



www.phoronix-test-suite.com

Ryzen 9 5900X Clear Linux

AMD Ryzen 9 5900X 12-Core testing with a ASUS ROG CROSSHAIR VIII HERO (2702 BIOS) and AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 6GB on openSUSE Tumbleweed 20201216 via the Phoronix Test Suite.

Automated Executive Summary

Clear Linux 34100 had the most wins, coming in first place for 66% of the tests.

Based on the geometric mean of all complete results, the fastest (Clear Linux 34100) was 1.159x the speed of the slowest (Fedora Workstation 33). openSUSE Tumbleweed was 0.871x the speed of Clear Linux 34100 and Fedora Workstation 33 was 0.99x the speed of openSUSE Tumbleweed.

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

LAMMPS Molecular Dynamics Simulator (Model: Rhodopsin Protein) at 9.765x

LAMMPS Molecular Dynamics Simulator (Model: 20k Atoms) at 9.095x

simdjson (Throughput Test: PartialTweets) at 3.875x

Incompact3D (Input: Cylinder) at 2.761x

LevelDB (Benchmark: Sequential Fill) at 2.211x

LevelDB (Benchmark: Sequential Fill) at 2.206x

LevelDB (Benchmark: Random Fill) at 2.204x

LevelDB (Benchmark: Random Fill) at 2.199x

LevelDB (Benchmark: Overwrite) at 2.197x

LevelDB (Benchmark: Overwrite) at 2.193x.

Test Systems:

Clear Linux 34100

Processor: AMD Ryzen 9 5900X 12-Core @ 3.70GHz (12 Cores / 24 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (2702 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 1000GB Sabrent Rocket 4.0 1TB, Graphics: Sapphire AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 6GB (1780/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: ASUS VP28U, Network: Realtek RTL8125 2.5GbE + Intel I211

OS: Clear Linux OS 34100, Kernel: 5.9.15-1008.native (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.10, Display Driver: modesetting 1.20.10, OpenGL: 4.6 Mesa 20.3.1 (LLVM 10.0.1), Vulkan: 1.2.145, Compiler: GCC 10.2.1 20201217 releases/gcc-10.2.0-643-g7cbb07d2fc + Clang 10.0.1 + LLVM 10.0.1, File-System: ext4, Screen Resolution: 3840x2160

Environment Notes: FFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -fstack-protector -param=ssp-buffer-size=32 -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ffree-loop-distribute-patterns -WI,-z -WI,now -WI,-z -WI,relo -malign-data=abi -fno-semantic-interposition -ffree-vectorize -ffree-loop-vectorize -WI,--enable-new-dtags -Wa,-mbanches-within-32B-boundaries" CXXFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -fstack-protector --param=ssp-buffer-size=32 -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ffree-loop-distribute-patterns -WI,-z -WI,now -WI,-z -WI,relo -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,--enable-new-dtags -mtune=skylake -Wa,-mbanches-within-32B-boundaries -visibility-inlines-hidden -WI,--enable-new-dtags" MESA_GLSL_CACHE_DISABLE=0 FCFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -fstack-protector -param=ssp-buffer-size=32 -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ffree-loop-distribute-patterns -WI,-z -WI,now -WI,-z -WI,relo -malign-data=abi -fno-semantic-interposition -ffree-vectorize -ffree-loop-vectorize -WI,--enable-new-dtags" CFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D_FORTIFY_SOURCE=2 -fexceptions -fstack-protector --param=ssp-buffer-size=32 -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D_REENTRANT -ffree-loop-distribute-patterns -WI,-z -WI,now -WI,-z -WI,relo -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,--enable-new-dtags -mtune=skylake -Wa,-mbanches-within-32B-boundaries" THEANO_FLAGS="floatX=float32,openmp=true,gcc.cxxflags="-ffree-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-languages=c,c++,fortran,go --enable-ld=default --enable-libstdcxx-pch --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --exec-prefix=/usr --includedir=/usr/include --target=x86_64-generic-linux --with-arch=westmere --with-gcc-major-version-only --with-glibc-version=2.19 --with-gnu-ld --with-isl --with-ppl=yes --with-tune=haswell

Disk Notes: MQ_DEADLINE / relatime,rw,stripe=256 / Block Size: 4096

Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa201009

Graphics Notes: GLAMOR

Python Notes: Python 3.9.1

Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbd: Not affected + tsx_async_abort: Not affected

Fedora Workstation 33

Processor: AMD Ryzen 9 5900X 12-Core @ 3.70GHz (12 Cores / 24 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (2702 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 1000GB Sabrent Rocket 4.0 1TB + 15GB Ultra USB 3.0, Graphics: Sapphire AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 6GB (1780/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: ASUS VP28U, Network: Realtek RTL8125 2.5GbE + Intel I211

OS: Fedora 33, Kernel: 5.9.14-200.fc33.x86_64 (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 20.2.4 (LLVM 11.0.0), Compiler: GCC 10.2.1 20201125 + Clang 11.0.0, File-System: btrfs, Screen Resolution: 3840x2160

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

Disk Notes: NONE / relatime,rw,seclabel,space_cache,ssd,subvol=/home,subvolid=256 / Block Size: 4096

Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa201009

Python Notes: Python 3.9.0

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 and seccomp + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retrpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbd: Not affected + tsx_async_abort: Not affected

openSUSE Tumbleweed

Processor: AMD Ryzen 9 5900X 12-Core @ 3.70GHz (12 Cores / 24 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (2702 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 1000GB Sabrent Rocket 4.0 1TB + 15GB Ultra USB 3.0, Graphics: AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 6GB (1780/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: ASUS VP28U, Network: Realtek RTL8125 2.5GbE + Intel I211

OS: openSUSE Tumbleweed 20201216, Kernel: 5.9.14-1-default (x86_64), Desktop: KDE Plasma 5.20.4, Display Server: X Server 1.20.10, Display Driver: amdgpu 19.1.0, OpenGL: 4.6 Mesa 20.2.4 (LLVM 11.0.0), Vulkan: 1.2.131, Compiler: GCC 10.2.1 20201202 [revision e563687cf9d3d1278f45aaebd03e0f66531076c9], File-System: btrfs, Screen Resolution: 3840x2160

Compiler Notes: --build=x86_64-suse-linux --disable-libgcc --disable-libssp --disable-libstdcxx-pch --disable-libvtv --disable-werror --enable-cet=auto --enable-checking=release --enable-gnu-indirect-function --enable-languages=c,c++,objc,fortran,obj-c++,ada,go,d --enable-libphobos --enable-libstdcxx-allocator=new --enable-link-mutex --enable-linux-futex --enable-multilib --enable-offload-targets=nvptx-none,amdgcn-amdhsa, --enable-plugin --enable-ssp --enable-version-specific-runtime-libs --host=x86_64-suse-linux --mandir=/usr/share/man --with-arch-32=x86-64 --with-build-config=bootstrap-lto-lean

Disk Notes: NONE / relatime,rw,space_cache,ssd,subvol=@/home,subvolid=262 / Block Size: 4096

Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa201009

Graphics Notes: GLAMOR

Python Notes: Python 3.8.6

Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retrpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbd: Not affected + tsx_async_abort: Not affected

	Clear Linux 34100	Fedora Workstation	openSUSE Tumbleweed
	33		
LevelDB - Hot Read (us/Op)	10.679	11.141	10.258
Normalized	96.06%	92.07%	100%
Standard Deviation	1.8%	0.7%	1.8%
LevelDB - Overwrite (MB/s)	60.3	27.5	44.1
Normalized	100%	45.61%	73.13%
Standard Deviation	0.3%	0.2%	1.7%
LevelDB - Overwrite (us/Op)	43.983	96.610	60.205
Normalized	100%	45.53%	73.06%
Standard Deviation	0.4%	0.2%	1.8%
LevelDB - Rand Fill (MB/s)	60.4	27.4	44.6
Normalized	100%	45.36%	73.84%
Standard Deviation	0.5%	0.2%	2.5%
LevelDB - Rand Fill (us/Op)	43.949	96.665	59.462
Normalized	100%	45.47%	73.91%
Standard Deviation	0.6%	0.3%	2.5%
LevelDB - Rand Read (us/Op)	10.752	11.203	10.314
Normalized	95.93%	92.06%	100%
Standard Deviation	0.8%	1.4%	0.5%
LevelDB - Seq Fill (MB/s)	62.2	28.2	43.3
Normalized	100%	45.34%	69.61%
Standard Deviation	0.1%	1.5%	0.7%

LevelDB - Seq Fill (us/Op)	42.652	94.293	61.267
Normalized	100%	45.23%	69.62%
Standard Deviation	0.1%	1.6%	0.8%
RealSR-NCNN - 4x - No (sec)	12.324	11.784	11.837
Normalized	95.62%	100%	99.55%
Standard Deviation	0.4%	0%	0.4%
RealSR-NCNN - 4x - Yes (sec)	84.911	79.936	80.732
Normalized	94.14%	100%	99.01%
Standard Deviation	0%	0.1%	0.3%
Waifu2x-NCNN Vulkan - 2x - 3 - Yes (sec)	6.403	6.367	6.403
Normalized	99.44%	100%	99.44%
Standard Deviation	0.4%	0.8%	0.3%
Betsy GPU Compressor - ETC1 - Highest	6.673	6.748	6.551
Normalized	98.17%	97.08%	100%
Standard Deviation	9.2%	11.4%	10.8%
Betsy GPU Compressor - ETC2 RGB - Highest (sec)	7.472	7.503	7.326
Normalized	98.05%	97.64%	100%
Standard Deviation	7.9%	10%	9.6%
GLmark2 - 3840 x 2160 (Score)	2075	2650	2044
Normalized	78.3%	100%	77.13%
C-Blosc - blosclz (MB/s)	15946	12305	13460
Normalized	100%	77.17%	84.41%
Standard Deviation	0.7%	0.2%	1.3%
Crypto++ - Keyed Algorithms (MiB/s)	836.137355	833.883143	840.824972
Normalized	99.44%	99.17%	100%
Standard Deviation	2.5%	1.3%	1.1%
Crypto++ - Unkeyed Algorithms (MiB/s)	498.191566	460.790573	442.690401
Normalized	100%	92.49%	88.86%
Standard Deviation	11%	0.7%	0.2%
High Performance Conjugate Gradient (GFLOP/s)	4.95400	4.96637	4.87737
Normalized	99.75%	100%	98.21%
Standard Deviation	0.2%	0.5%	0.3%
LeelaChessZero - BLAS (Nodes/s)	544	577	
Normalized	94.28%	100%	
Standard Deviation		0.7%	
LeelaChessZero - Eigen (Nodes/s)	571	575	570
Normalized	99.3%	100%	99.13%
Standard Deviation		0.5%	1.7%
miniFE - Small (CG Mflops)	4164	4297	
Normalized	96.92%	100%	
Standard Deviation	0%	0%	
Dolfyn - C.F.D (sec)	13.220	12.993	13.060
Normalized	98.28%	100%	99.49%
Standard Deviation	1.6%	2%	2%
FFTE - N.2.3.C.F.R (MFLOPS)	41134	38378	40597
Normalized	100%	93.3%	98.69%
Standard Deviation	0.4%	0.1%	0.8%
Timed HMMer Search - P.D.S (sec)	79.048	83.425	79.942
Normalized	100%	94.75%	98.88%
Standard Deviation	0.1%	0.1%	0.1%
Incompact3D - Cylinder (sec)	78.6523234	206.191900	217.167546
Normalized	100%	38.15%	36.22%
Standard Deviation	2.4%	0.2%	2.4%

Timed MAFFT Alignment - M.S.A - LSU RNA	7.218	8.856	8.271
	(sec)		
Normalized	100%	81.5%	87.27%
Standard Deviation	0.6%	2.3%	1.7%
LAMMPS Molecular Dynamics Simulator -	10.778		1.185
20k Atoms (ns/day)			
Normalized	100%		10.99%
Standard Deviation	0.1%		0.3%
LAMMPS Molecular Dynamics Simulator -	10.754	10.839	1.110
Rhodopsin Protein (ns/day)			
Normalized	99.22%	100%	10.24%
Standard Deviation	0.3%	1.1%	1.8%
WebP Image Encode - Q.1.L (Encode Time -	12.739	12.954	12.545
sec)			
Normalized	98.48%	96.84%	100%
Standard Deviation	2.2%	2.1%	0.9%
WebP Image Encode - Q.1.H.C (Encode Time	5.509	5.425	5.429
- sec)			
Normalized	98.48%	100%	99.93%
Standard Deviation	1.8%	0.3%	0.4%
WebP Image Encode - Q.1.L.H.C (Encode	26.639	27.481	26.139
Time - sec)			
Normalized	98.12%	95.12%	100%
Standard Deviation	0.8%	1%	0.6%
simdjson - Kostya (GB/s)	2.66	0.67	0.85
Normalized	100%	25.19%	31.95%
Standard Deviation	2.2%	1.5%	14.5%
simdjson - LargeRand (GB/s)	1.09	0.62	0.63
Normalized	100%	56.88%	57.8%
Standard Deviation	1.6%	2.5%	2.8%
simdjson - PartialTweets (GB/s)	3.41	0.88	1.05
Normalized	100%	25.81%	30.79%
Standard Deviation	1.3%	1.7%	0%
simdjson - DistinctUserID (GB/s)	3.51	0.95	1.08
Normalized	100%	27.07%	30.77%
Standard Deviation	1.6%	6.3%	0%
LZ4 Compression - 3 - Compression Speed	72.10	74.41	74.70
(MB/s)			
Normalized	96.52%	99.61%	100%
Standard Deviation	2%	1%	1.4%
LZ4 Compression - 3 - D.S (MB/s)	13899	13254	13179
Normalized	100%	95.36%	94.82%
Standard Deviation	0.4%	0.1%	0.5%
LZ4 Compression - 9 - Compression Speed	69.98	68.30	73.61
(MB/s)			
Normalized	95.07%	92.79%	100%
Standard Deviation	2.4%	1.1%	1.8%
LZ4 Compression - 9 - D.S (MB/s)	13922	13168	13130
Normalized	100%	94.59%	94.31%
Standard Deviation	0.5%	0.5%	0.7%
Zstd Compression - 3 (MB/s)	5039	5100	5666
Normalized	88.92%	90.01%	100%
Standard Deviation	0.5%	1.4%	0.5%
Zstd Compression - 19 (MB/s)	43.7	45.1	44.3

Normalized	96.9%	100%	98.23%
Standard Deviation	0.4%	0.1%	0.4%
LibRaw - P.P.B (Mpix/sec)	77.53	50.98	53.04
Normalized	100%	65.76%	68.41%
Standard Deviation	0.2%	0.9%	0.6%
Crafty - Elapsed Time (Nodes/s)	11748939	11976530	12189062
Normalized	96.39%	98.26%	100%
Standard Deviation	2.1%	0.7%	1.6%
rav1e - 5 (FPS)	1.639	1.491	1.490
Normalized	100%	90.97%	90.91%
Standard Deviation	0.2%	0.8%	0.6%
rav1e - 6 (FPS)	2.217	1.980	2.009
Normalized	100%	89.31%	90.62%
Standard Deviation	0.1%	0.2%	2.4%
rav1e - 10 (FPS)	5.217	4.183	4.142
Normalized	100%	80.18%	79.39%
Standard Deviation	1.1%	0.6%	3%
SVT-AV1 - Enc Mode 4 - 1080p (FPS)	6.730	6.240	6.396
Normalized	100%	92.72%	95.04%
Standard Deviation	0.5%	0.1%	0.2%
SVT-AV1 - Enc Mode 8 - 1080p (FPS)	56.899	47.919	49.150
Normalized	100%	84.22%	86.38%
Standard Deviation	0.1%	1%	1.7%
x264 - H.2.V.E (FPS)	176.47	127.68	139.96
Normalized	100%	72.35%	79.31%
Standard Deviation	1.9%	1.2%	4.3%
x265 - Bosphorus 4K (FPS)	24.96	21.74	23.60
Normalized	100%	87.1%	94.55%
Standard Deviation	0.8%	0.3%	0.9%
x265 - Bosphorus 1080p (FPS)	86.35	49.37	50.09
Normalized	100%	57.17%	58.01%
Standard Deviation	0.3%	0.7%	1.4%
Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)	657805	645062	656037
Normalized	100%	98.06%	99.73%
Standard Deviation	2.4%	0.4%	0.1%
Himeno Benchmark - P.P.S (MFLOPS)	5152	5337	5133
Normalized	96.54%	100%	96.18%
Standard Deviation	4.9%	5.5%	4.7%
Stockfish - Total Time (Nodes/s)	32794418	36843836	36844638
Normalized	89.01%	100%	100%
Standard Deviation	2.1%	0.8%	2.6%
asmFish - 1.H.M.2.D (Nodes/s)	50182480	48873668	49805796
Normalized	100%	97.39%	99.25%
Standard Deviation	2.3%	0.8%	0.4%
libavif avifenc - 2 (sec)	33.685	36.101	35.266
Normalized	100%	93.31%	95.52%
Standard Deviation	2.4%	1%	0.7%
libavif avifenc - 8 (sec)	3.287	5.052	4.245
Normalized	100%	65.06%	77.43%
Standard Deviation	1.7%	1%	1%
libavif avifenc - 10 (sec)	3.161	4.880	4.024
Normalized	100%	64.77%	78.55%
Standard Deviation	0.4%	0.4%	1%

