebP2 Image Encode 20220422

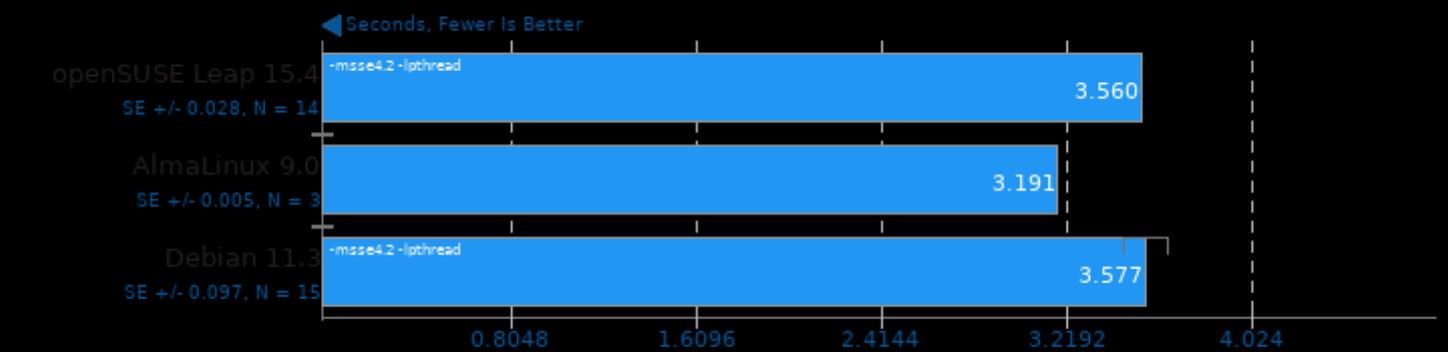
Encode Settings: Quality 95, Compression Effort 7



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

WebP2 Image Encode 20220422

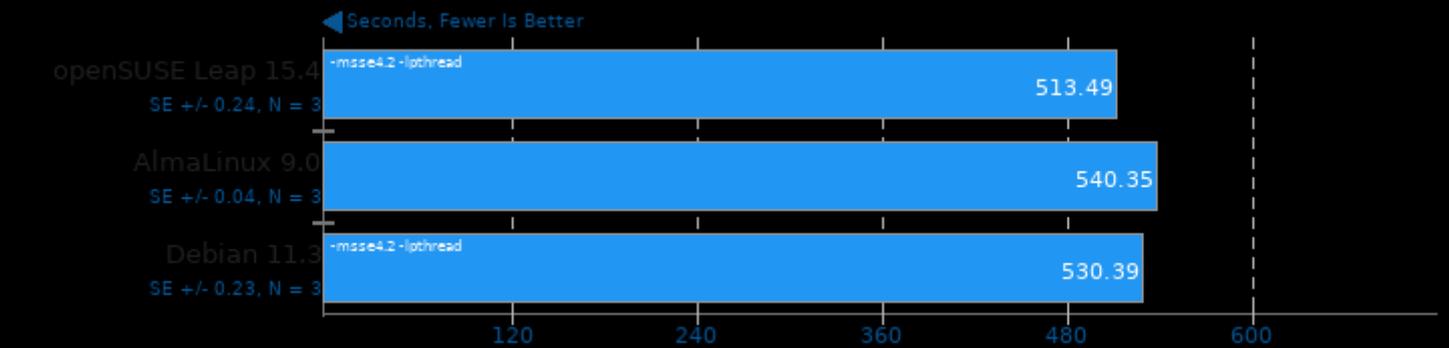
Encode Settings: Quality 100, Compression Effort 5



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

WebP2 Image Encode 20220422

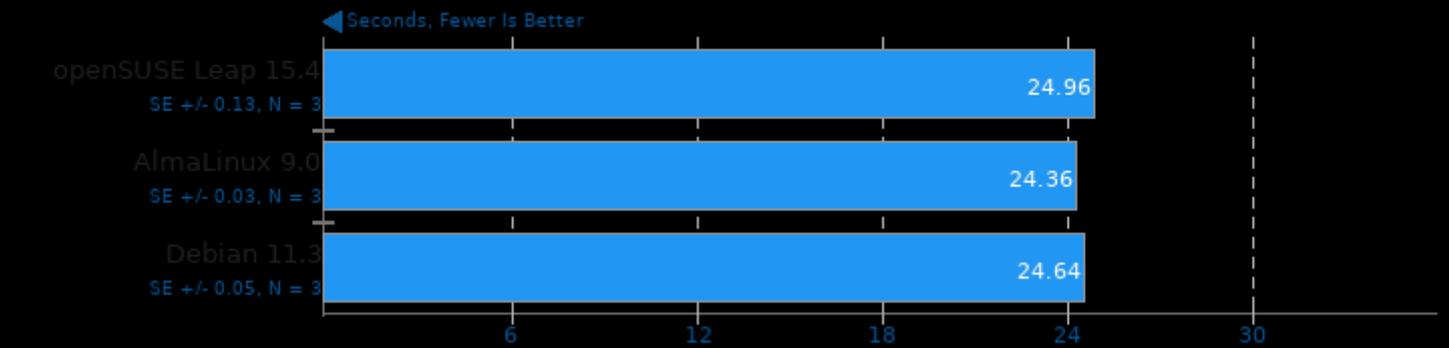
Encode Settings: Quality 100, Lossless Compression



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

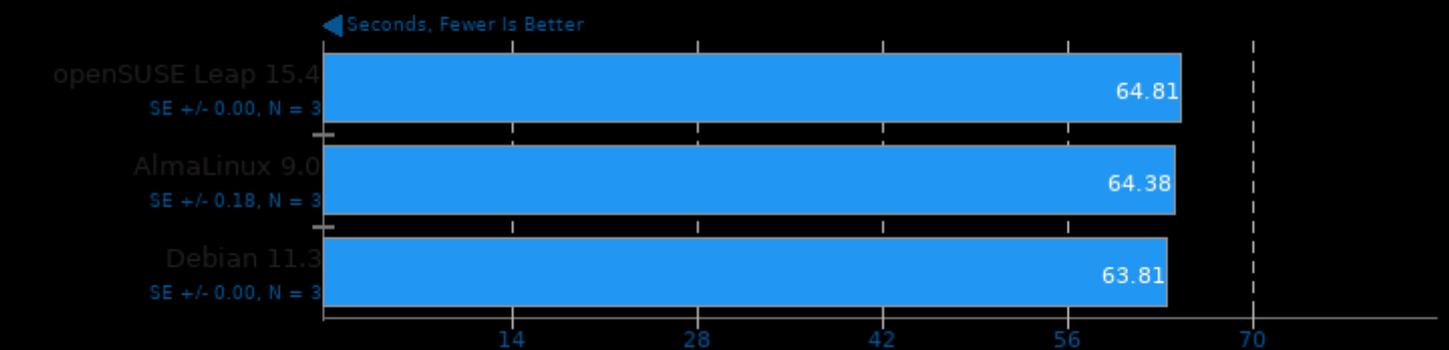
Blender 3.2

Blend File: BMW27 - Compute: CPU-Only



Blender 3.2

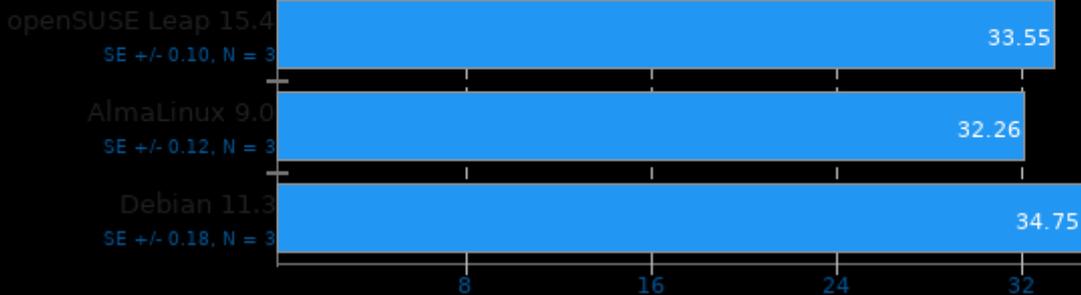
Blend File: Classroom - Compute: CPU-Only