Timed FFmpeg Compilation - Time To Compile (sec)	30.734	30.040	30.148
Normalized	97.74%	100%	99.64%
Standard Deviation	0.4%	0.1%	0.6%
Timed Linux Kernel Compilation - Time To Compile (sec)	44.397	49.574	46.770
Normalized	100%	89.56%	94.93%
Standard Deviation	2.3%	2.4%	2.2%
Numpy Benchmark (Score)	637.35	529.00	515.63
Normalized	100%	83%	80.9%
Standard Deviation	1.8%	1.2%	0.7%
DeepSpeech - CPU (sec)	54.51622	64.98086	65.84271
Normalized	100%	83.9%	82.8%
Standard Deviation	0.9%	0.8%	0.6%
RNNNoise (sec)	14.510	15.219	15.209
Normalized	100%	95.34%	95.4%
Standard Deviation	1.4%	2.2%	1.2%
Node.js V8 Web Tooling Benchmark (runs/s)	17.35	15.79	16.48
Normalized	100%	91.01%	94.99%
Standard Deviation	0.7%	0.7%	1.7%
GROMACS - Water Benchmark (Ns/Day)	1.297	1.242	1.275
Normalized	100%	95.76%	98.3%
Standard Deviation	0.3%	0.2%	0.1%
TensorFlow Lite - Inception V4 (us)	1790687	1797047	1800740
Normalized	100%	99.65%	99.44%
Standard Deviation	0.2%	0.3%	0.2%
ASTC Encoder - Thorough (sec)	15.02	15.51	15.02
Normalized	100%	96.84%	100%
Standard Deviation	0.2%	0.2%	0.2%
ASTC Encoder - Exhaustive (sec)	121.78	122.86	120.82
Normalized	99.21%	98.34%	100%
Standard Deviation	0.2%	0.2%	0.2%
Basis Universal - UASTC Level 3 (sec)	33.127	36.886	33.535
Normalized	100%	89.81%	98.78%
Standard Deviation	0.1%	0.3%	0.2%
SQLite Speedtest - Timed Time - Size 1,000 (sec)	40.059	46.695	48.513
Normalized	100%	85.79%	82.57%
Standard Deviation	1.1%	1.5%	1.4%
RawTherapee - T.B.T (sec)	49.529	49.417	51.322
Normalized	99.77%	100%	96.29%
Standard Deviation	0.2%	0.3%	0.4%
Redis - GET (Req/sec)	3889653	2924175	3088596
Normalized	100%	75.18%	79.41%
Standard Deviation	6%	5.4%	8.6%
Redis - SET (Req/sec)	2883714	2267747	2500492
Normalized	100%	78.64%	86.71%
Standard Deviation	2.5%	5.3%	1.1%
Mobile Neural Network - SqueezeNetV1.0	5.574	6.115	6.122
Normalized	100%	91.15%	91.05%
Standard Deviation	4.9%	1%	3.1%
Mobile Neural Network - resnet-v2-50 (ms)	23.691	26.239	27.899
Normalized	100%	90.29%	84.92%
Standard Deviation	2.8%	0.9%	1.7%

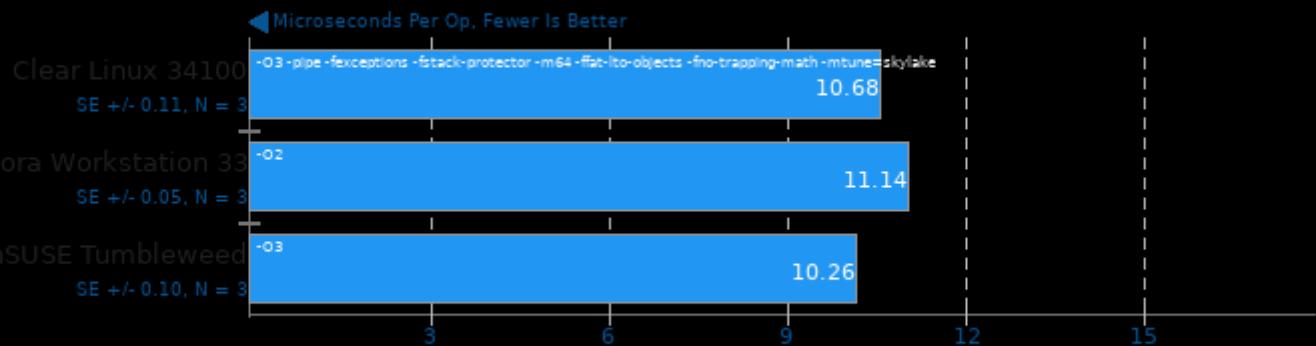
Mobile Neural Network - MobileNetV2_224	2.844	3.058	3.138
Normalized	100%	93%	90.63%
Standard Deviation	2.4%	1.1%	1.7%
Mobile Neural Network - mobilenet-v1-1.0	4.878	5.531	5.767
Normalized	100%	88.19%	84.58%
Standard Deviation	1%	0.5%	0.8%
Mobile Neural Network - inception-v3 (ms)	24.438	26.441	27.872
Normalized	100%	92.42%	87.68%
Standard Deviation	2.9%	1%	1.9%
NCNN - CPU - mobilenet (ms)	12.26	12.40	12.72
Normalized	100%	98.87%	96.38%
Standard Deviation	0.8%	0.9%	1.3%
NCNN - CPU-v2-v2 - mobilenet-v2 (ms)	4.26	4.21	4.38
Normalized	98.83%	100%	96.12%
Standard Deviation	0.1%	0.7%	1.1%
NCNN - CPU-v3-v3 - mobilenet-v3 (ms)	4.08	3.99	4.13
Normalized	97.79%	100%	96.61%
Standard Deviation	1.5%	1%	2.3%
NCNN - CPU - shufflenet-v2 (ms)	4.87	4.79	4.89
Normalized	98.36%	100%	97.96%
Standard Deviation	0.5%	0.5%	0.5%
NCNN - CPU - mnasnet (ms)	3.76	3.82	3.92
Normalized	100%	98.43%	95.92%
Standard Deviation	1.4%	0.8%	0.3%
NCNN - CPU - efficientnet-b0 (ms)	5.21	5.28	5.52
Normalized	100%	98.67%	94.38%
Standard Deviation	0.7%	0.7%	1.1%
NCNN - CPU - blazeface (ms)	1.83	1.79	1.85
Normalized	97.81%	100%	96.76%
Standard Deviation	0.5%	0.6%	2.7%
NCNN - CPU - googlenet (ms)	12.12	11.98	12.52
Normalized	98.84%	100%	95.69%
Standard Deviation	0.7%	0.8%	0.2%
NCNN - CPU - vgg16 (ms)	51.00	53.09	55.00
Normalized	100%	96.06%	92.73%
Standard Deviation	0.1%	0.5%	0.8%
NCNN - CPU - resnet18 (ms)	12.59	12.87	13.39
Normalized	100%	97.82%	94.03%
Standard Deviation	0.2%	0.7%	0.2%
NCNN - CPU - alexnet (ms)	9.98	10.35	10.68
Normalized	100%	96.43%	93.45%
Standard Deviation	0.9%	0.6%	0.3%
NCNN - CPU - resnet50 (ms)	24.16	23.84	24.94
Normalized	98.68%	100%	95.59%
Standard Deviation	0.3%	0.2%	1%
NCNN - CPU - yolov4-tiny (ms)	18.85	20.25	20.92
Normalized	100%	93.09%	90.11%
Standard Deviation	0.2%	0.2%	3.4%
NCNN - CPU - squeezenet_ssd (ms)	13.39	14.13	14.46
Normalized	100%	94.76%	92.6%
Standard Deviation	0.2%	0.3%	0.9%
NCNN - CPU - regnety_400m (ms)	15.62	17.07	17.58
Normalized	100%	91.51%	88.85%
Standard Deviation	0.7%	1.6%	0.7%
NCNN - Vulkan GPU - mobilenet (ms)	12.27	12.41	12.78

	Normalized	100%	98.87%	96.01%
	Standard Deviation	0.7%	1.3%	2%
NCNN - Vulkan GPU-v2-v2 - mobilenet-v2		4.25	4.22	4.34
	Normalized	99.29%	100%	97.24%
	Standard Deviation	0.2%	0%	1.8%
NCNN - Vulkan GPU-v3-v3 - mobilenet-v3		4.01	4.01	4.10
	Normalized	100%	100%	97.8%
	Standard Deviation	0.3%	1.7%	4.3%
NCNN - Vulkan GPU - shufflenet-v2 (ms)		4.84	4.77	4.86
	Normalized	98.55%	100%	98.15%
	Standard Deviation	0.4%	1.3%	2.2%
NCNN - Vulkan GPU - mnasnet (ms)		3.71	3.82	3.90
	Normalized	100%	97.12%	95.13%
	Standard Deviation	0.4%	0.8%	1.1%
NCNN - Vulkan GPU - efficientnet-b0 (ms)		5.26	5.31	5.50
	Normalized	100%	99.06%	95.64%
	Standard Deviation	2.5%	0.8%	0.7%
NCNN - Vulkan GPU - blazeface (ms)		1.82	1.83	1.81
	Normalized	99.45%	98.91%	100%
	Standard Deviation	0.3%	2.5%	2%
NCNN - Vulkan GPU - googlenet (ms)		12.20	12.02	12.61
	Normalized	98.52%	100%	95.32%
	Standard Deviation	1.9%	0.8%	0.6%
NCNN - Vulkan GPU - vgg16 (ms)		50.80	52.99	55.15
	Normalized	100%	95.87%	92.11%
	Standard Deviation	0.7%	1%	1.1%
NCNN - Vulkan GPU - resnet18 (ms)		12.67	12.83	13.47
	Normalized	100%	98.75%	94.06%
	Standard Deviation	1.3%	0.5%	0.8%
NCNN - Vulkan GPU - alexnet (ms)		9.94	10.30	10.70
	Normalized	100%	96.5%	92.9%
	Standard Deviation	0.7%	0.3%	0.5%
NCNN - Vulkan GPU - resnet50 (ms)		24.05	23.65	24.98
	Normalized	98.34%	100%	94.68%
	Standard Deviation	0.6%	1.3%	1%
NCNN - Vulkan GPU - yolov4-tiny (ms)		18.83	20.58	20.89
	Normalized	100%	91.5%	90.14%
	Standard Deviation	0.7%	3.6%	4.1%
NCNN - Vulkan GPU - squeezenet_ssd (ms)		13.27	14.07	14.44
	Normalized	100%	94.31%	91.9%
	Standard Deviation	0.4%	1.2%	2.3%
NCNN - Vulkan GPU - regnety_400m (ms)		15.59	16.98	17.34
	Normalized	100%	91.81%	89.91%
	Standard Deviation	0%	0.4%	3.3%
TNN - CPU - MobileNet v2 (ms)		210.686	215.398	214.815
	Normalized	100%	97.81%	98.08%
	Standard Deviation	1%	1.9%	1.7%
TNN - CPU - SqueezeNet v1.1 (ms)		211.416	211.259	211.550
	Normalized	99.93%	100%	99.86%
	Standard Deviation	1.8%	1.9%	1.7%
Chaos Group V-RAY - CPU (Ksamples)		26996	26344	26571
	Normalized	100%	97.58%	98.43%
	Standard Deviation	0.6%	0.8%	0.7%
IndigoBench - CPU - Bedroom (M samples/s)		3.443	3.335	3.316
	Normalized	100%	96.86%	96.31%

	Standard Deviation	0.2%	0.6%	0.1%
IndigoBench - CPU - Supercar (M samples/s)	7.213	6.970	7.117	
	Normalized	100%	96.63%	98.67%
	Standard Deviation	0.2%	0.5%	0.9%
Facebook RocksDB - Rand Fill (Op/s)	1514885	1459897		
	Normalized	100%	96.37%	
	Standard Deviation	0.2%	0.1%	
Facebook RocksDB - Rand Read (Op/s)	122200686	101607762		
	Normalized	100%	83.15%	
	Standard Deviation	0.2%	3%	
Facebook RocksDB - Seq Fill (Op/s)	1711370	1691544		
	Normalized	100%	98.84%	
	Standard Deviation	2%	1.4%	
Facebook RocksDB - Rand Fill Sync (Op/s)	1653544	1650643		
	Normalized	100%	99.82%	
	Standard Deviation	2.5%	0.6%	
Facebook RocksDB - Read While Writing	3569258	3262836		
	Normalized	100%	91.41%	
	Standard Deviation	3%	2.2%	
Blender - Classroom - CPU-Only (sec)	278.82	280.61	278.31	
	Normalized	99.82%	99.18%	100%
	Standard Deviation	0.3%	0.2%	0.4%
Blender - Barbershop - CPU-Only (sec)	368.91	370.23	371.84	
	Normalized	100%	99.64%	99.21%
	Standard Deviation	0.3%	0.3%	0.3%
PyBench - T.F.A.T.T (Milliseconds)	737	836	880	
	Normalized	100%	88.16%	83.75%
	Standard Deviation	1.7%		3.1%
PHPBench - P.B.S (Score)	1133092	815981	717062	
	Normalized	100%	72.01%	63.28%
	Standard Deviation	0.8%	2.3%	2.5%

LevelDB 1.22

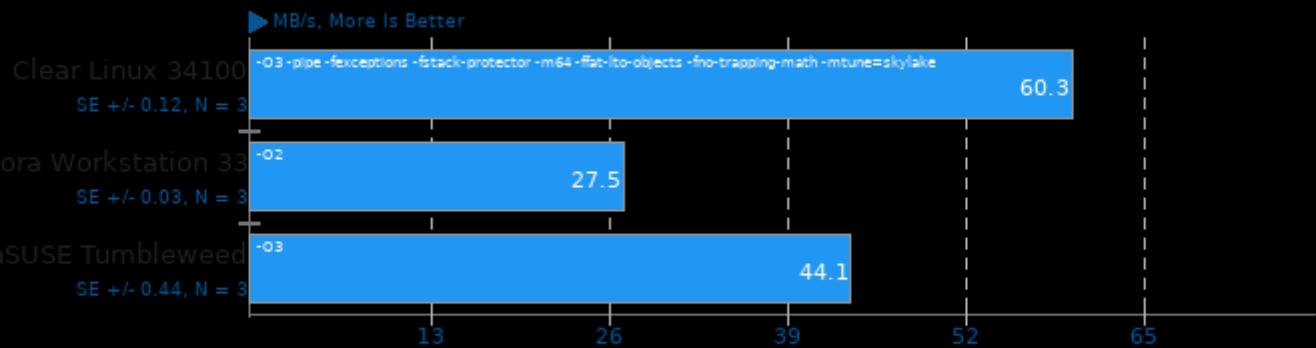
Benchmark: Hot Read



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

LevelDB 1.22

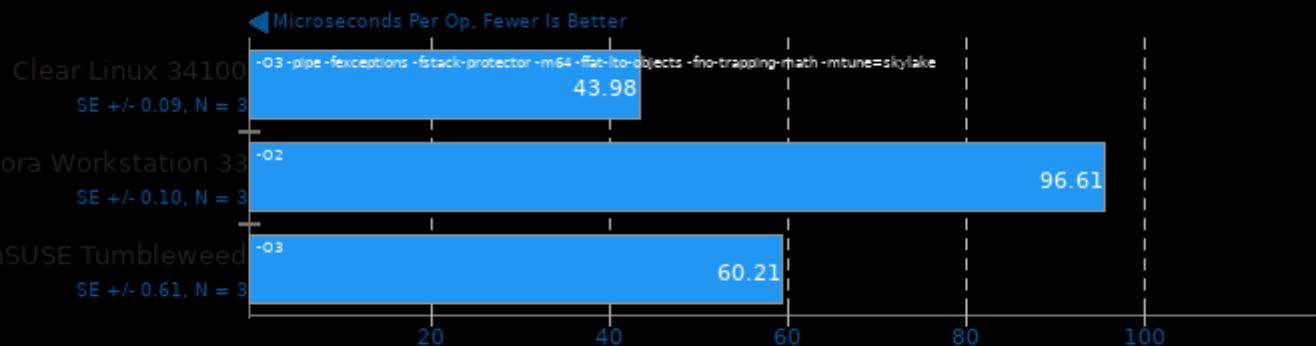
Benchmark: Overwrite



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

LevelDB 1.22

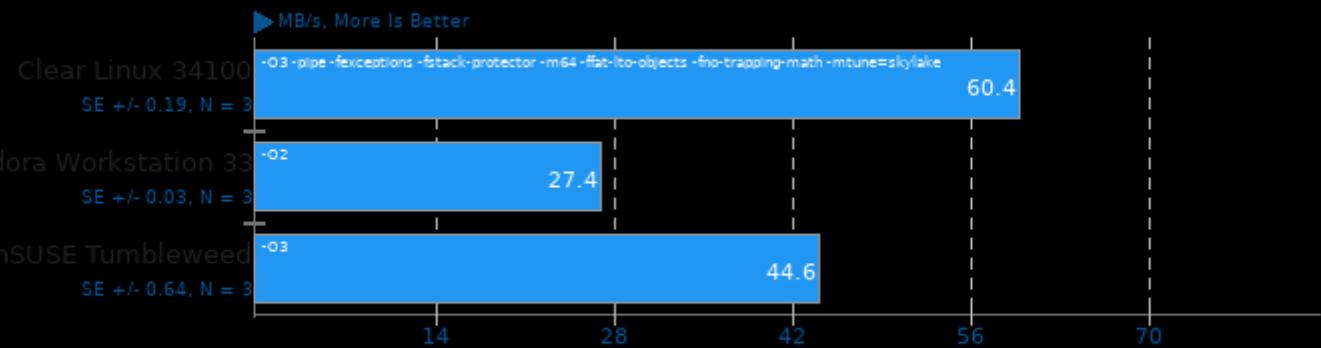
Benchmark: Overwrite



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

LevelDB 1.22

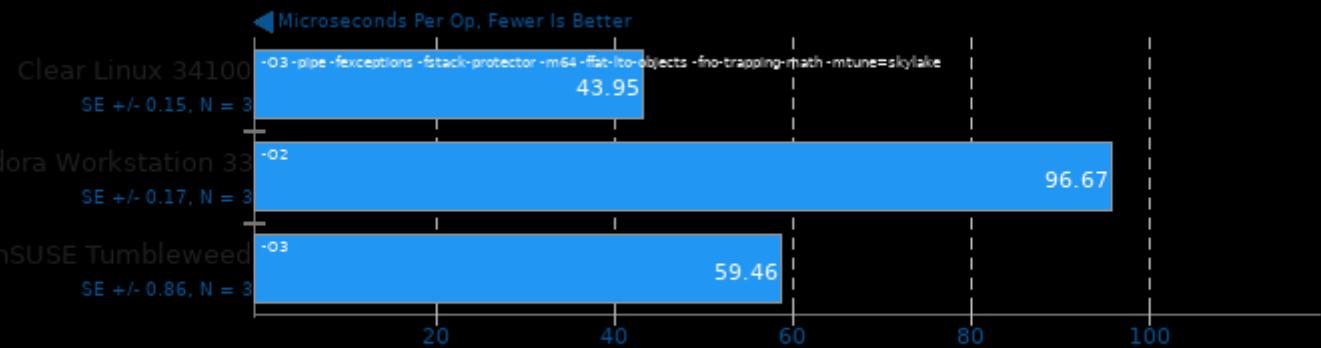
Benchmark: Random Fill



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

LevelDB 1.22

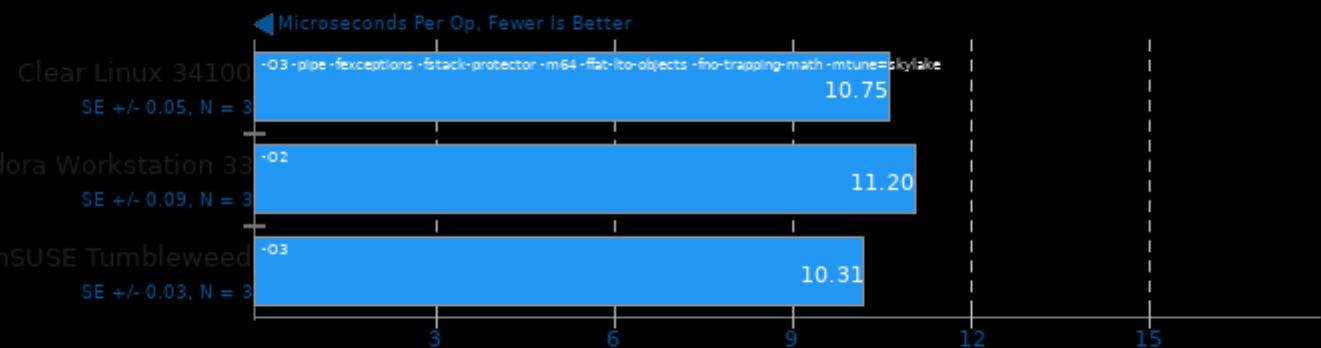
Benchmark: Random Fill



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

LevelDB 1.22

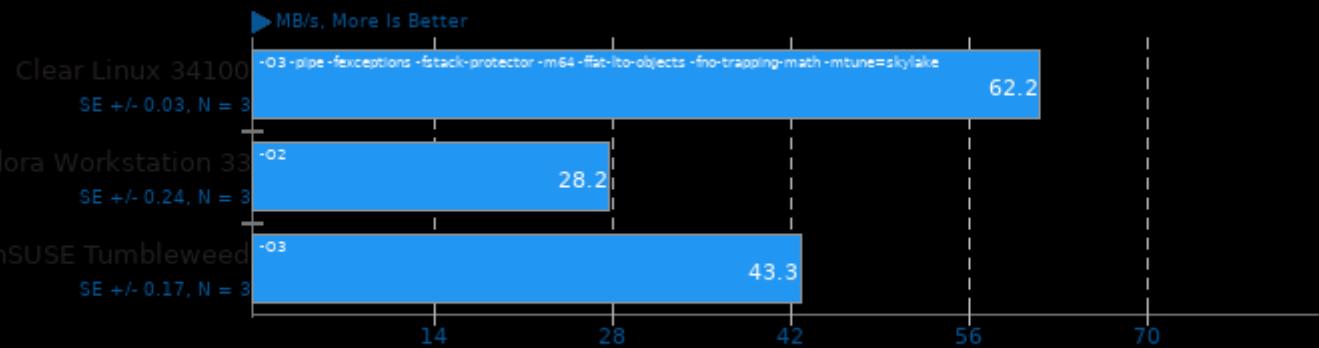
Benchmark: Random Read



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

LevelDB 1.22

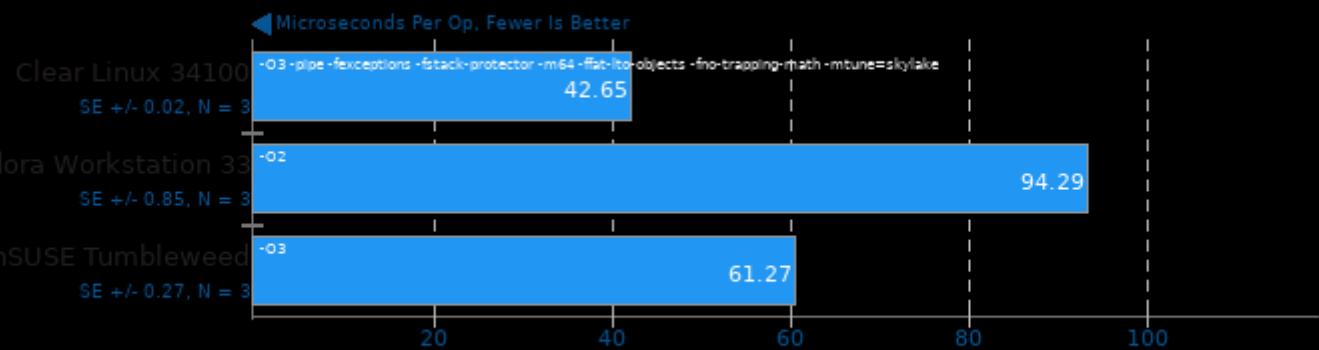
Benchmark: Sequential Fill



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

LevelDB 1.22

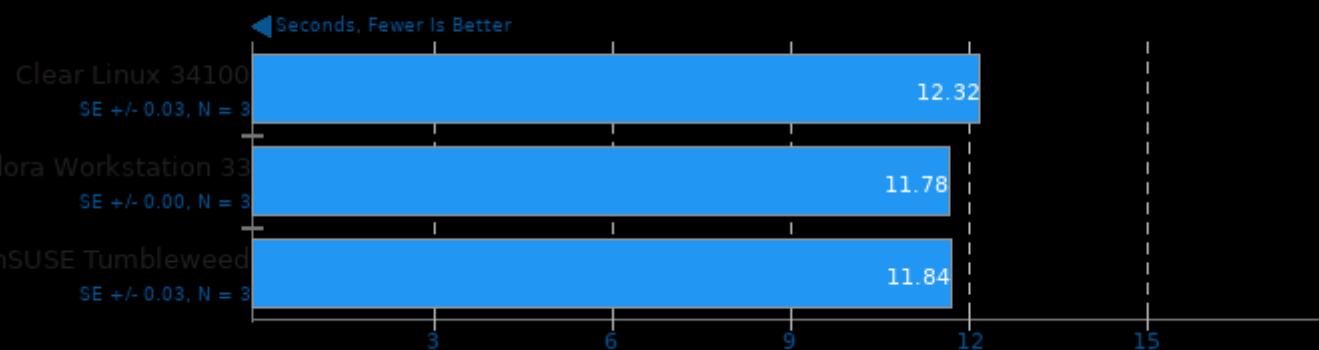
Benchmark: Sequential Fill



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

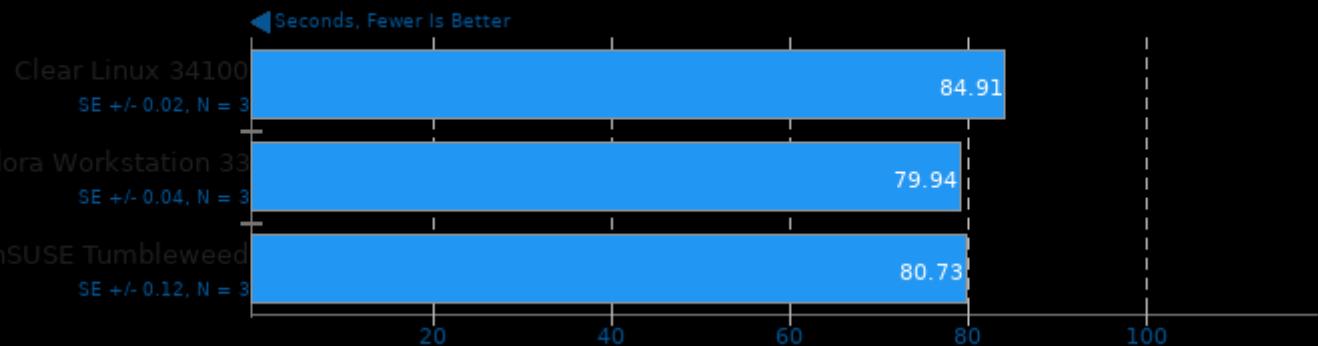
RealSR-NCNN 20200818

Scale: 4x - TAA: No



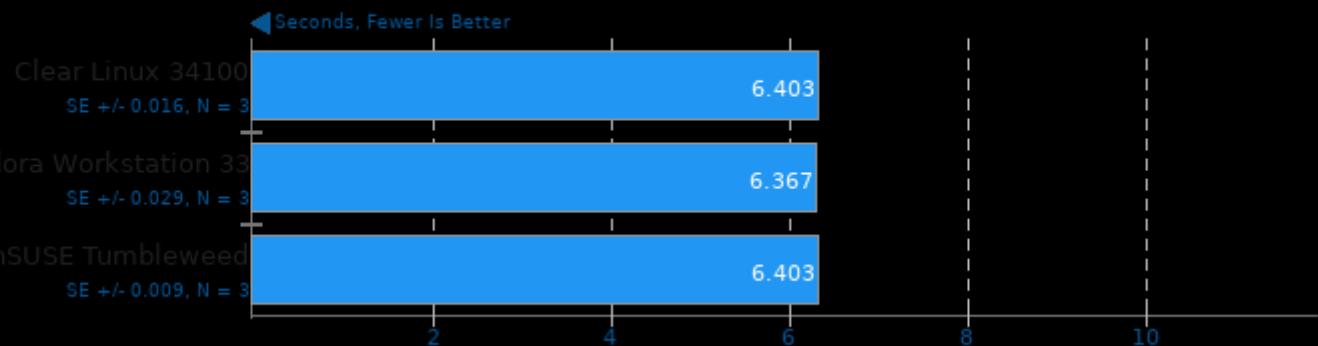
RealSR-NCNN 20200818

Scale: 4x - TAA: Yes



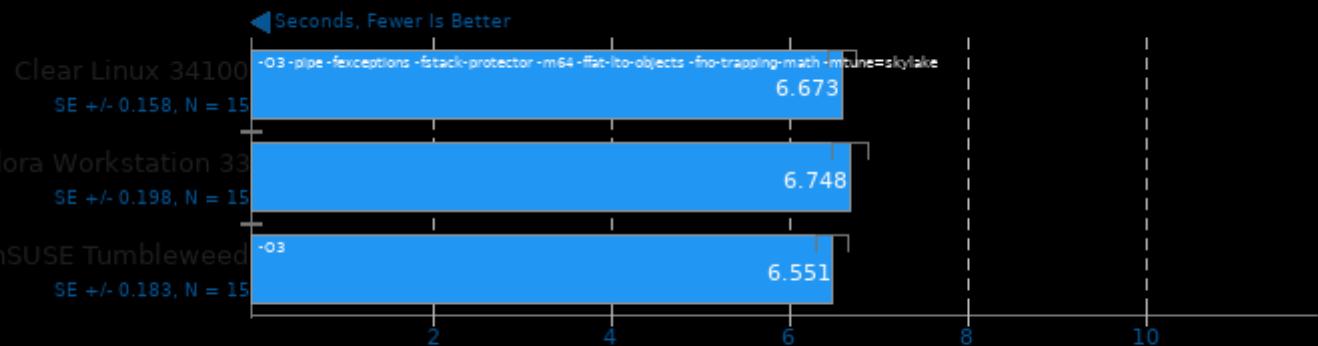
Waifu2x-NCNN Vulkan 20200818

Scale: 2x - Denoise: 3 - TAA: Yes



Betsy GPU Compressor 1.1 Beta

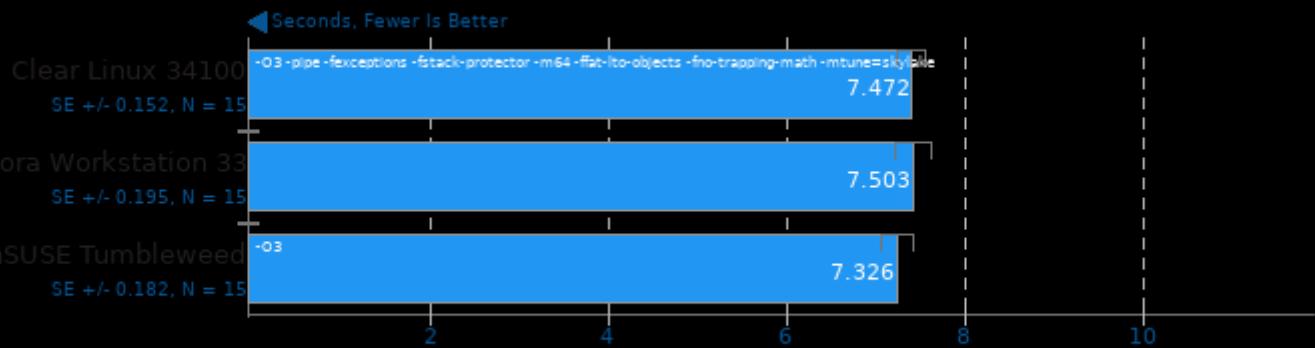
Codec: ETC1 - Quality: Highest



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

Betsy GPU Compressor 1.1 Beta

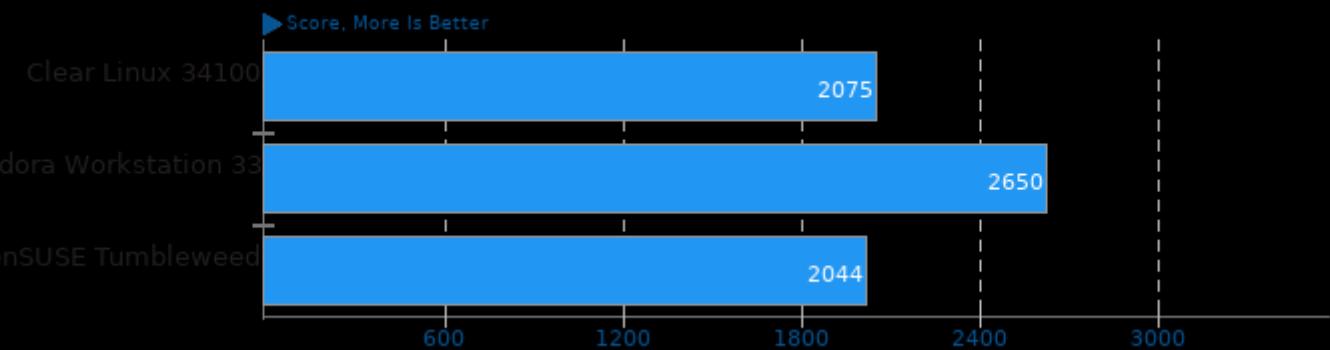
Codec: ETC2 RGB - Quality: Highest



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

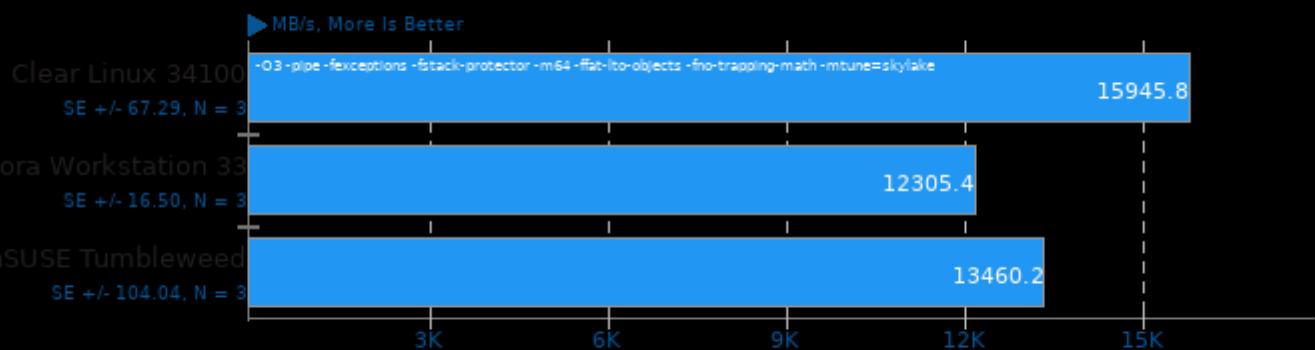
GLmark2 2020.04