Blender 3.2

Blend File: Fishy Cat - Compute: CPU-Only

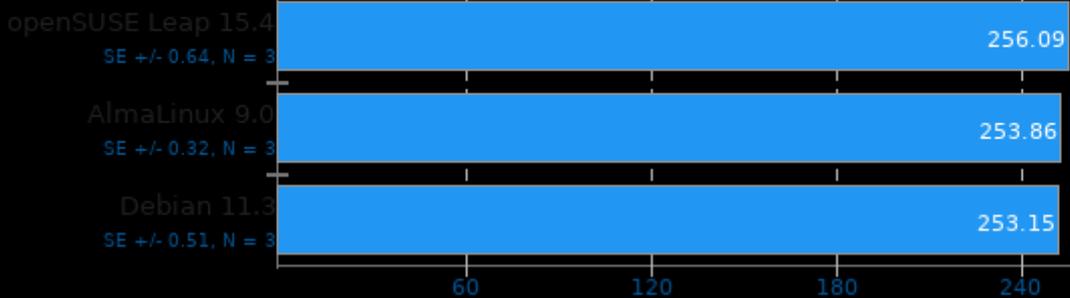
← Seconds, Fewer Is Better



Blender 3.2

Blend File: Barbershop - Compute: CPU-Only

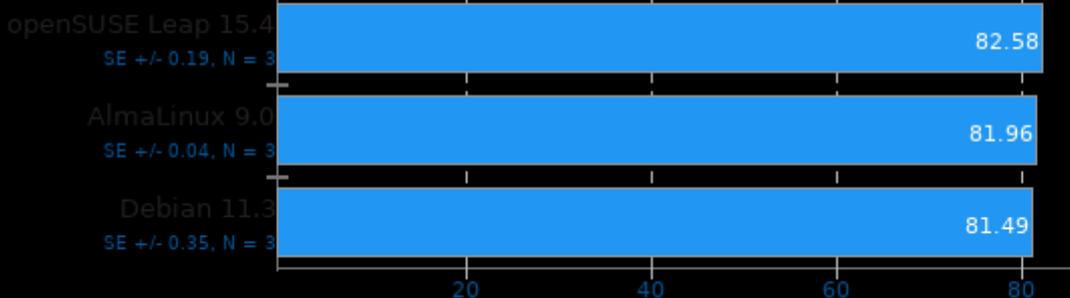
← Seconds, Fewer Is Better



Blender 3.2

Blend File: Pabellon Barcelona - Compute: CPU-Only

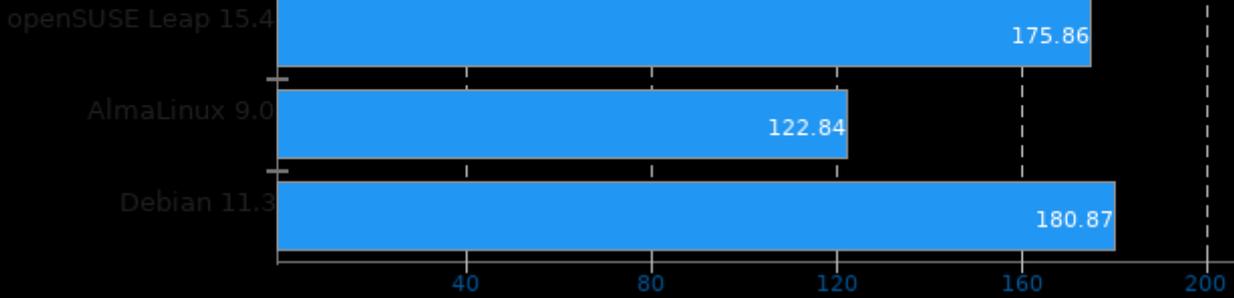
← Seconds, Fewer Is Better



Appleseed 2.0 Beta

Scene: Emily

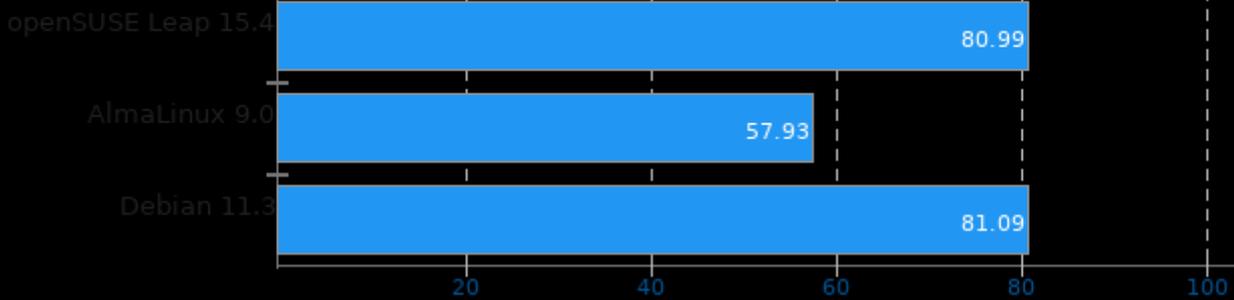
← Seconds, Fewer Is Better



Appleseed 2.0 Beta

Scene: Disney Material

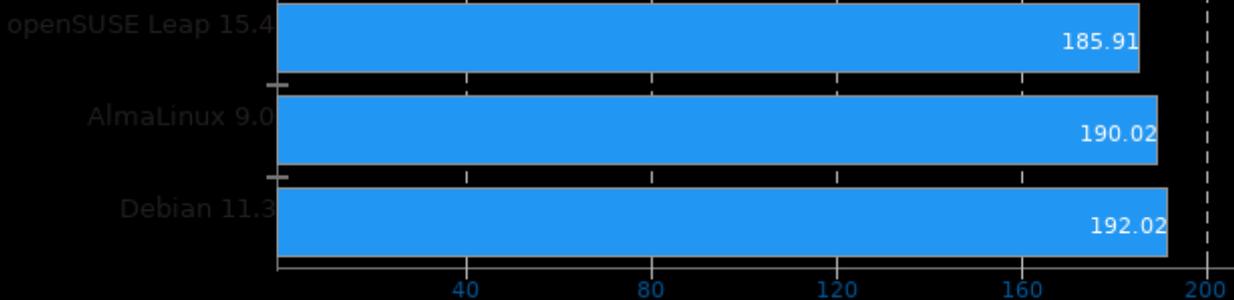
← Seconds, Fewer Is Better



Appleseed 2.0 Beta