Resolution: 3840 x 2160



C-Blosc 2.0 Beta 5

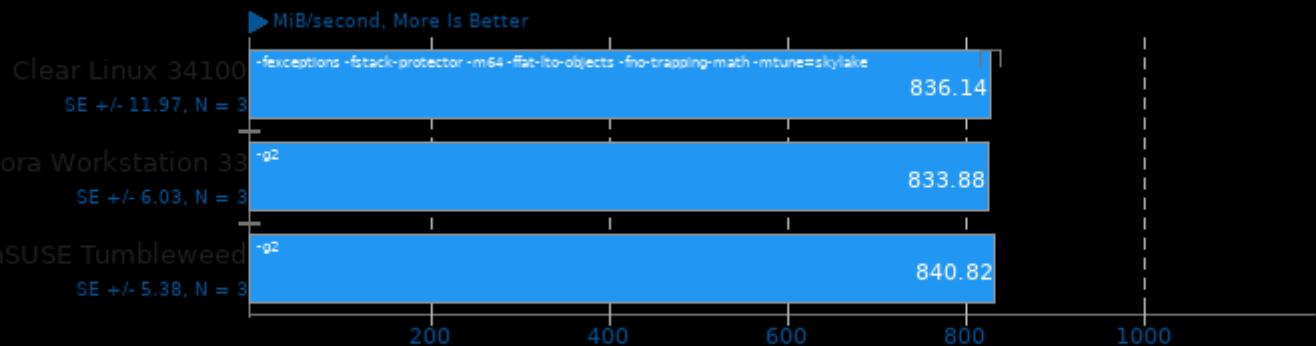
Compressor: blosclz



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

Crypto++ 8.2

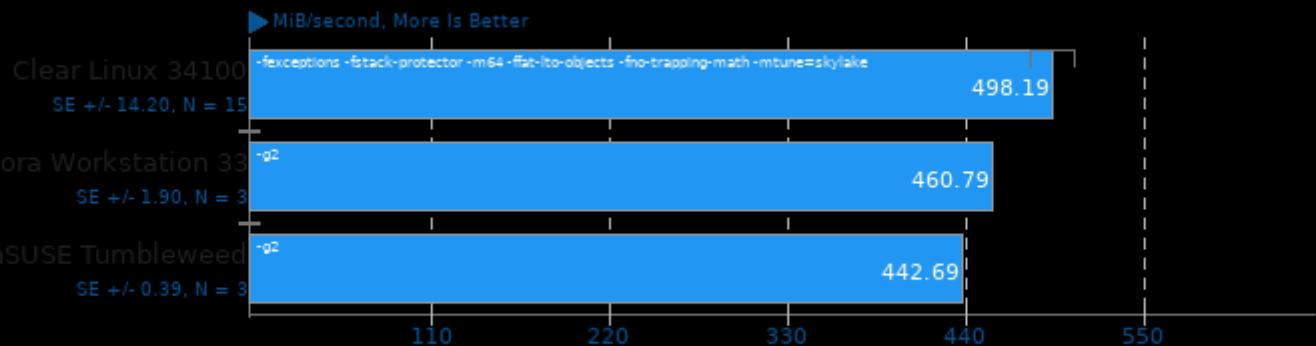
Test: Keyed Algorithms



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

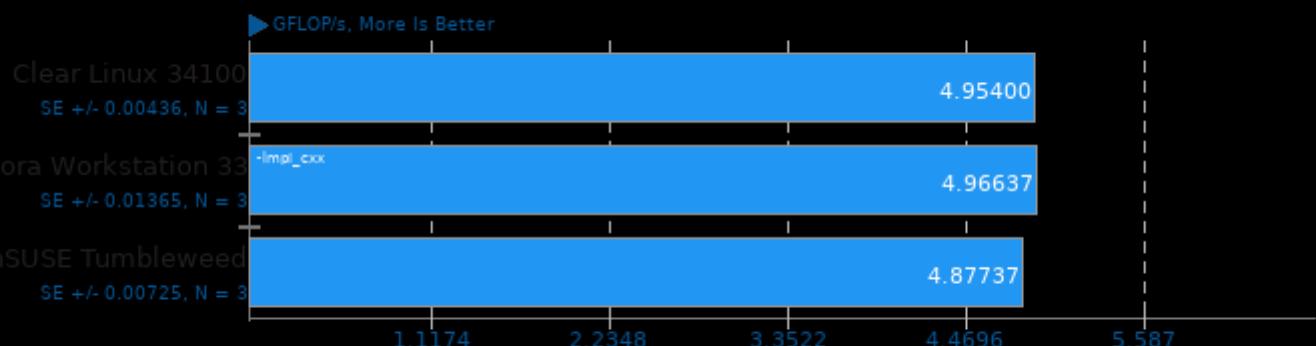
Crypto++ 8.2

Test: Unkeyed Algorithms



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

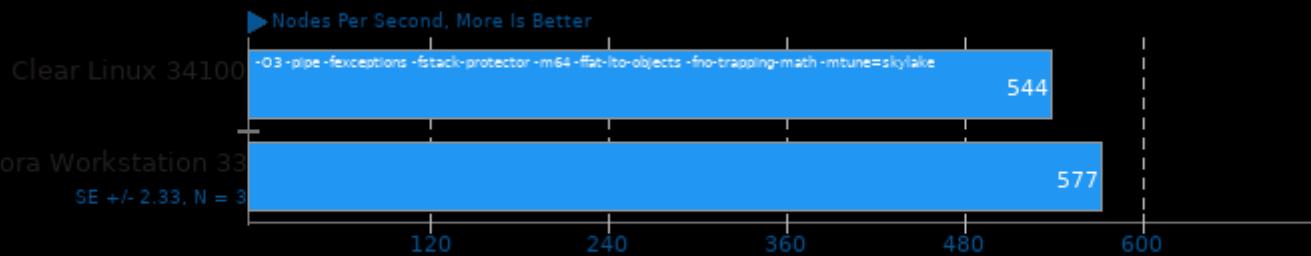
High Performance Conjugate Gradient 3.1



1. (CXX) g++ options: -O3 -ffast-math -fno-tree-vectorize -pthread -lmpi

LeelaChessZero 0.26

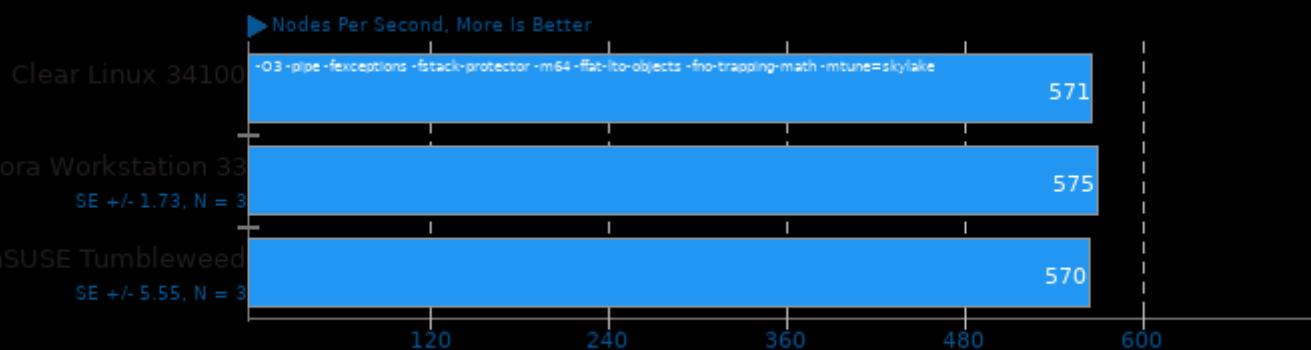
Backend: BLAS



1. (CXX) g++ options: -fno-trapping-math

LeelaChessZero 0.26

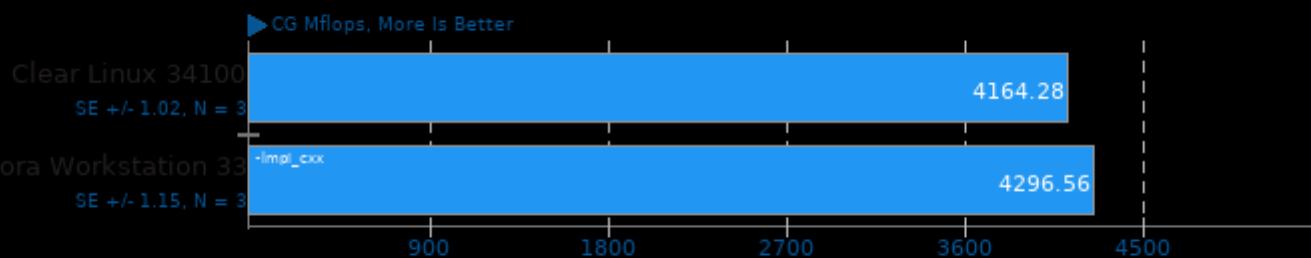
Backend: Eigen



1. (CXX) g++ options: -fno-trapping-math

miniFE 2.2

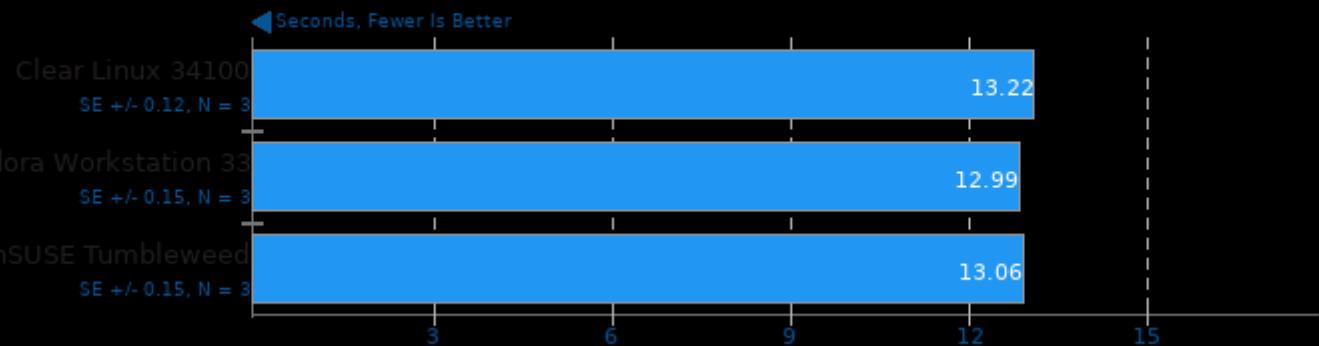
Problem Size: Small



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

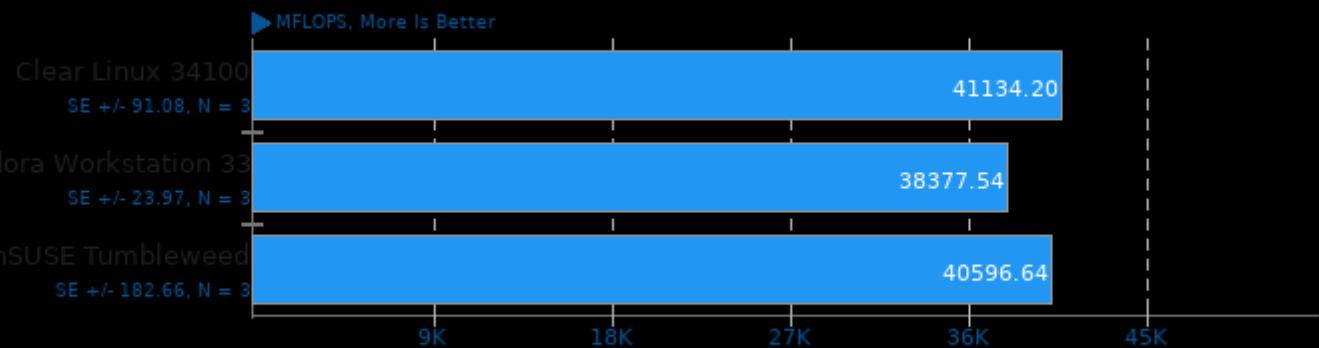
Dolfyn 0.527

Computational Fluid Dynamics



FFTE 7.0

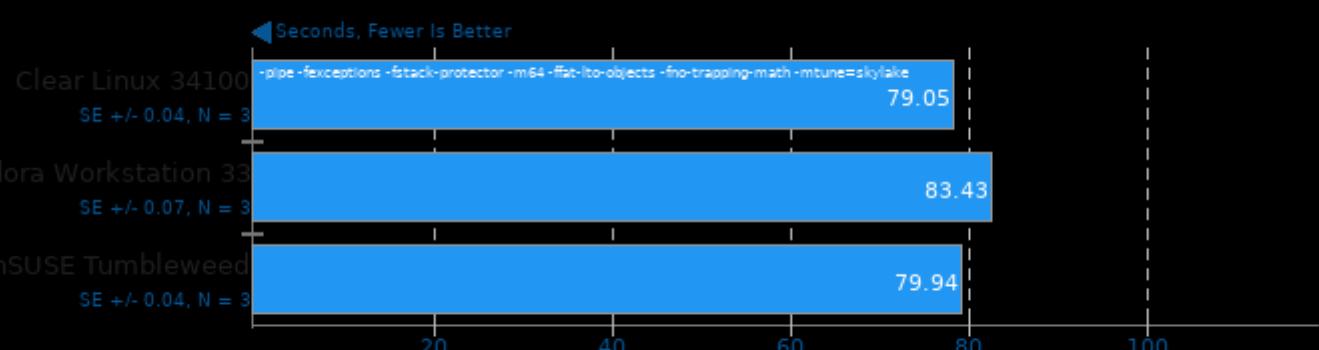
N=256, 3D Complex FFT Routine



1. (F9X) gfortran options: -O3 -fomit-frame-pointer -fopenmp

Timed HMMer Search 3.3.1

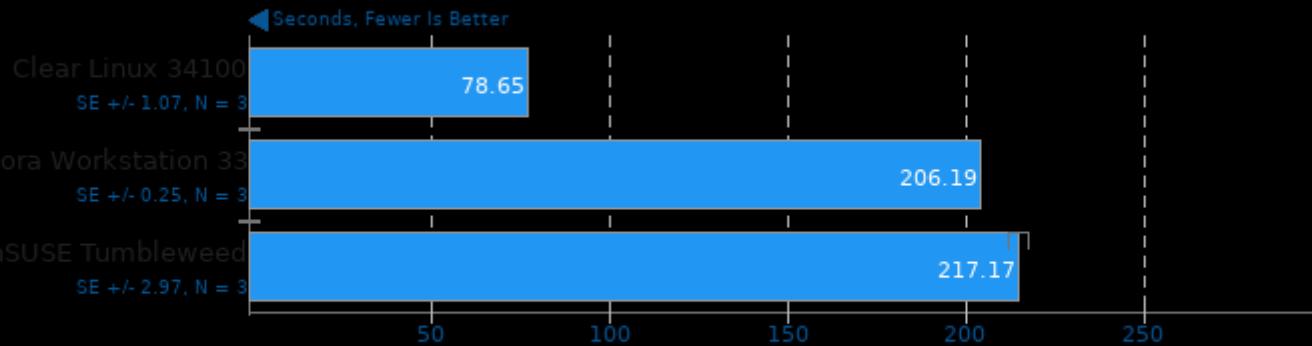
Pfam Database Search



1. (CC) gcc options: -O3 -pthread -lhmmer -leasel -lm

Incompact3D 2020-09-17

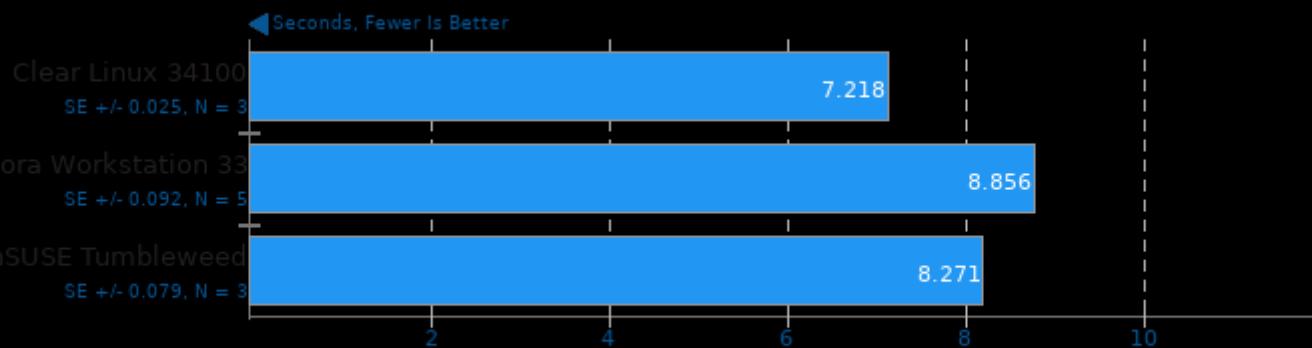
Input: Cylinder



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

Timed MAFFT Alignment 7.471

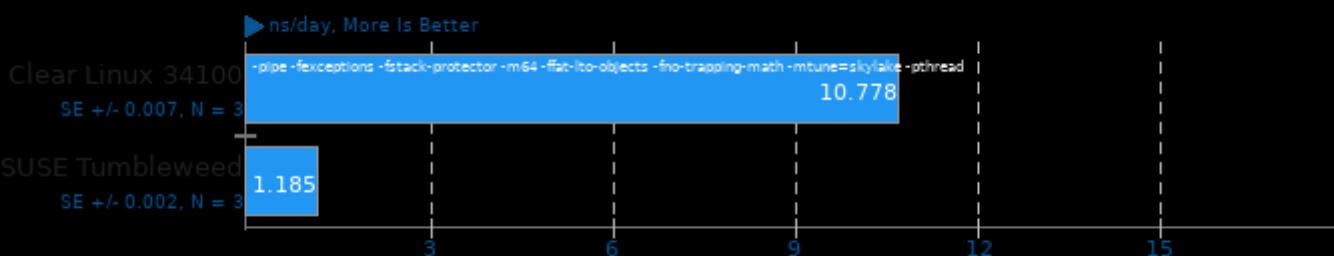
Multiple Sequence Alignment - LSU RNA



1. (CC) gcc options: -std=c99 -O3 -lm -pthread

LAMMPS Molecular Dynamics Simulator 29Oct2020

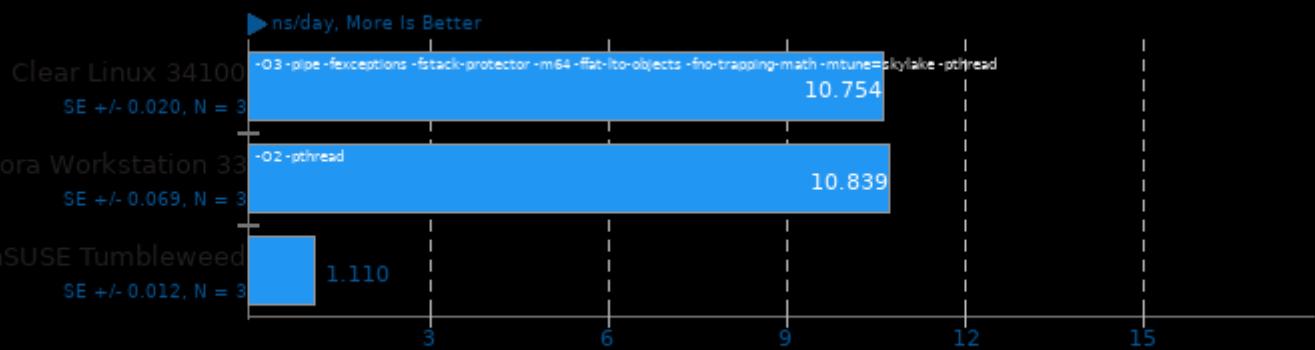