Scene: Material Tester

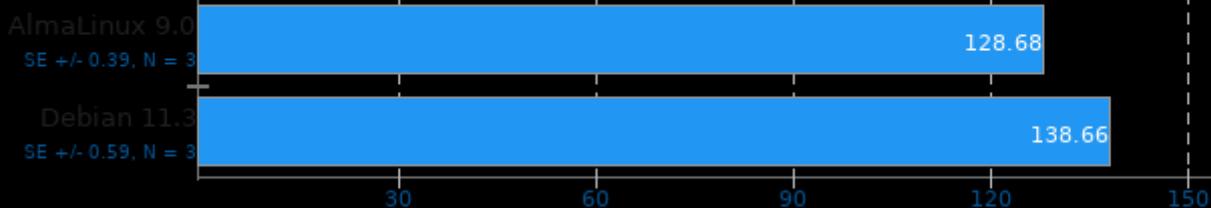
← Seconds, Fewer Is Better



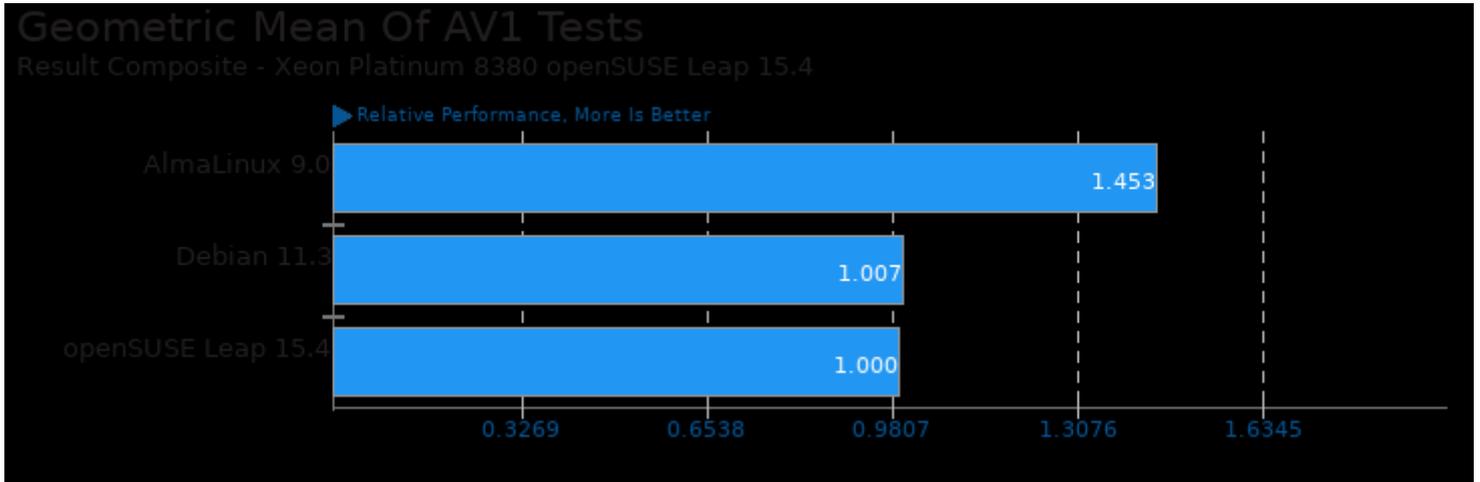
Timed Node.js Compilation 17.3

Time To Compile

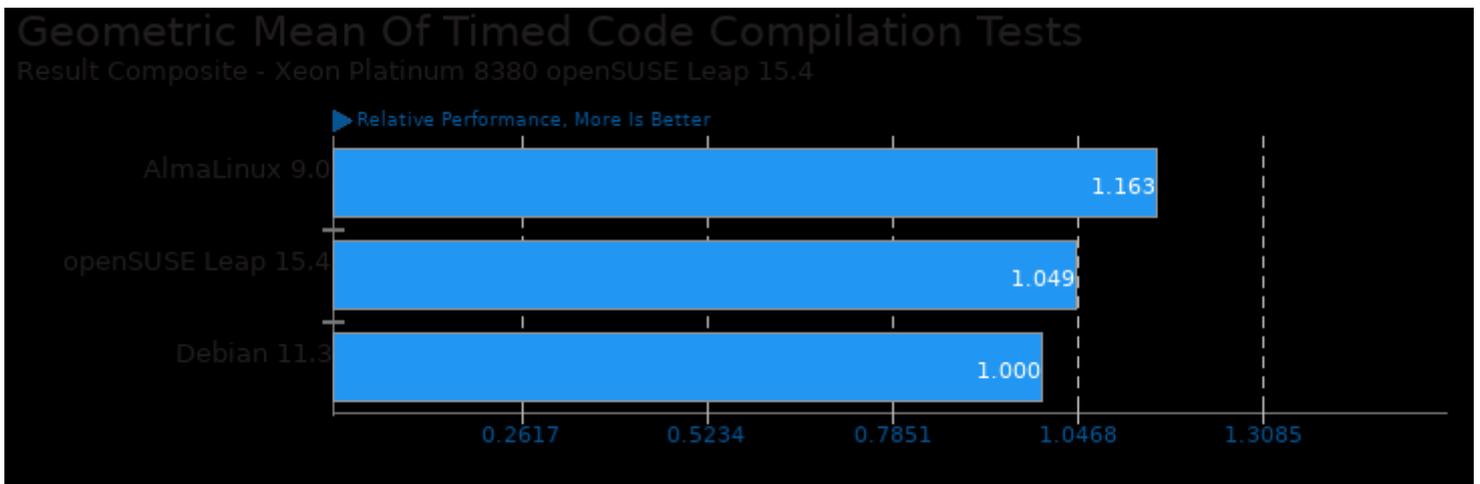
← Seconds, Fewer Is Better



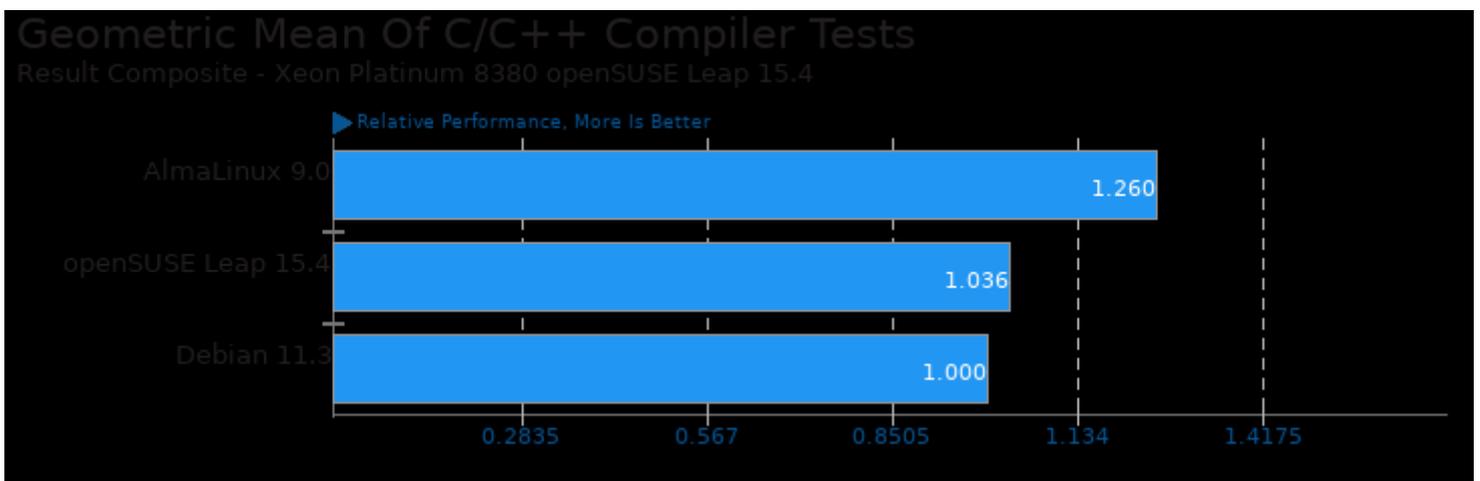
These geometric means are based upon test groupings / test suites for this result file.



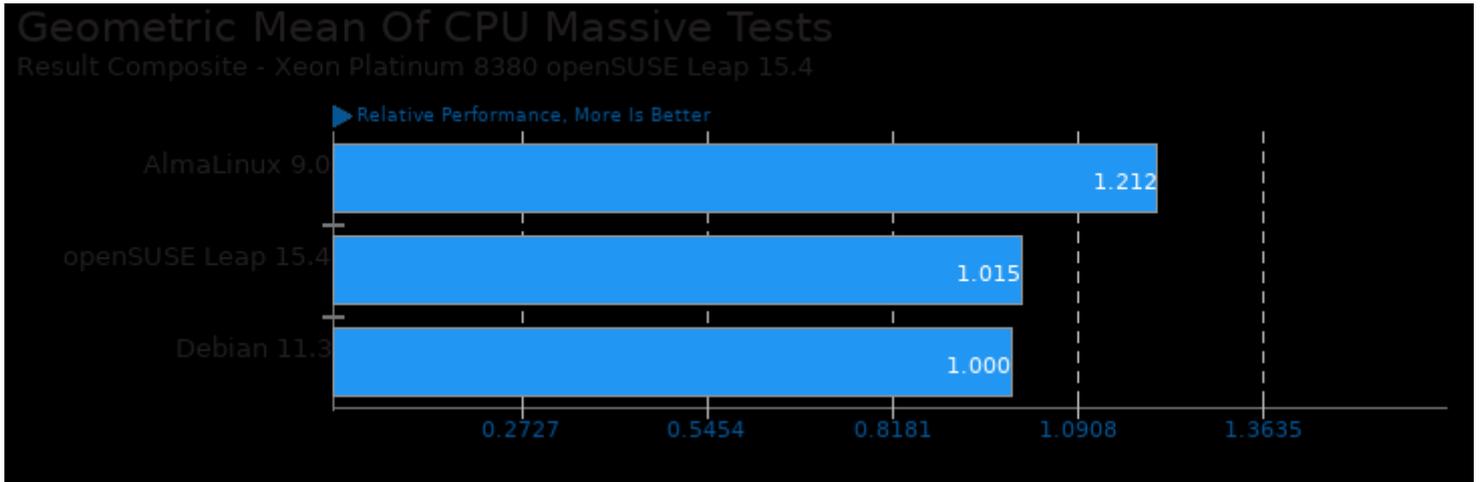
Geometric mean based upon tests: pts/aom-av1, pts/svt-av1 and pts/avifenc



Geometric mean based upon tests: pts/build-apache, pts/build-php, pts/build-llvm, pts/build-mplayer, pts/build-godot and pts/build-nodejs