Model: 20k Atoms



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

LAMMPS Molecular Dynamics Simulator 29Oct2020

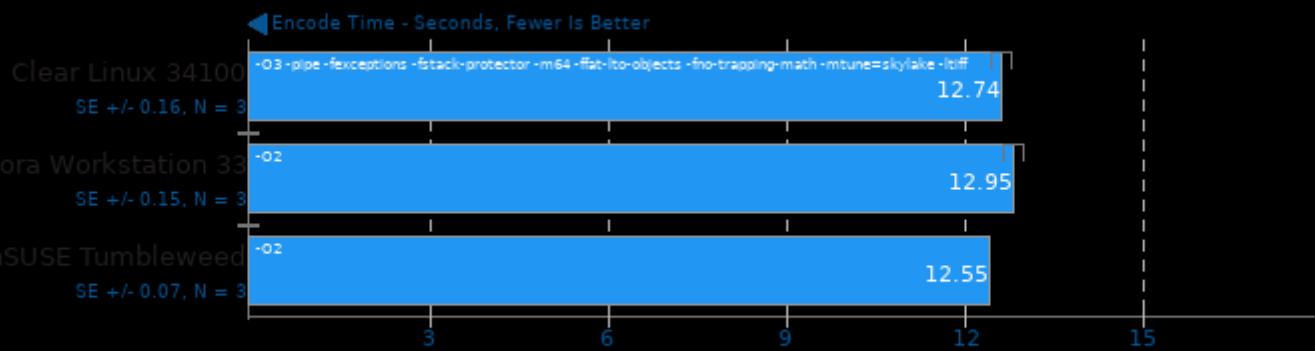
Model: Rhodopsin Protein



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

WebP Image Encode 1.1

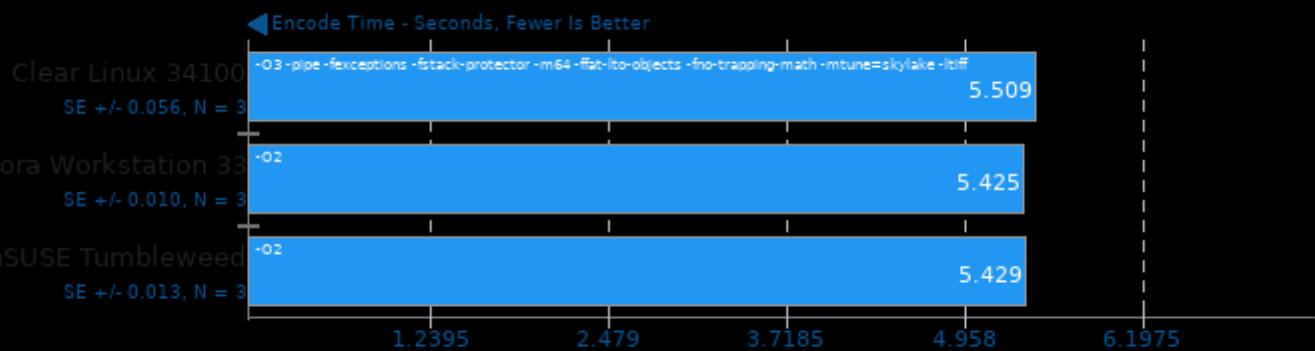
Encode Settings: Quality 100, Lossless



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

WebP Image Encode 1.1

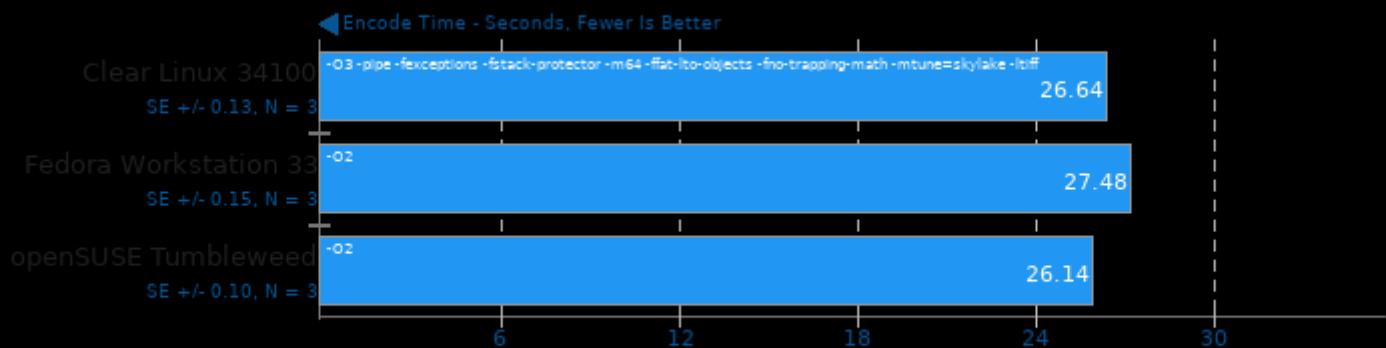
Encode Settings: Quality 100, Highest Compression



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

WebP Image Encode 1.1

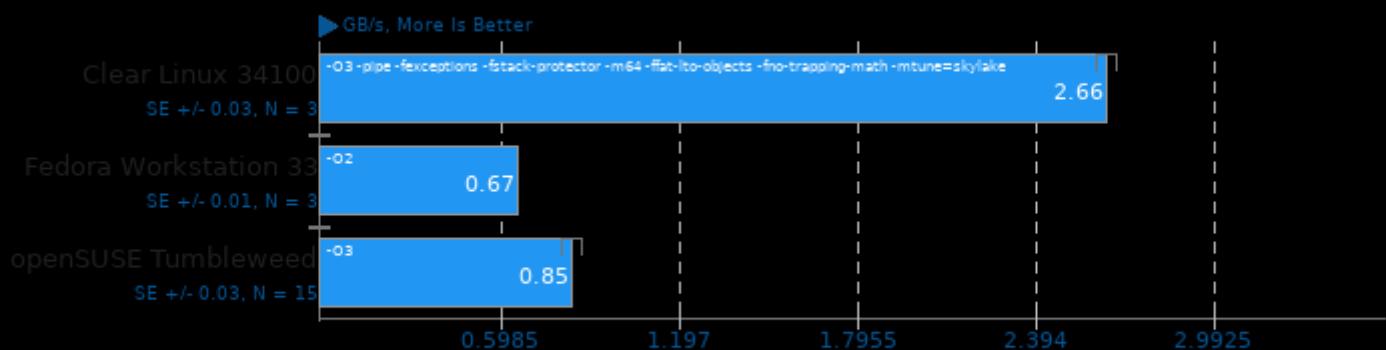
Encode Settings: Quality 100, Lossless, Highest Compression



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

simdjson 0.7.1

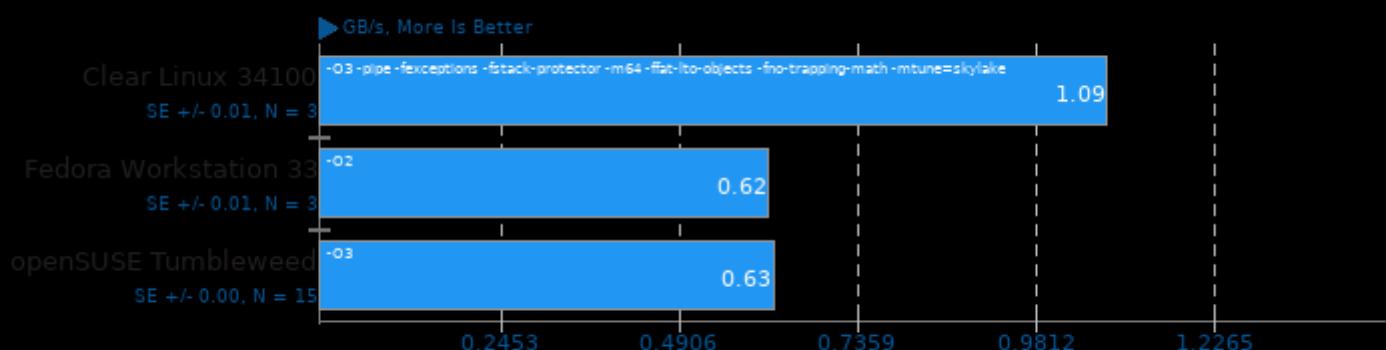
Throughput Test: Kostya



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

simdjson 0.7.1

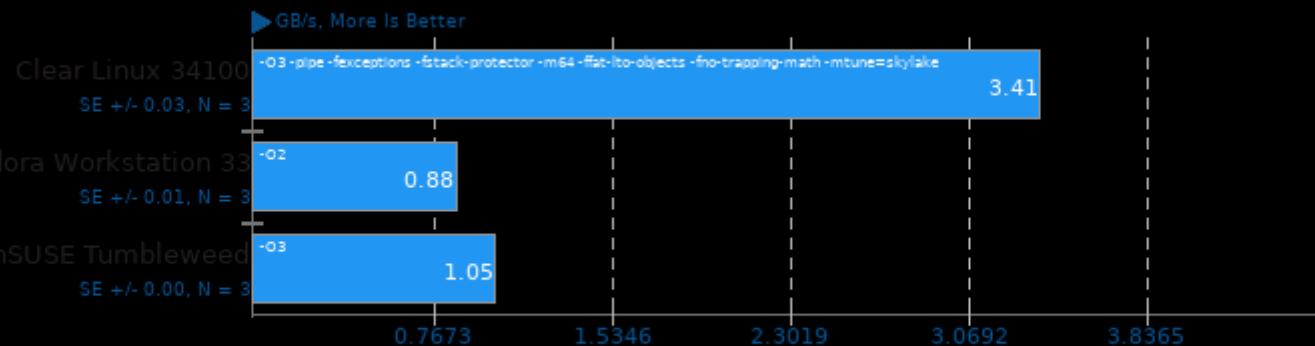
Throughput Test: LargeRandom



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

simdjson 0.7.1

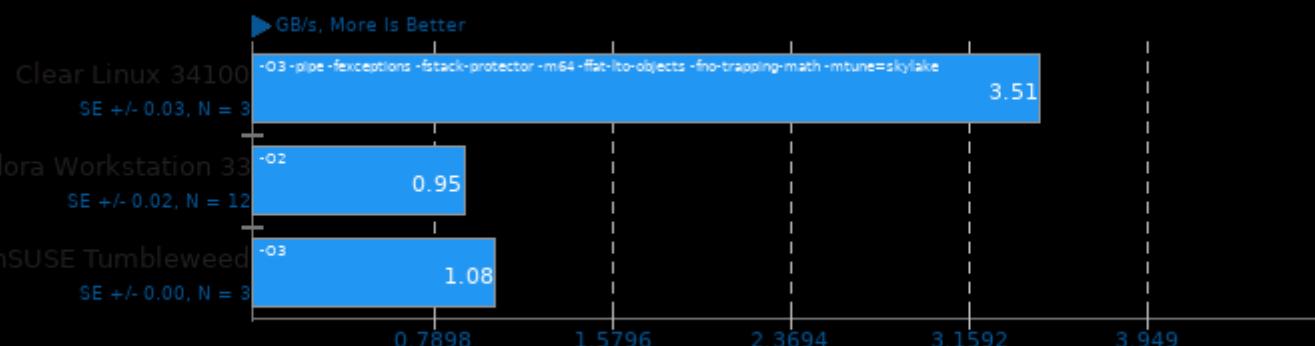
Throughput Test: PartialTweets



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

simdjson 0.7.1

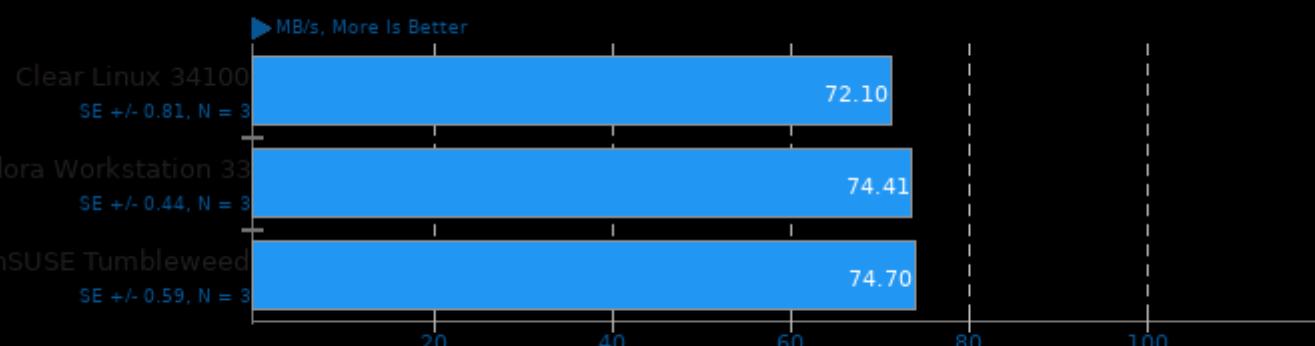
Throughput Test: DistinctUserID



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

LZ4 Compression 1.9.3

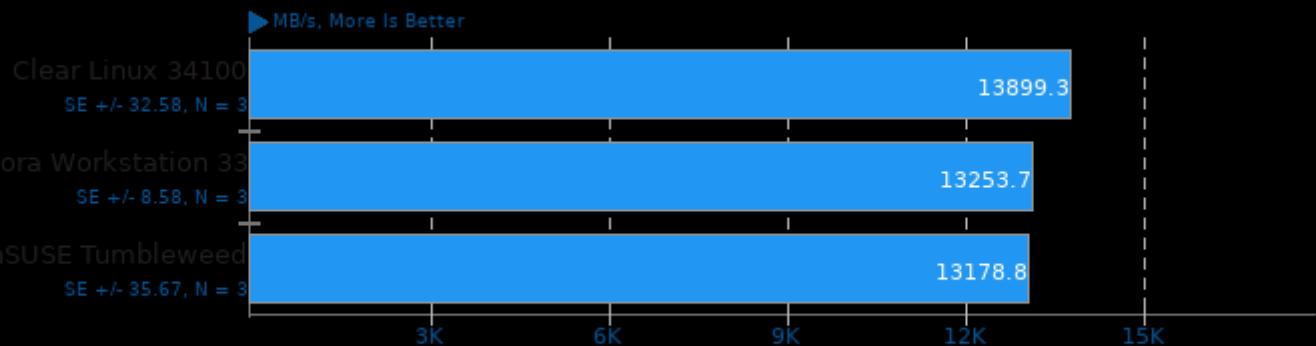
Compression Level: 3 - Compression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

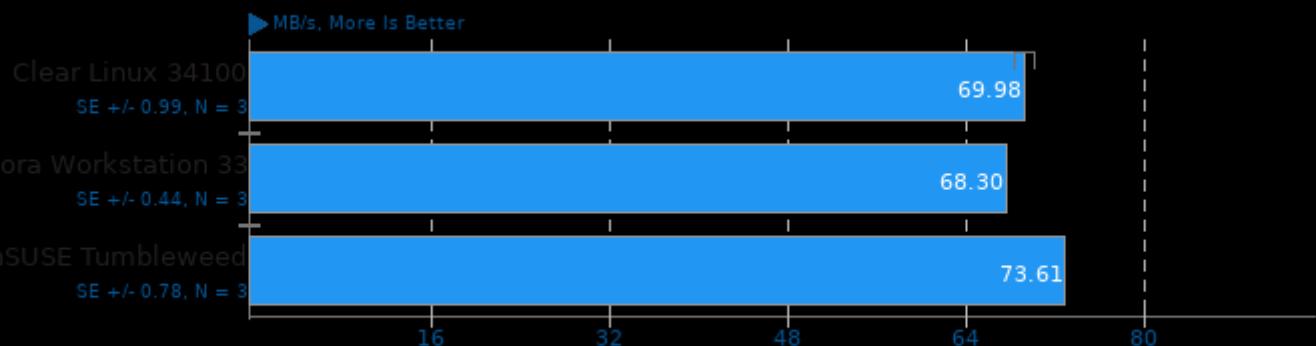
Compression Level: 3 - Decompression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

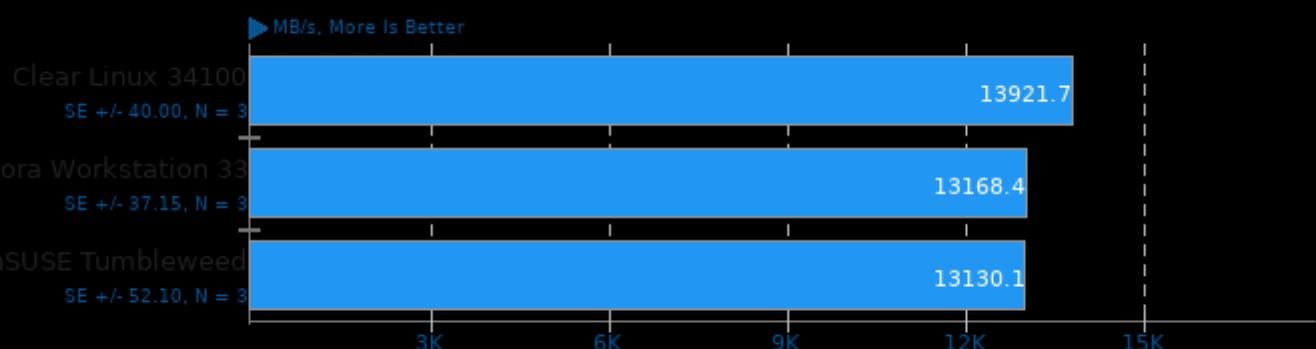
Compression Level: 9 - Compression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

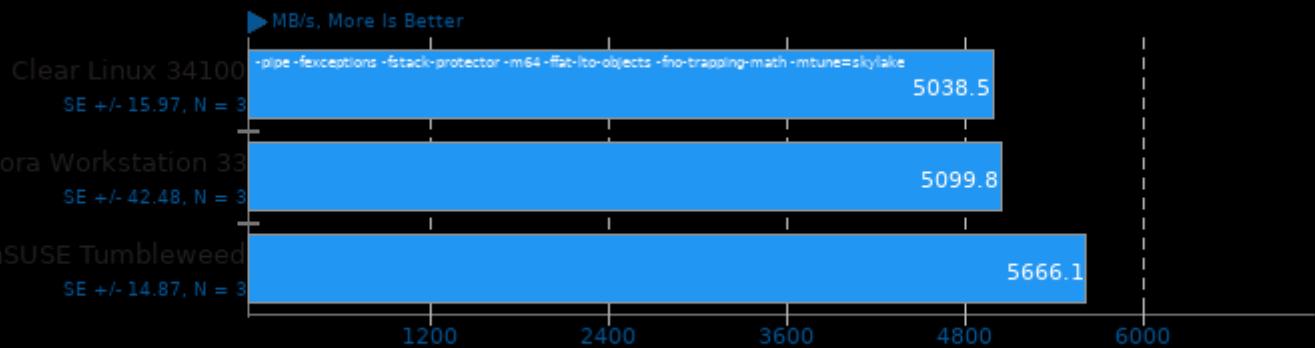
Compression Level: 9 - Decompression Speed



1. (CC) gcc options: -O3

Zstd Compression 1.4.5

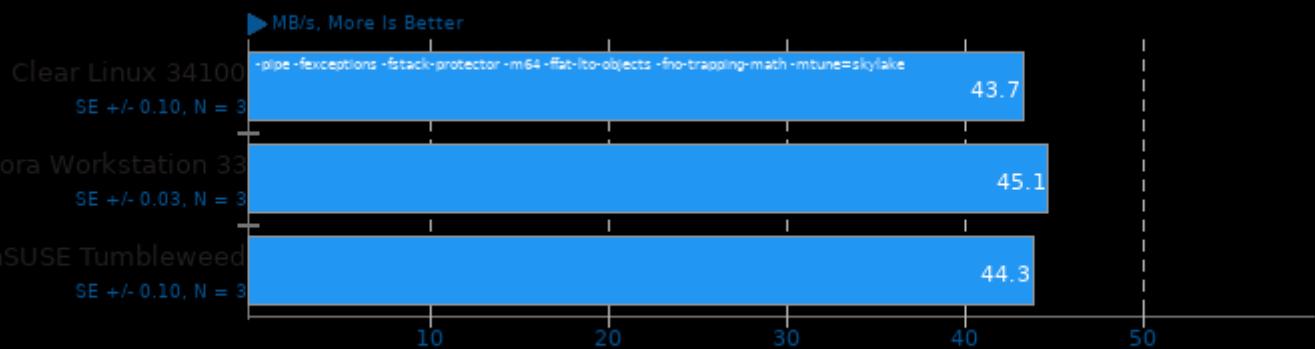
Compression Level: 3



1. (CC) gcc options: -O3 -pthread -lz

Zstd Compression 1.4.5

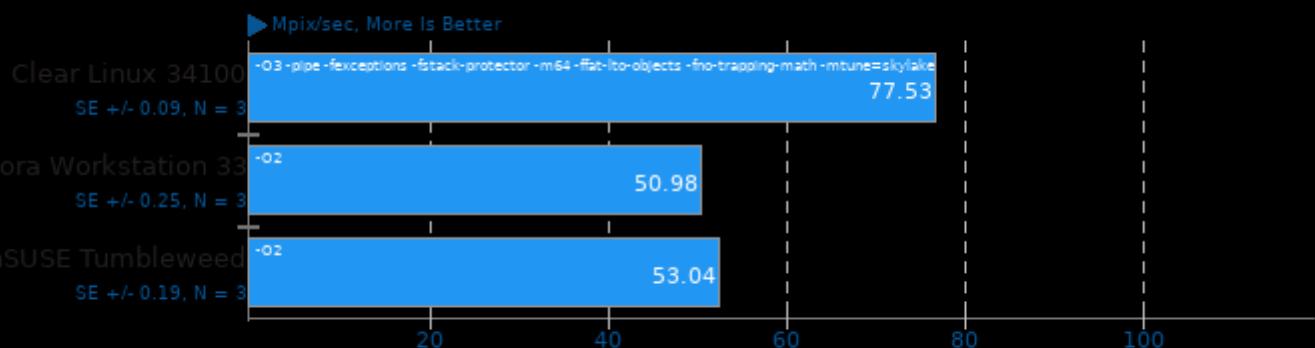
Compression Level: 19



1. (CC) gcc options: -O3 -pthread -lz

LibRaw 0.20

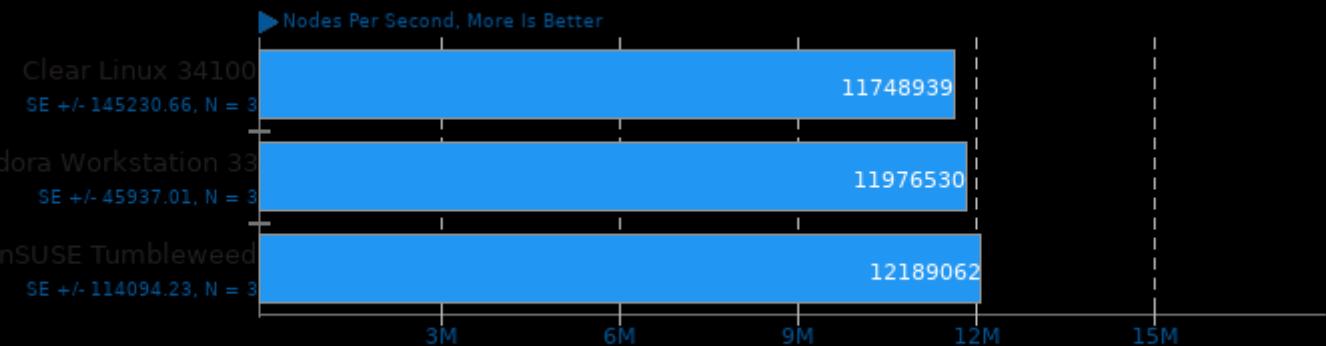
Post-Processing Benchmark



1. (CXX) g++ options: -fopenmp -ljpeg -lz -lm

Crafty 25.2

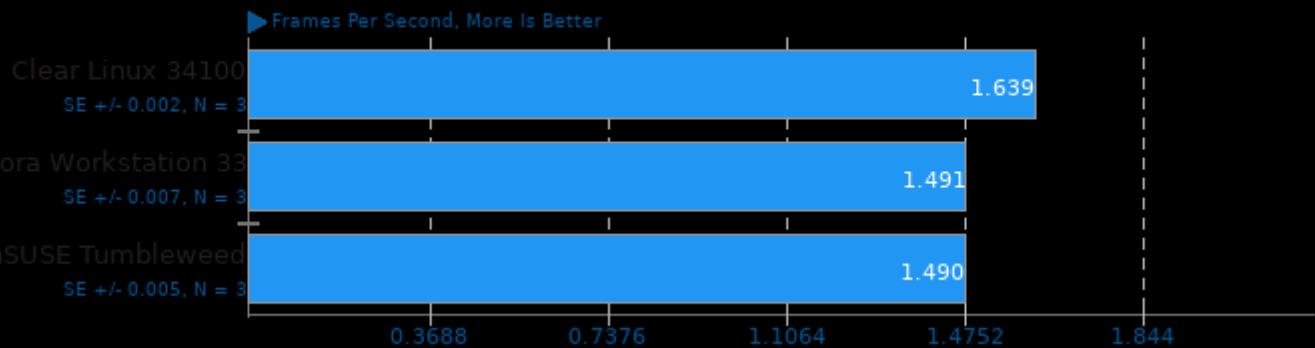
Elapsed Time



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

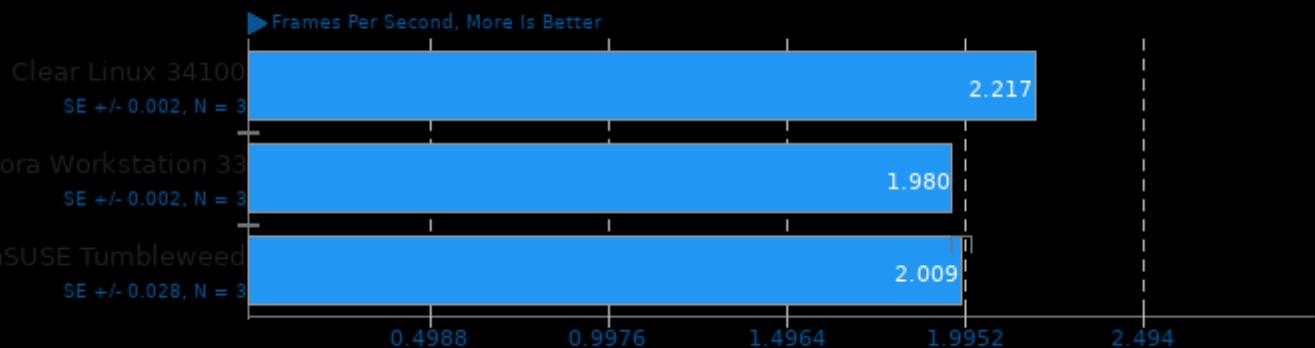
rav1e 0.4 Alpha

Speed: 5



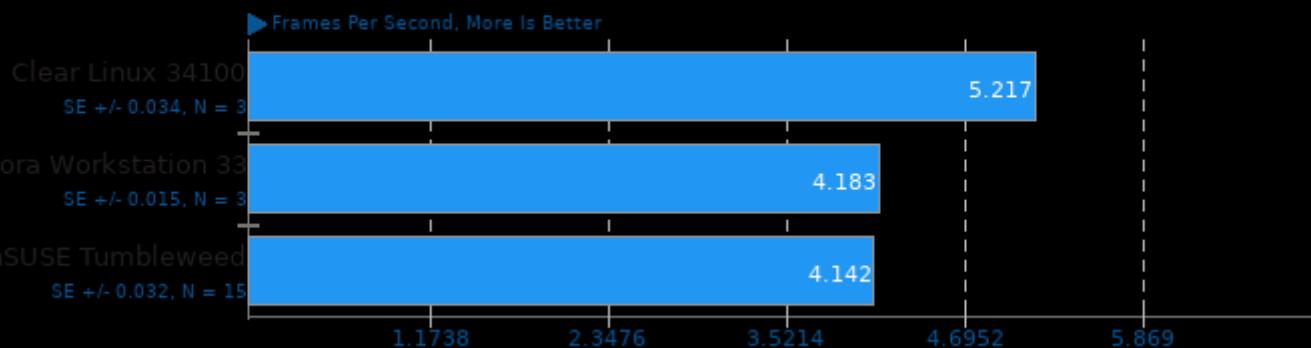
rav1e 0.4 Alpha

Speed: 6

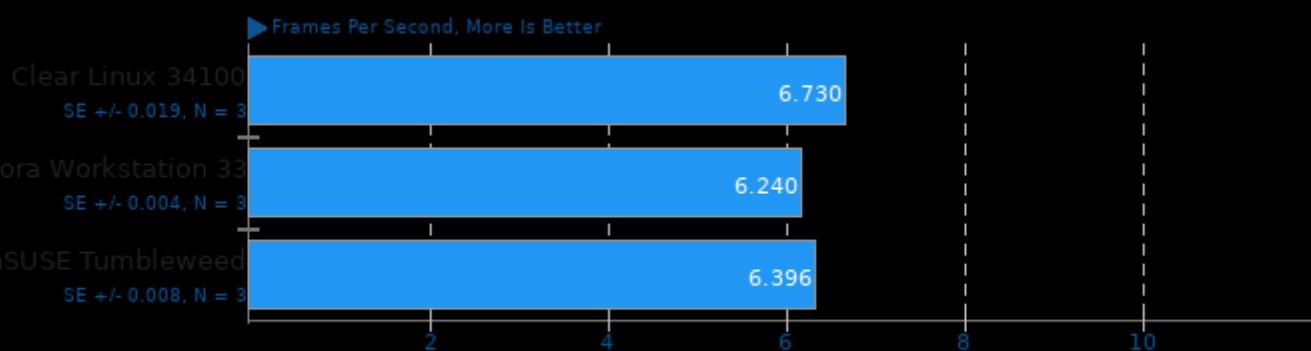


rav1e 0.4 Alpha

Speed: 10

**SVT-AV1 0.8**

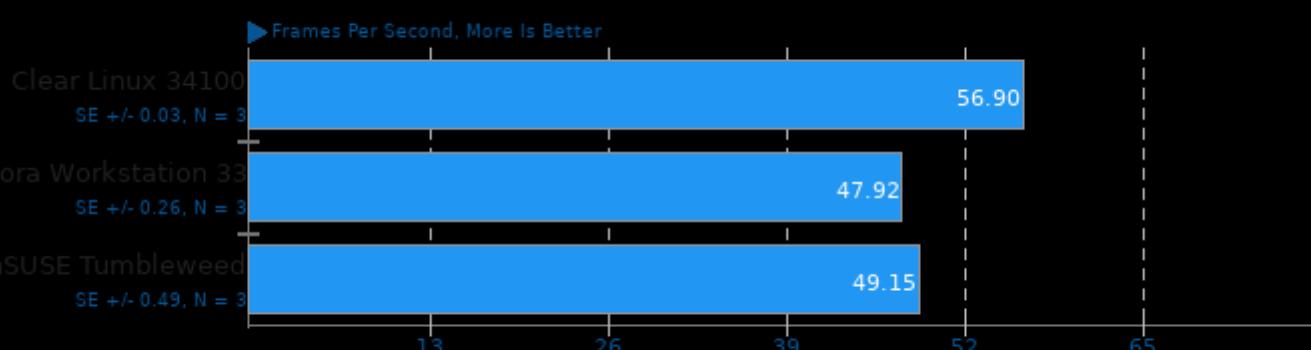
Encoder Mode: Enc Mode 4 - Input: 1080p



1. (CXX) g++ options: -O3 -fcommon -fPIE -fPIC -pie

SVT-AV1 0.8

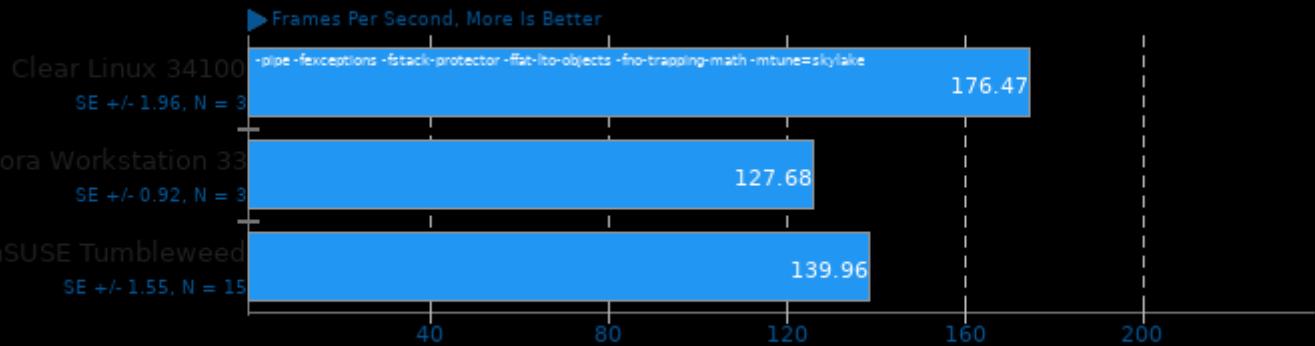
Encoder Mode: Enc Mode 8 - Input: 1080p



1. (CXX) g++ options: -O3 -fcommon -fPIE -fPIC -pie

x264 2019-12-17

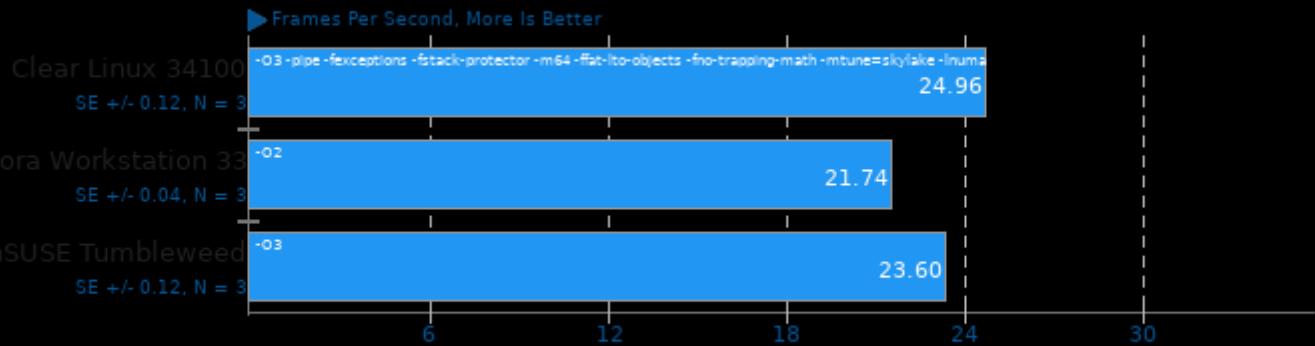
H.264 Video Encoding



1. (CC) gcc options: -ldl -m64 -lm -lpthread -O3 -ffast-math -std=gnu99 -fPIC -fomit-frame-pointer -fno-tree-vectorize