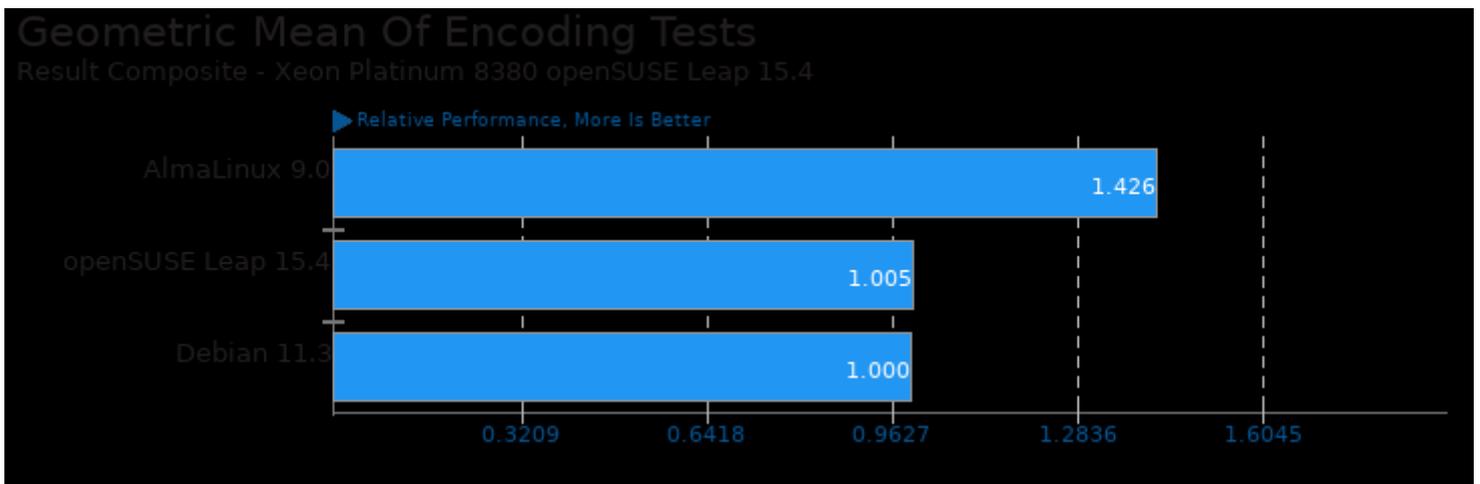
Geometric mean based upon tests: pts/build-php, pts/build-llvm, pts/compress-7zip, pts/apache, pts/mrbayes, pts/aom-av1, pts/svt-av1, pts/svt-vp9, pts/gromacs, pts/build-apache and pts/build-mplayer



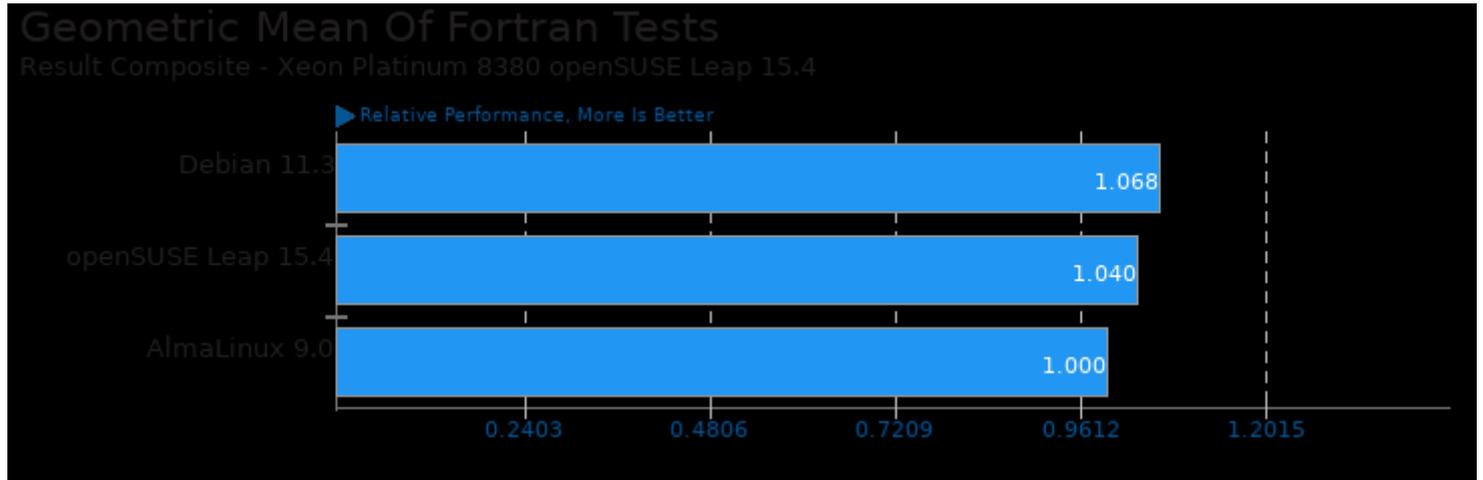
Geometric mean based upon tests: pts/apache, pts/build-apache, pts/build-llvm, pts/build-php, pts/compress-7zip, pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/hpcg, pts/mrbayes, pts/namd, pts/numpy, pts/phpbench and pts/blender



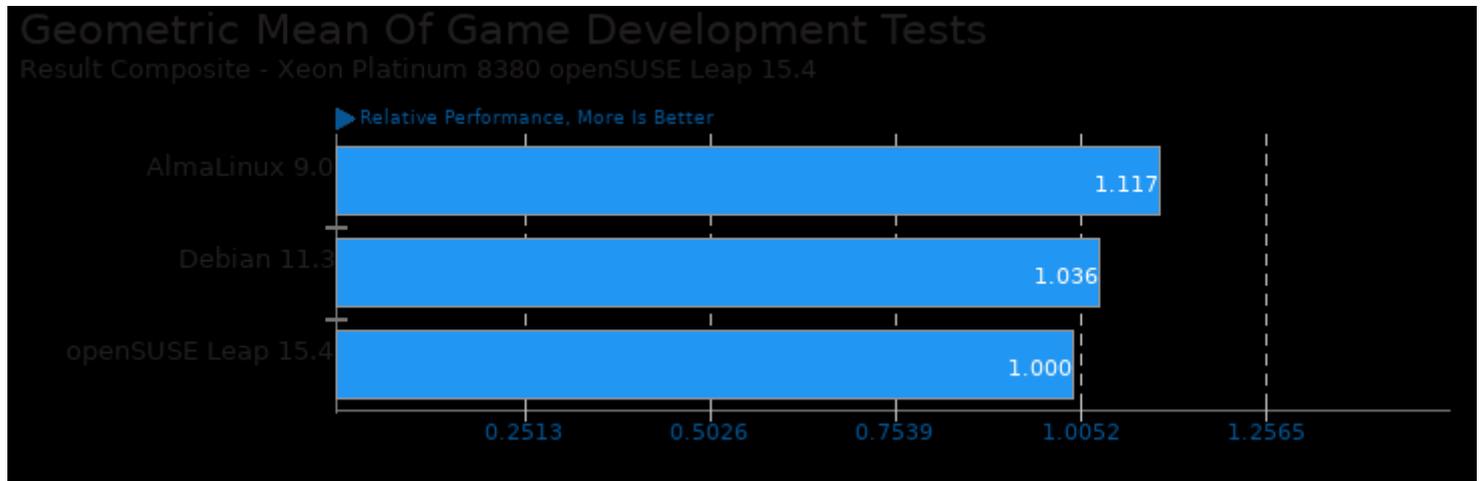
Geometric mean based upon tests: pts/ospray-studio, pts/blender, pts/appleseed, pts/svt-vp9, pts/svt-hevc, pts/aom-av1, pts/svt-av1, pts/avifenc, pts/webp, pts/webp2 and pts/build-godot