x265 3.4

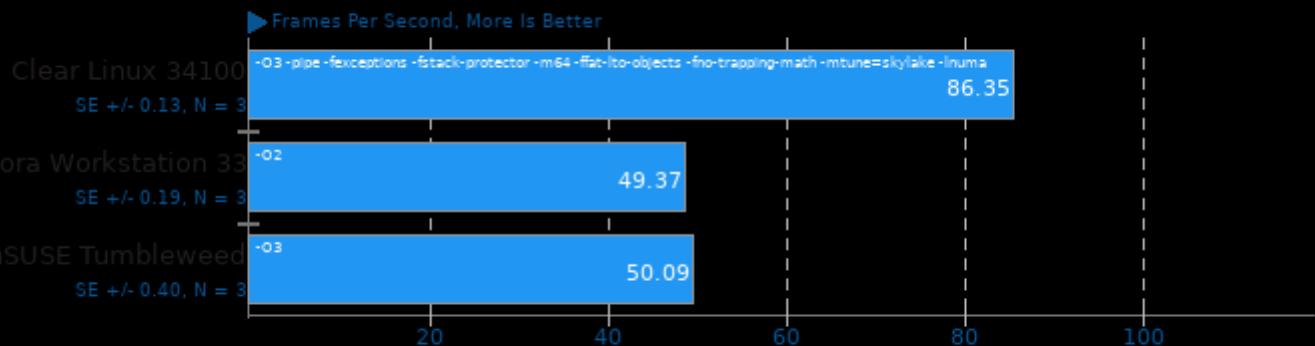
Video Input: Bosphorus 4K



1. (CXX) g++ options: -rdynamic -lpthread -lrt -ldl

x265 3.4

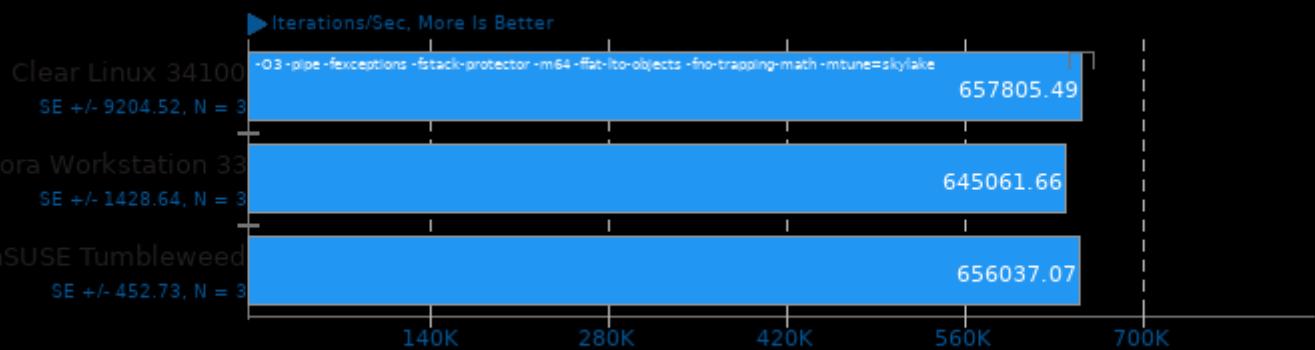
Video Input: Bosphorus 1080p



1. (CXX) g++ options: -rdynamic -lpthread -lrt -ldl

Coremark 1.0

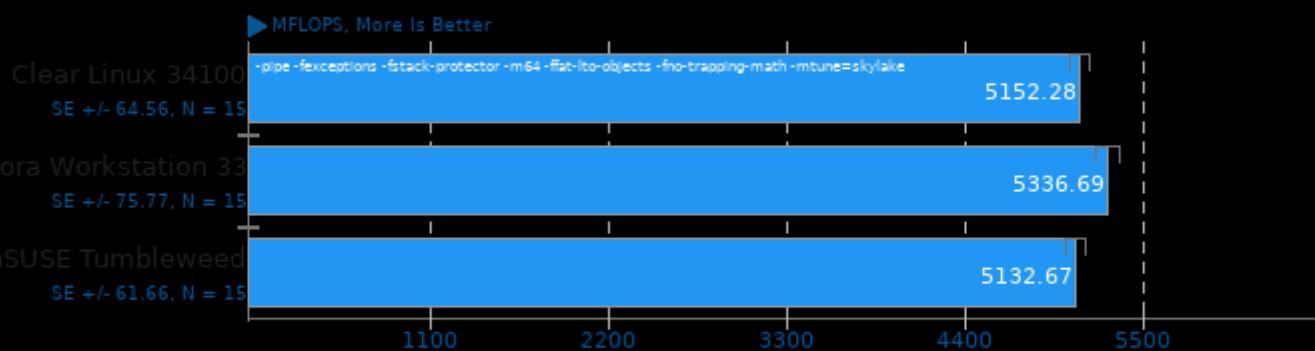
CoreMark Size 666 - Iterations Per Second



1. (CC) gcc options: -O2 -fintc -ftr

Himeno Benchmark 3.0

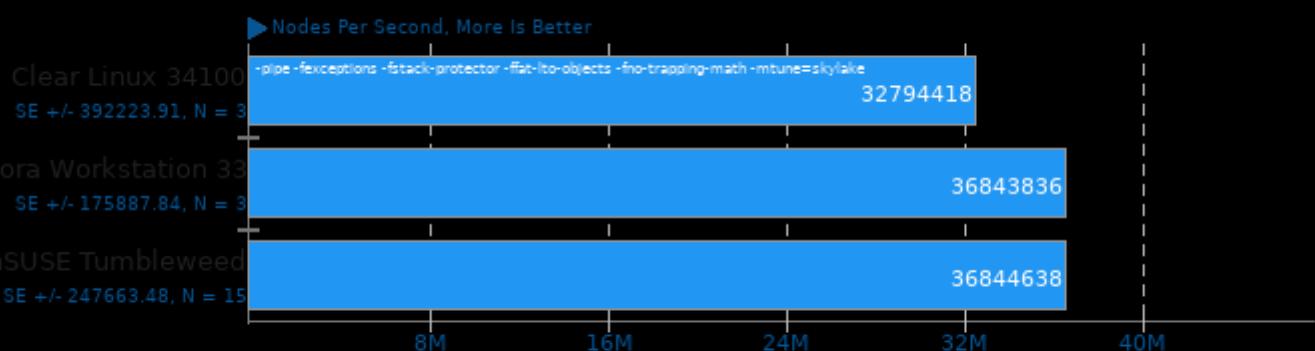
Poisson Pressure Solver



1. (CC) gcc options: -O3 -mavx2

Stockfish 12

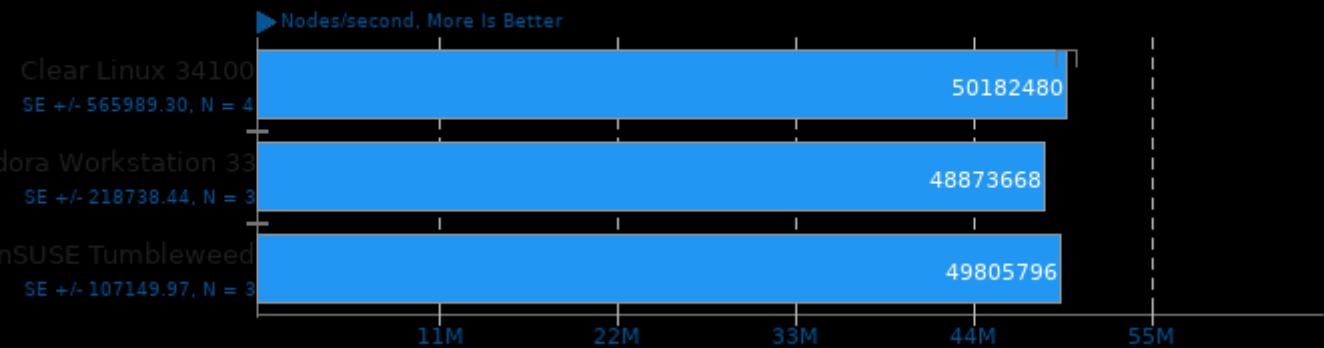
Total Time



1. (CXX) g++ options: -m64 -lpthread -O3 -fno-exceptions -std=c++17 -pedantic -msse -msse3 -mpopcnt -msse4.1 -msse3 -msse2 -fno -fno=jobserver