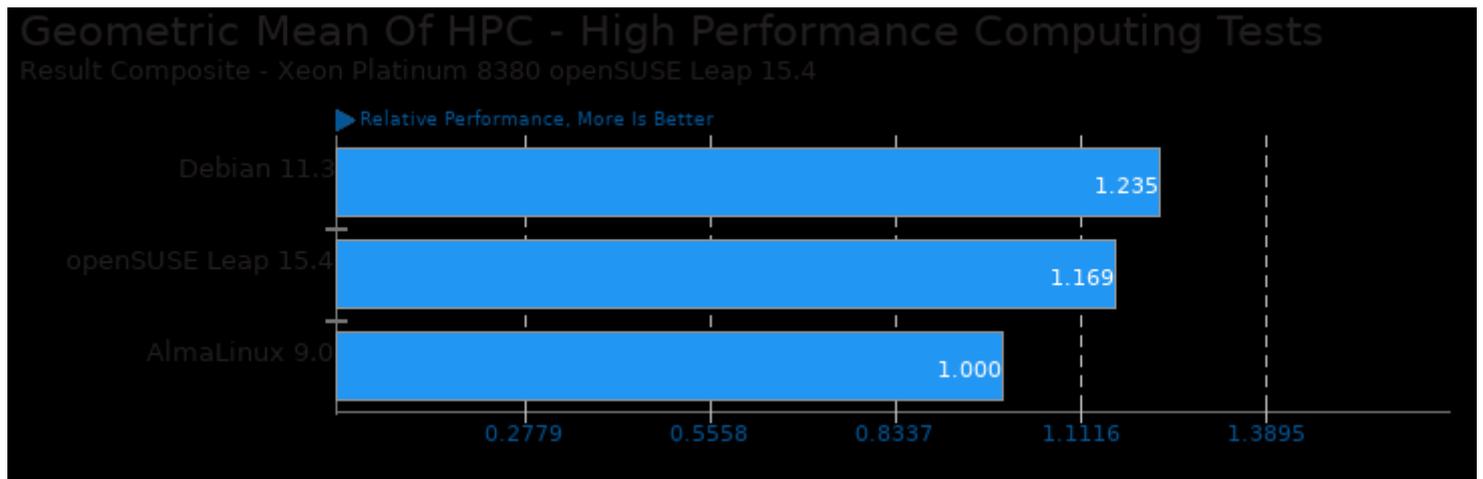
Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/aom-av1, pts/svt-av1 and pts/avifenc



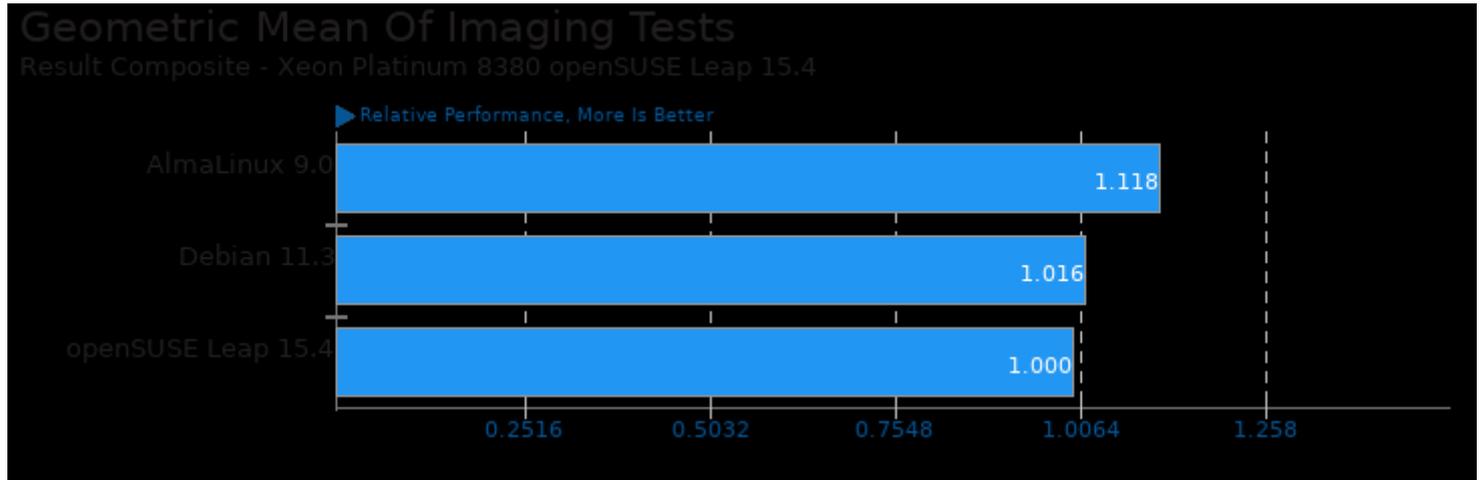
Geometric mean based upon tests: pts/hpcg and pts/incompact3d



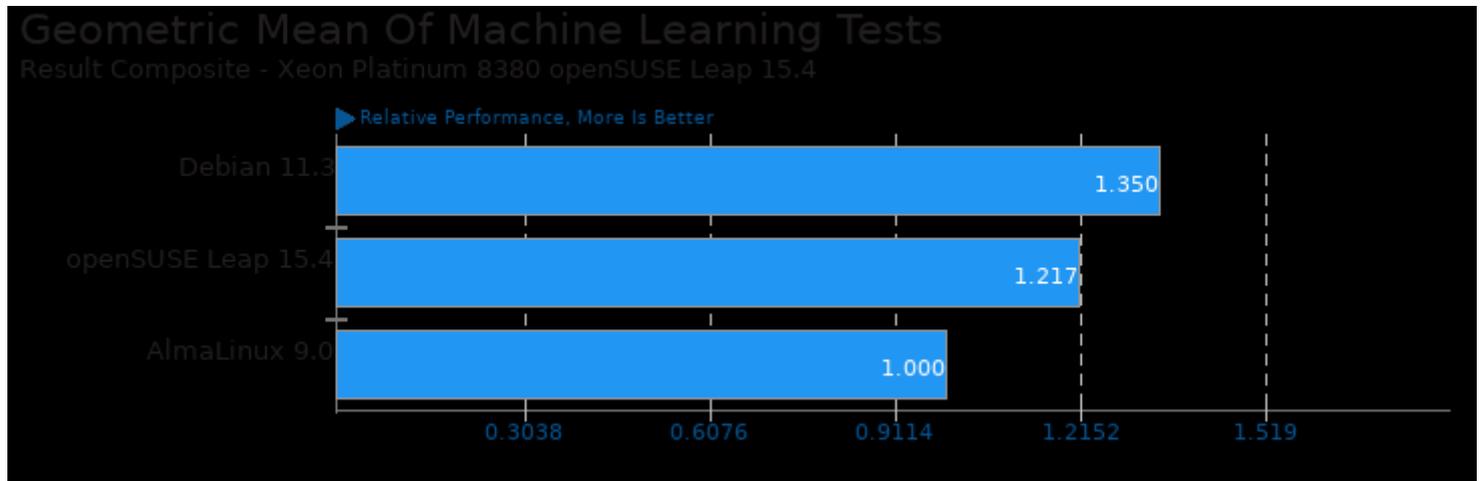
Geometric mean based upon tests: pts/build-godot and pts/blender



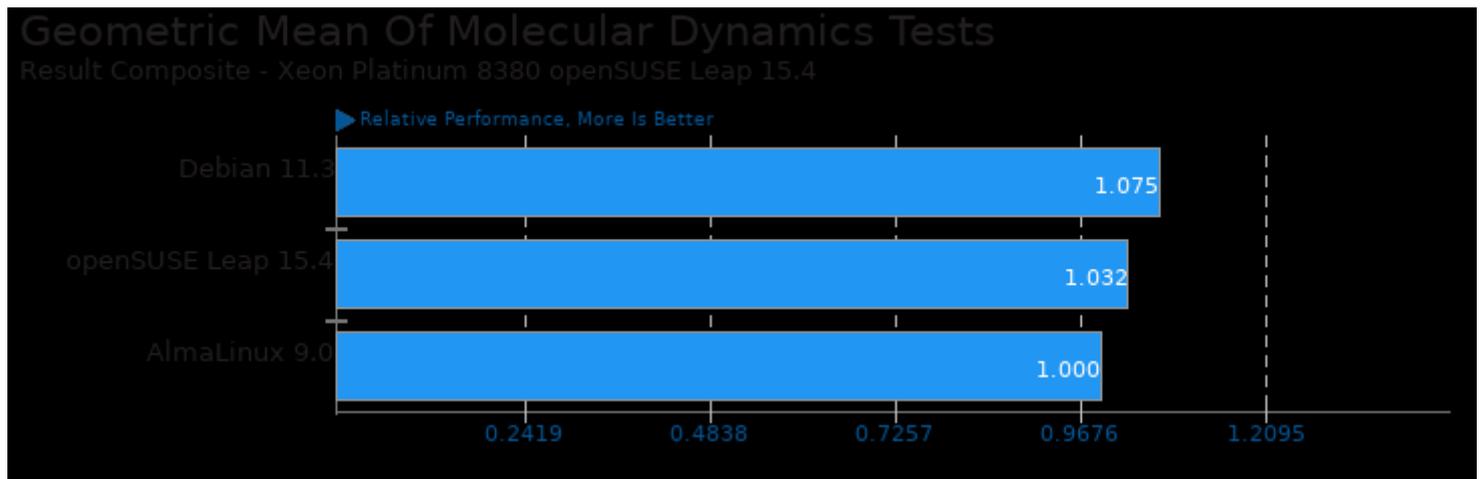
Geometric mean based upon tests: pts/hpcg, pts/namd, pts/gromacs, pts/incompact3d, pts/mrbayes, pts/numpy, pts/tensorflow-lite, pts/onnx and pts/graph500



Geometric mean based upon tests: pts/webp, pts/webp2 and pts/avifenc



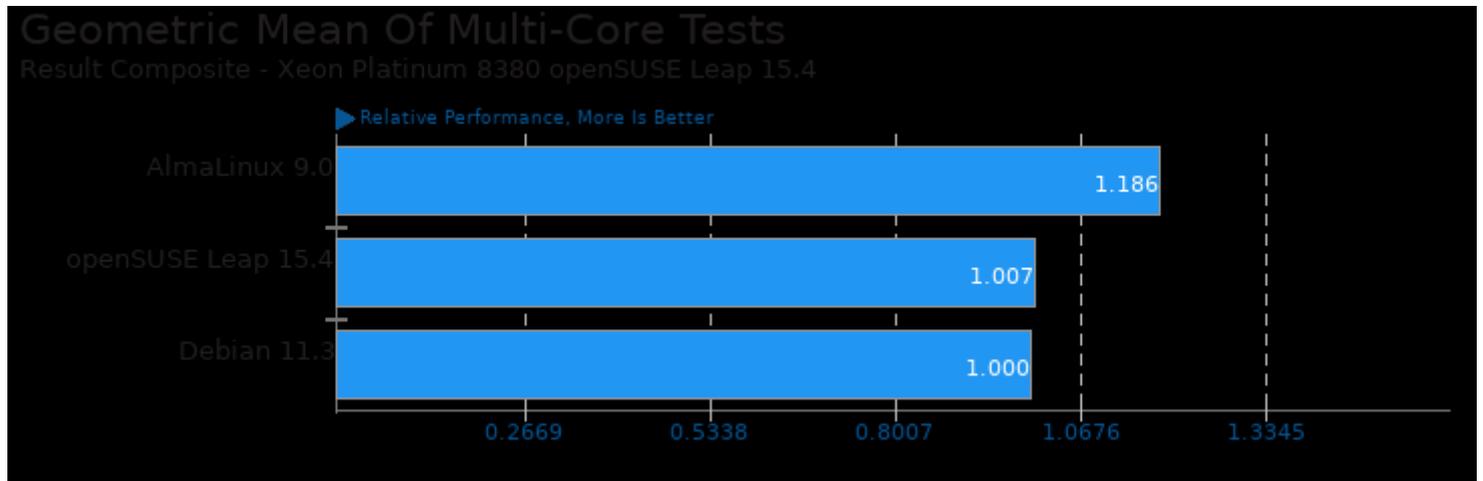
Geometric mean based upon tests: pts/numpy, pts/tensorflow-lite and pts/onnx



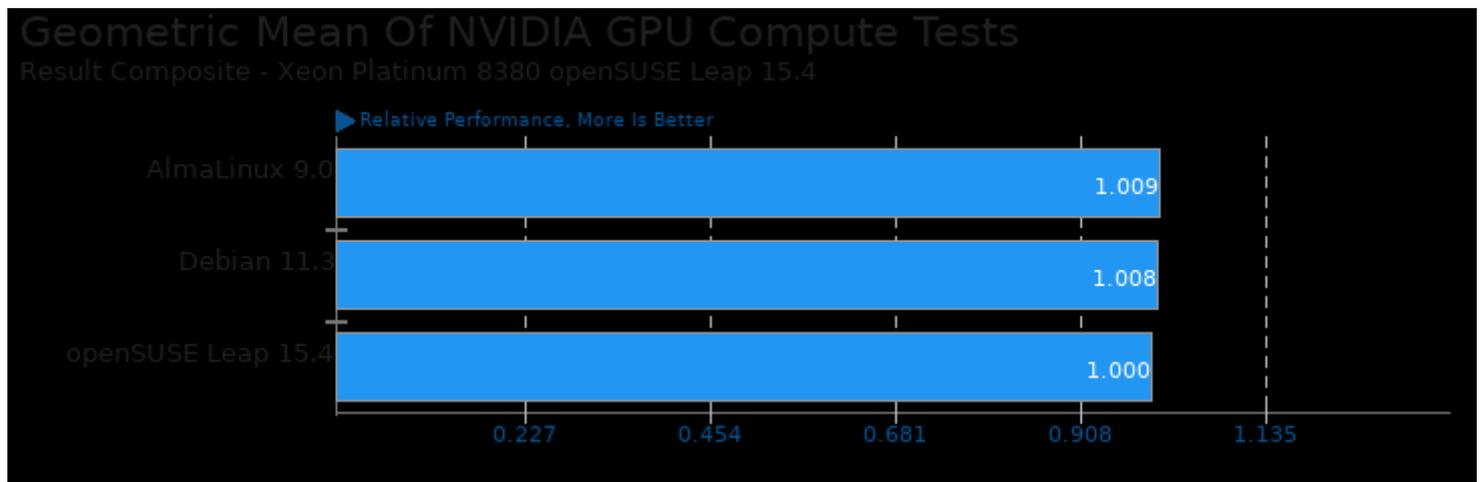
Geometric mean based upon tests: pts/namd, pts/gromacs and pts/incompact3d



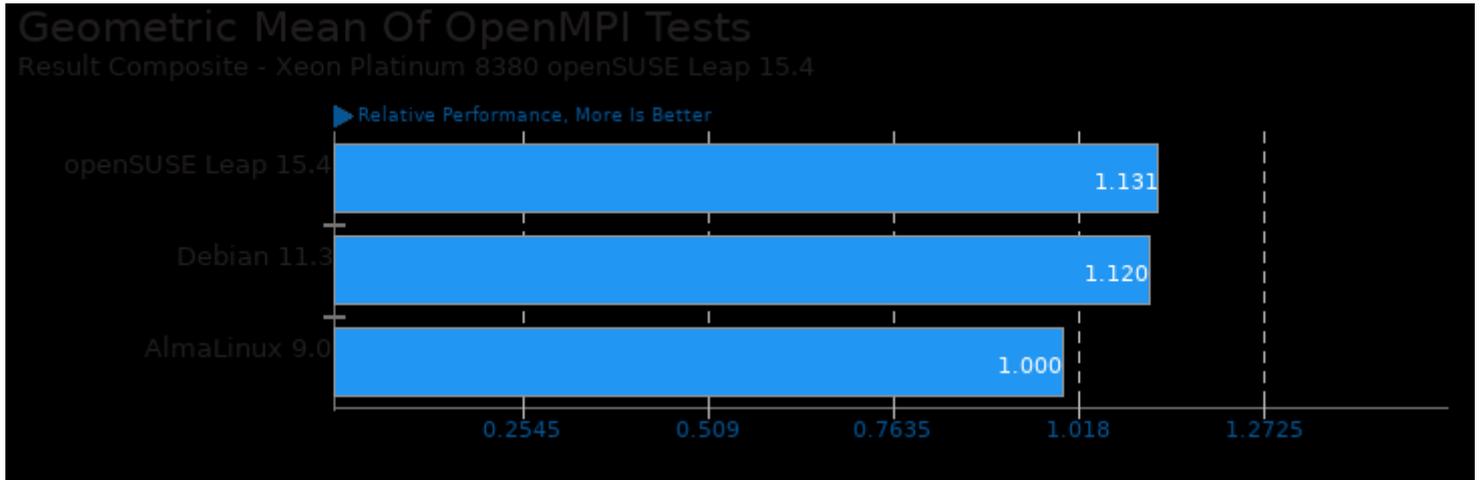
Geometric mean based upon tests: pts/incompact3d, pts/gromacs, pts/hpcg and pts/mrbyes



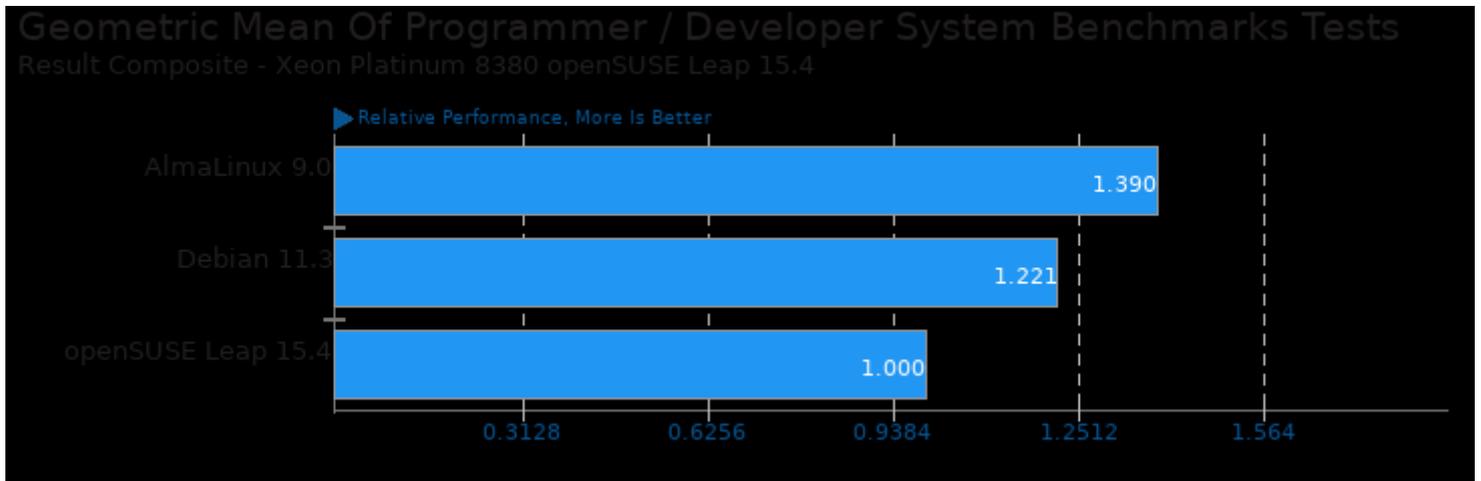
Geometric mean based upon tests: pts/blender, pts/ospray-studio, pts/svt-vp9, pts/svt-hevc, pts/aom-av1, pts/svt-av1, pts/avifenc, pts/namd, pts/gromacs, pts/compress-7zip, pts/build-apache, pts/build-php, pts/build-llvm, pts/build-mplayer, pts/build-godot, pts/build-nodejs, pts/appleseed and pts/hpcg



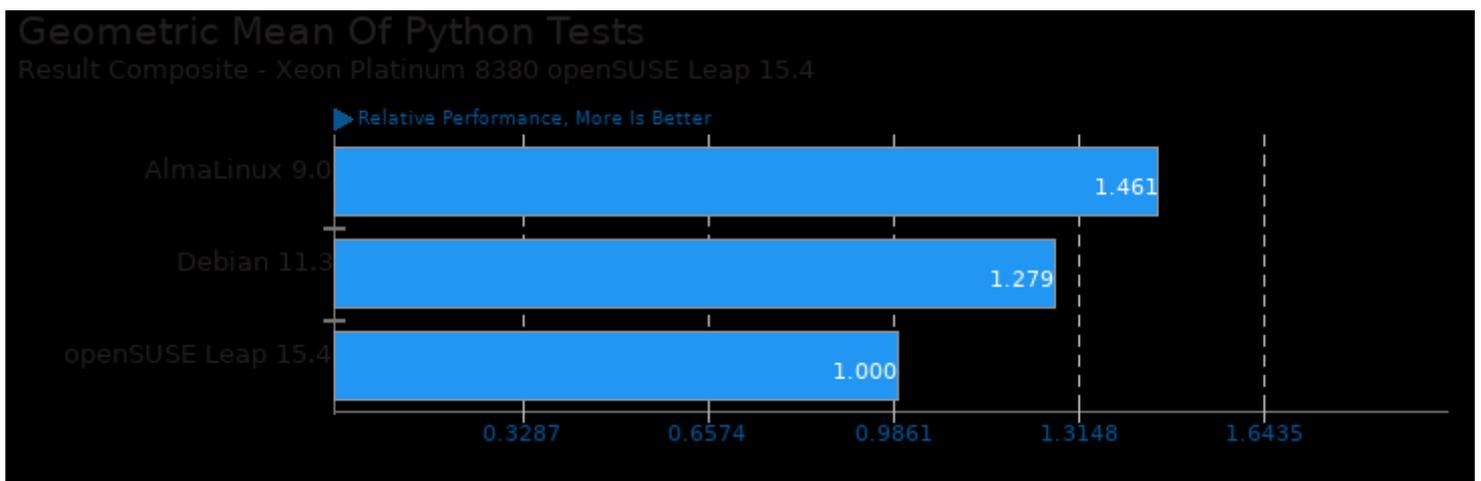
Geometric mean based upon tests: pts/gromacs and pts/blender



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



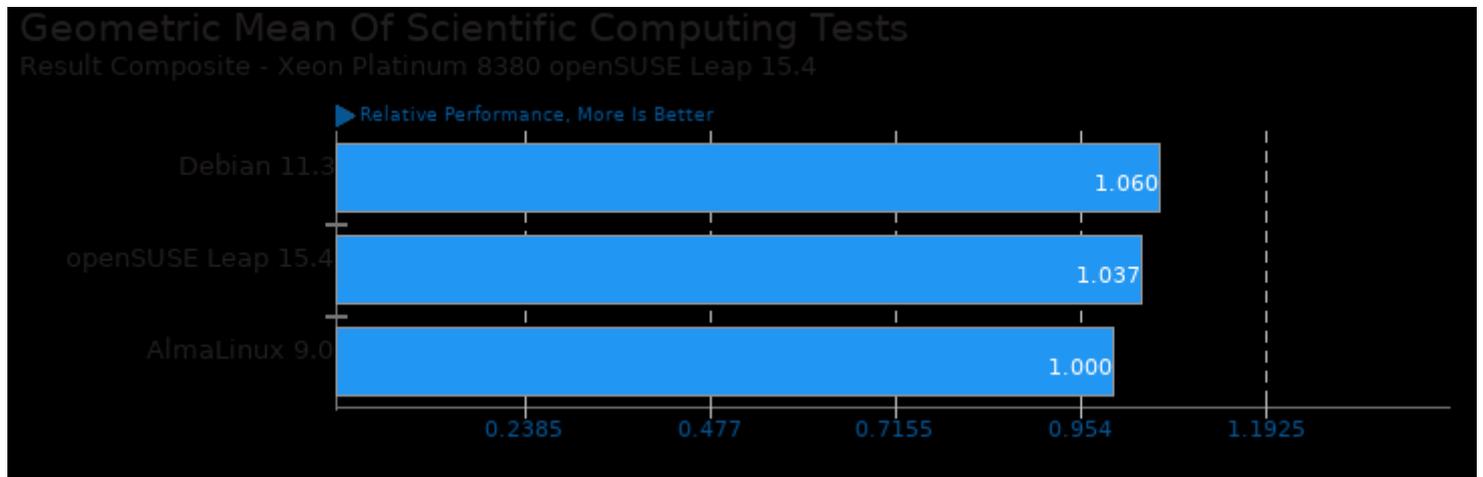
Geometric mean based upon tests: pts/simdjson, pts/pyperformance, pts/pybench, pts/build-apache, pts/build-php, pts/build-llvm, pts/build-mplayer, pts/build-godot and pts/build-nodejs



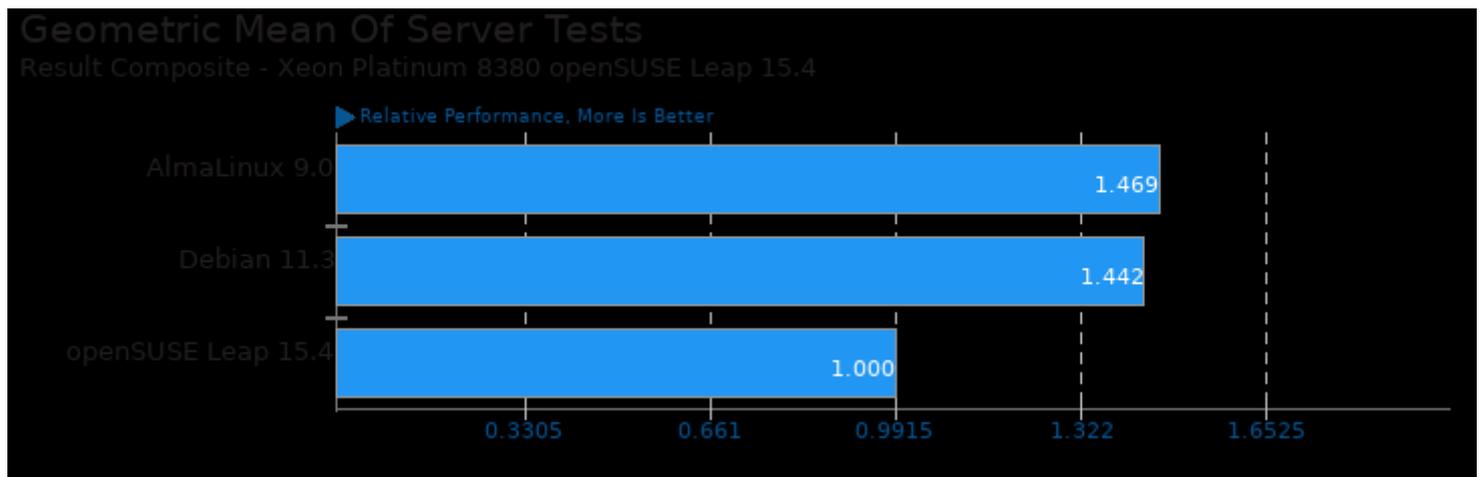
Geometric mean based upon tests: pts/pybench, pts/numpy and pts/pyperformance



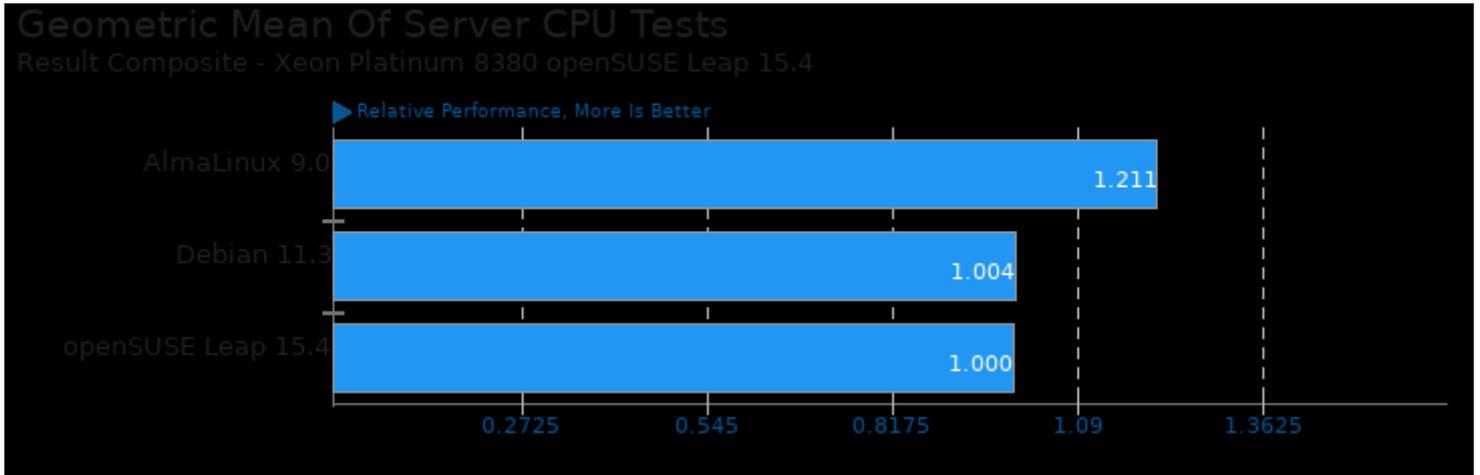
Geometric mean based upon tests: pts/ospray-studio, pts/blender and pts/appleseed



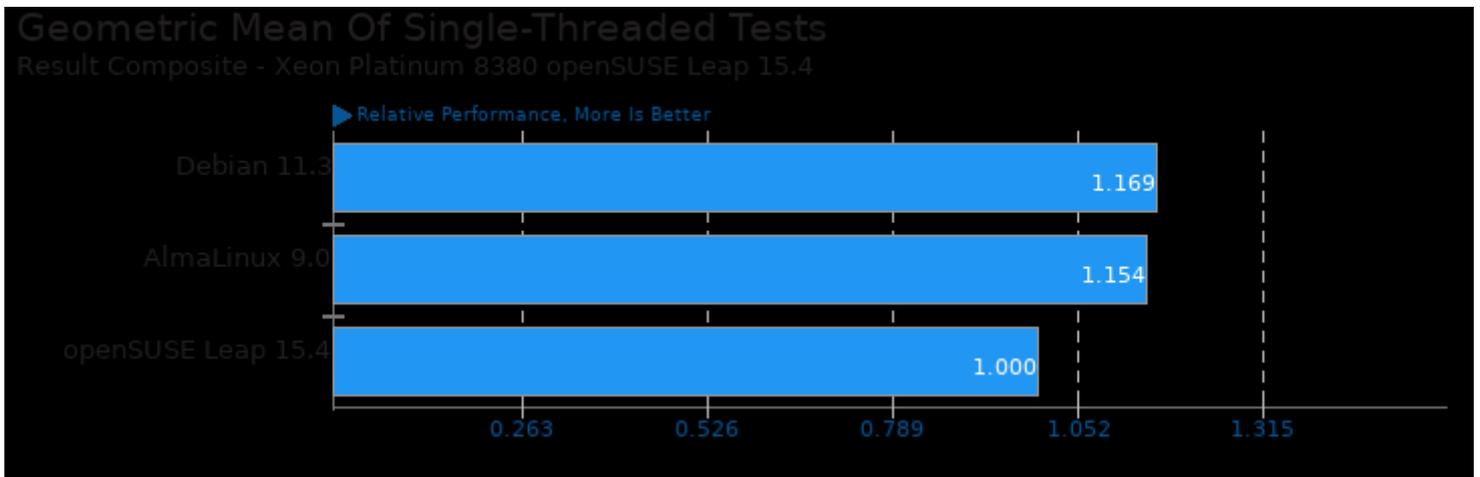
Geometric mean based upon tests: pts/namd, pts/gromacs, pts/incompact3d and pts/mrbayes



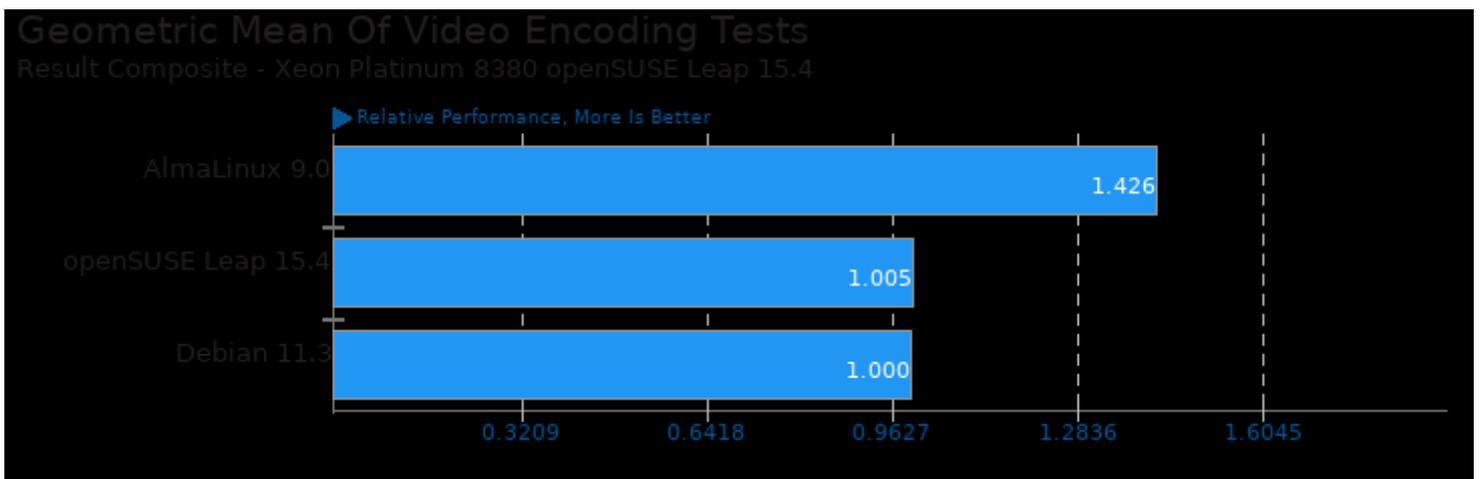
Geometric mean based upon tests: pts/apache, pts/phpbench and pts/simdjson



Geometric mean based upon tests: pts/namd, pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/compress-7zip, pts/build-php, pts/build-llvm, pts/blender, pts/appleseed, pts/pybench, pts/numpy and pts/phpbench



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



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 05:50.