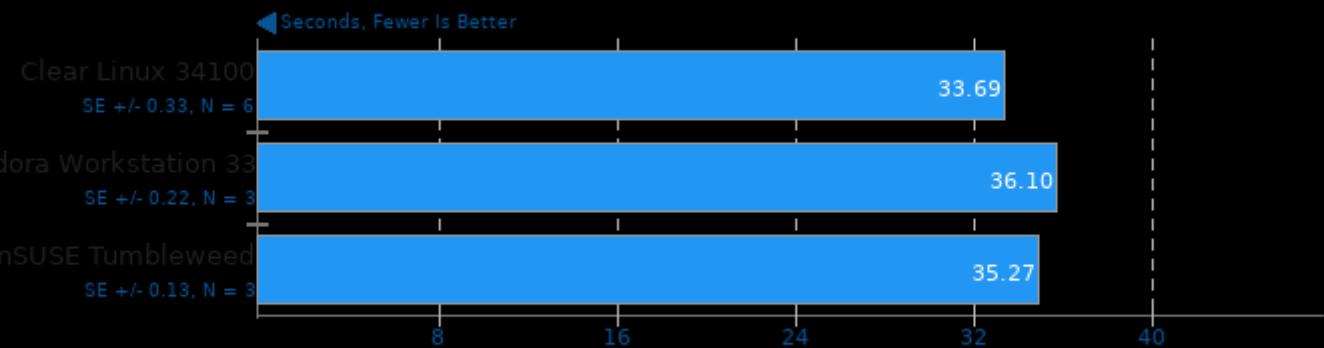
asmFish 2018-07-23

1024 Hash Memory, 26 Depth



libavif avifenc 0.7.3

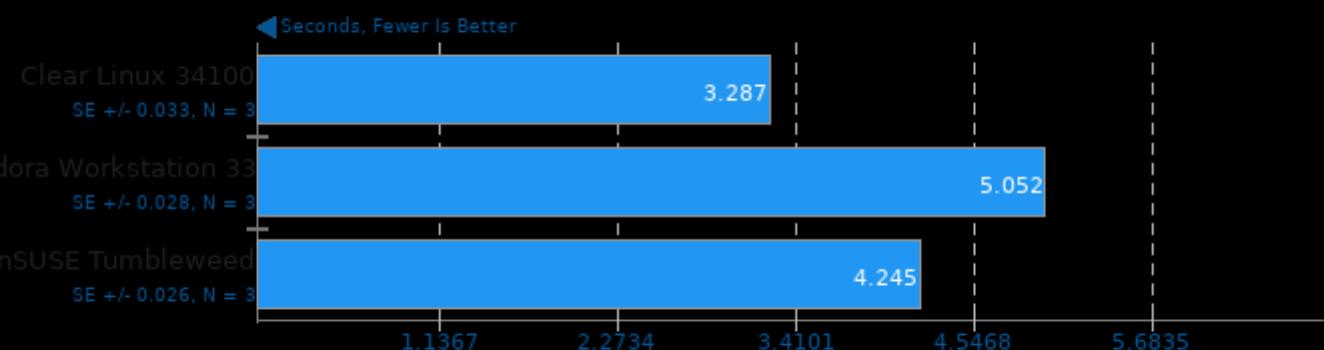
Encoder Speed: 2



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

libavif avifenc 0.7.3

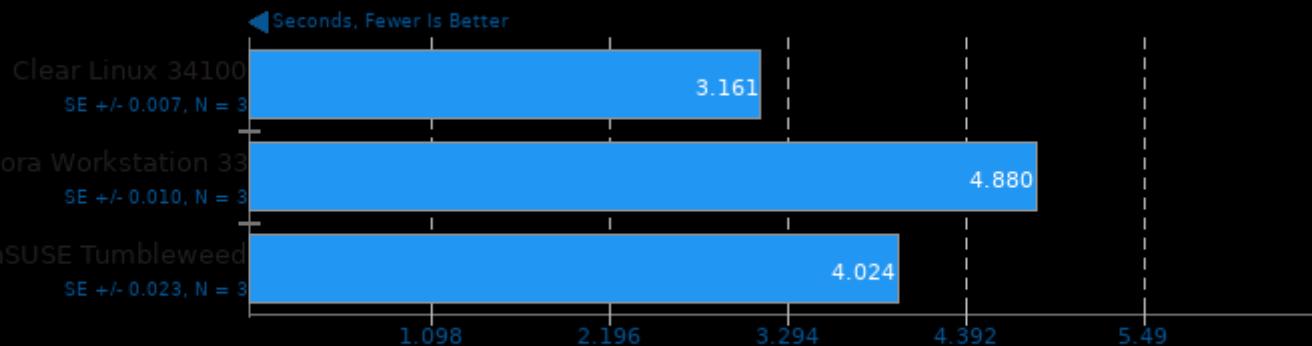
Encoder Speed: 8



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

libavif avifenc 0.7.3

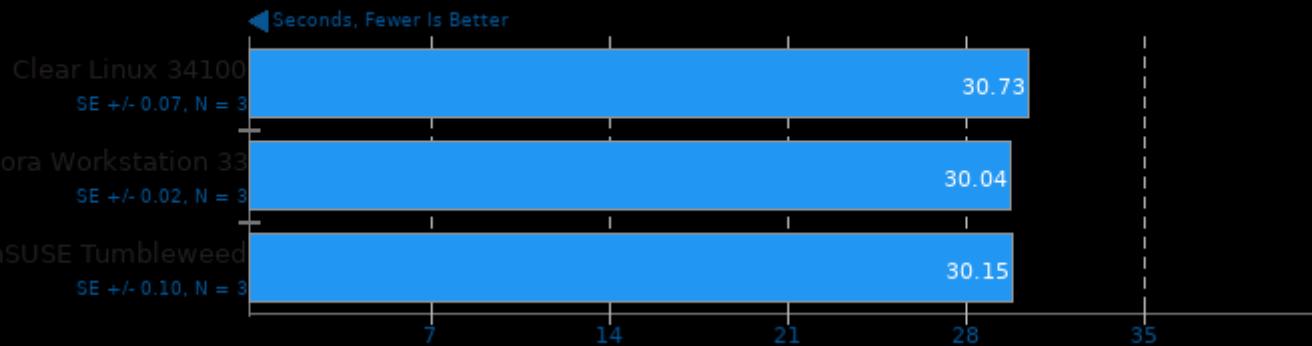
Encoder Speed: 10



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

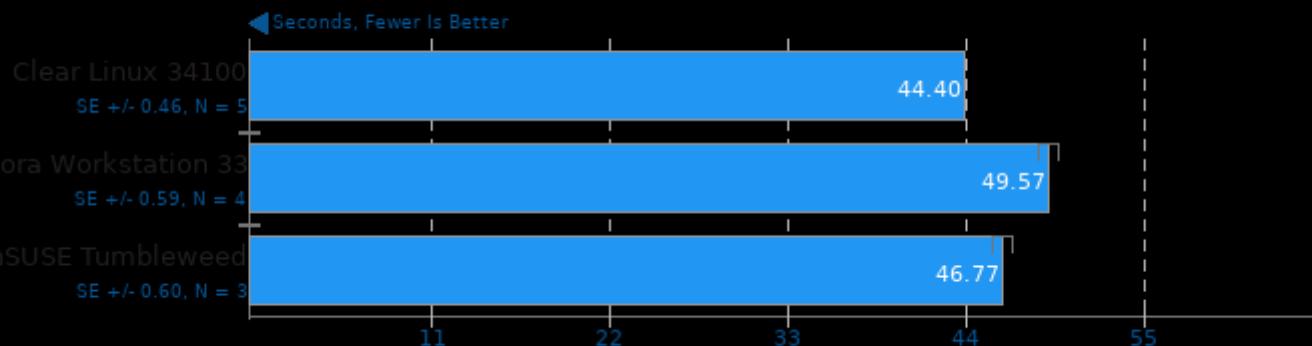
Timed FFmpeg Compilation 4.2.2

Time To Compile

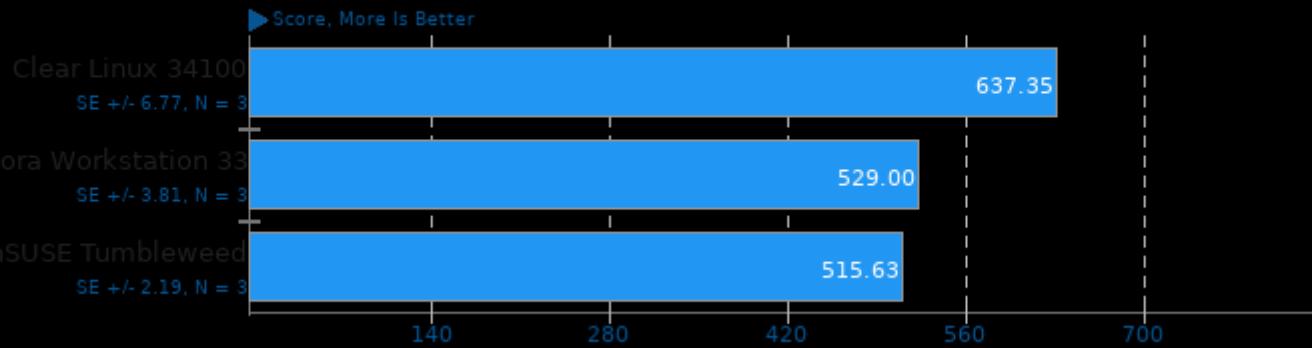


Timed Linux Kernel Compilation 5.4

Time To Compile

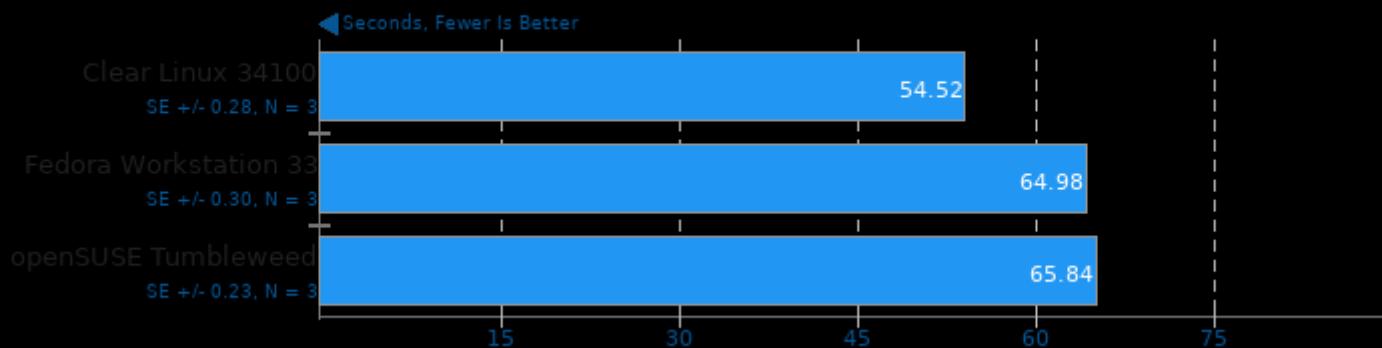


Numpy Benchmark

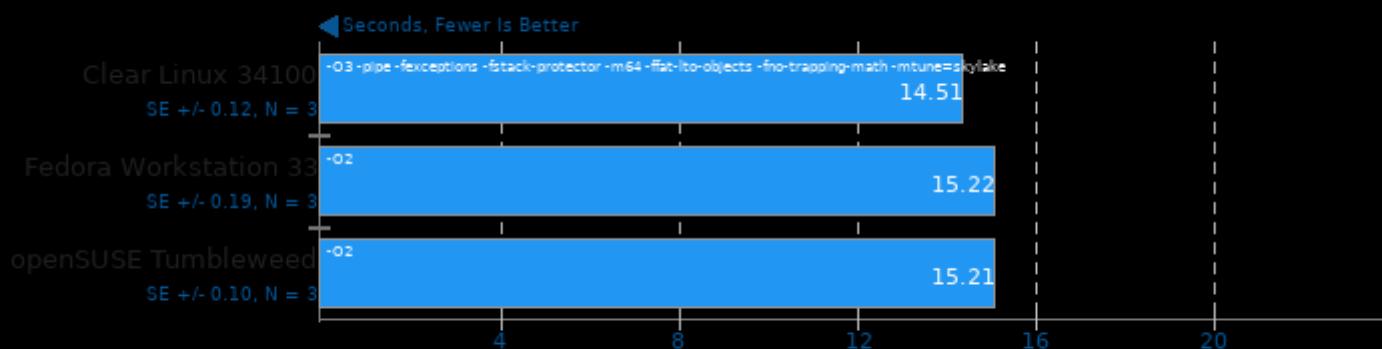


DeepSpeech 0.6

Acceleration: CPU

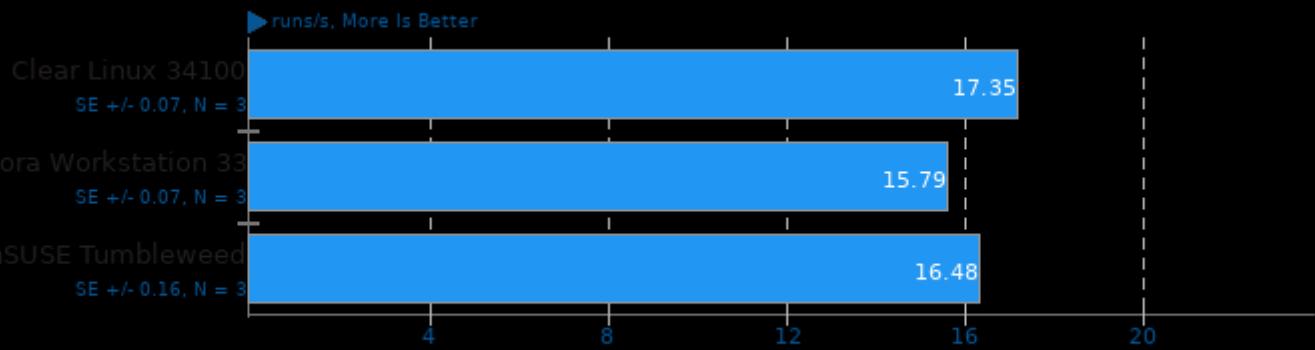


RNNoise 2020-06-28



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

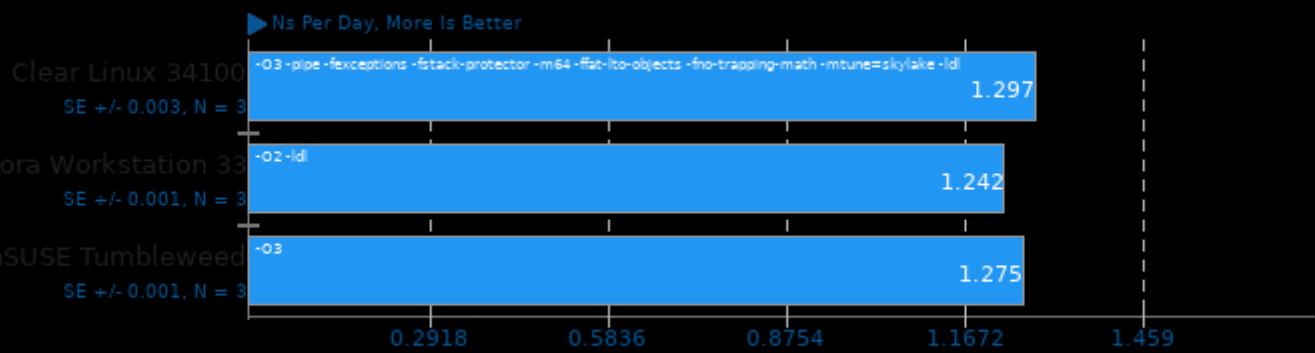
Node.js V8 Web Tooling Benchmark



1. Nodejs
v14.15.1

GROMACS 2020.3

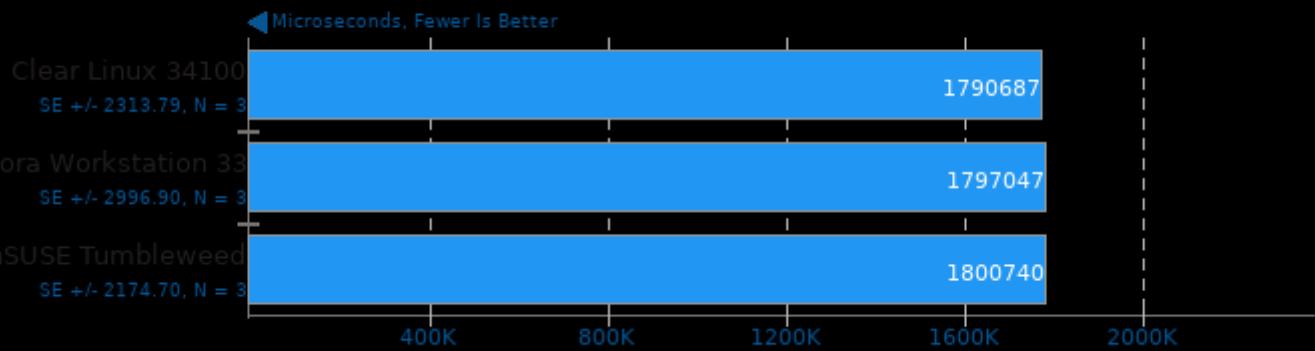
Water Benchmark



1. (CXX) g++ options: -pthread -Irt -Ipthread -lm

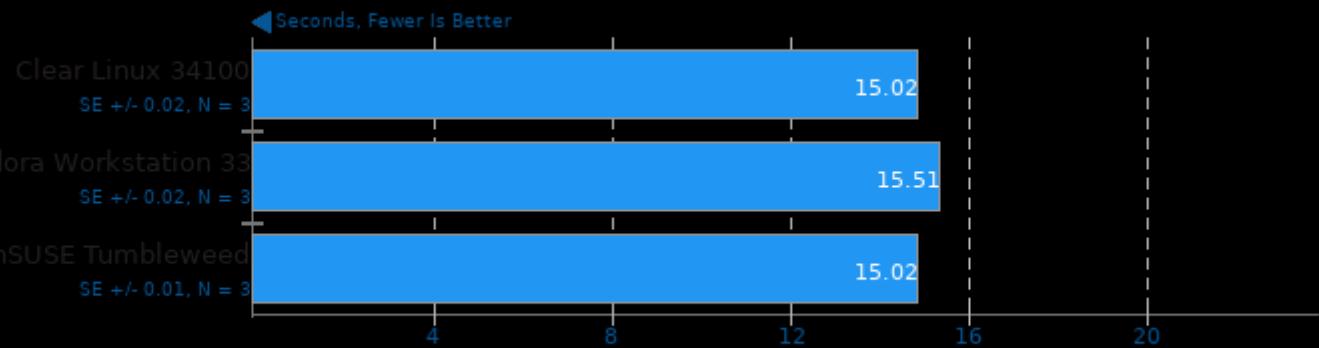
TensorFlow Lite 2020-08-23

Model: Inception V4



ASTC Encoder 2.0

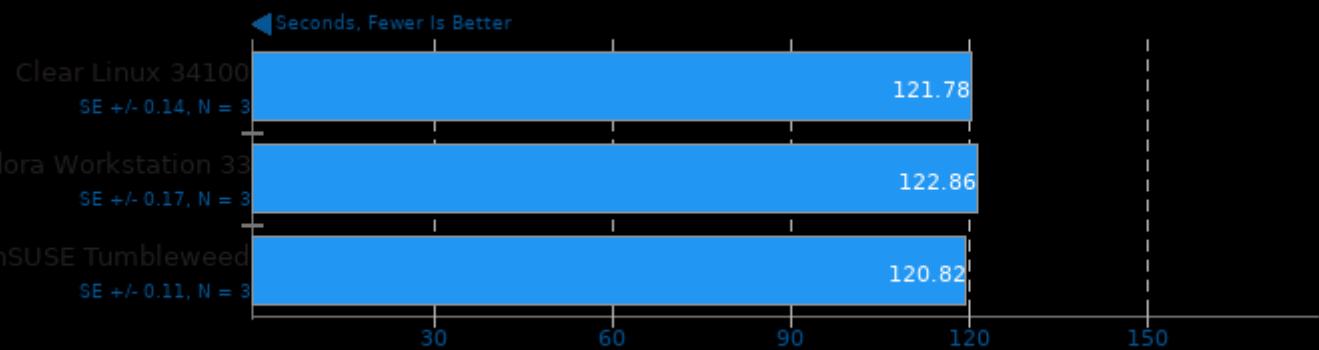
Preset: Thorough



1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fno-math-errno -mfpmath=sse -mavx2 -mpopcnt -lpthread

ASTC Encoder 2.0

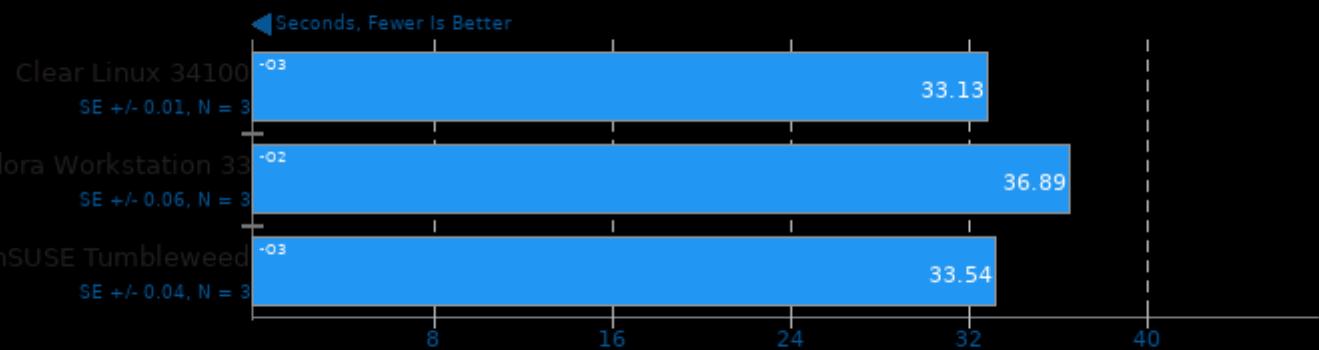
Preset: Exhaustive



1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fno-math-errno -mfpmath=sse -mavx2 -mpopcnt -lpthread

Basis Universal 1.12

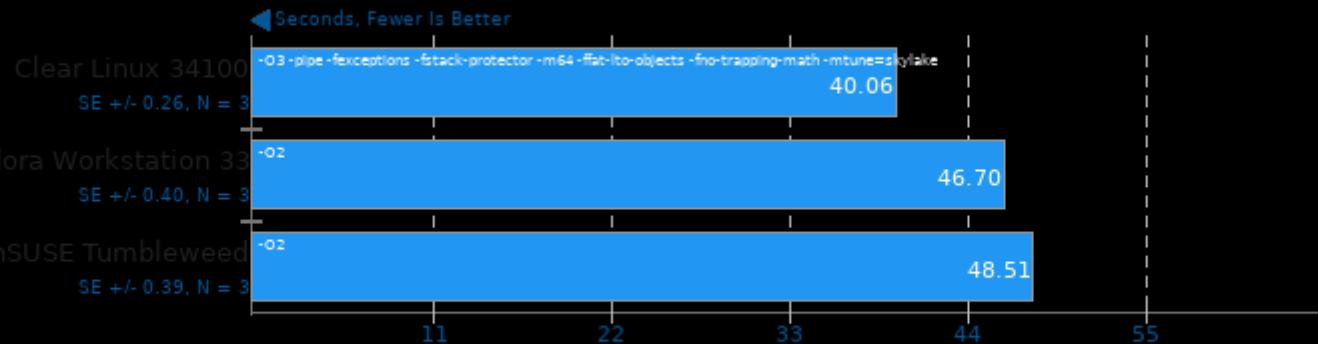
Settings: UASTC Level 3



1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -rdynamic -lm -lpthread

SQLite Speedtest 3.30

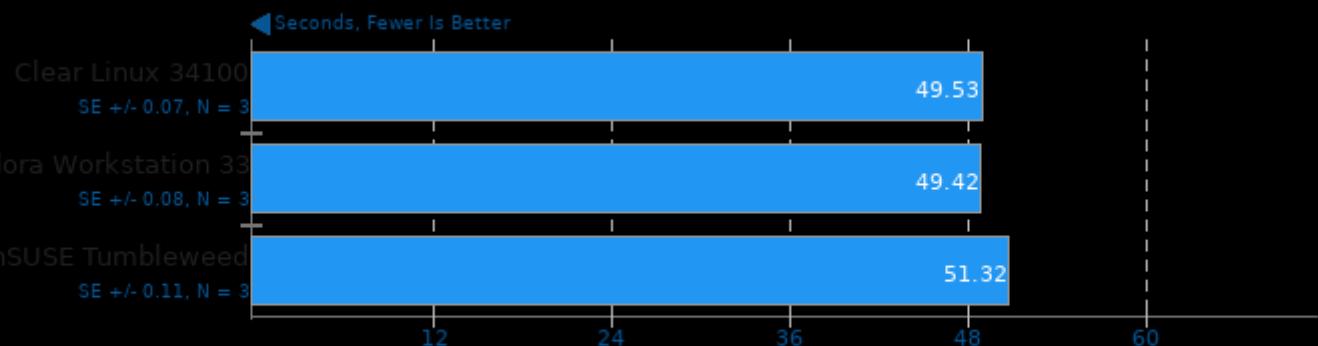
Timed Time - Size 1,000



1. (CC) gcc options: -fno-exceptions -fstack-protector -m64 -fno-tilt-objects -fno-trapping-math -mtune=skylake

RawTherapee

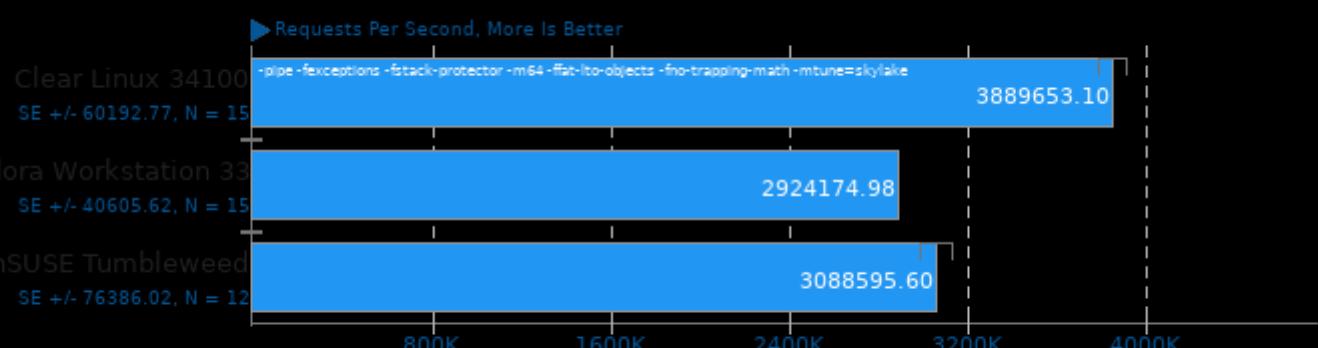
Total Benchmark Time



1. Clear Linux 34100: RawTherapee, version , command line.
 2. Fedora Workstation 33: RawTherapee, version 5.8, command line.
 3. openSUSE Tumbleweed: RawTherapee, version 5.8, command line.

Redis 6.0.9

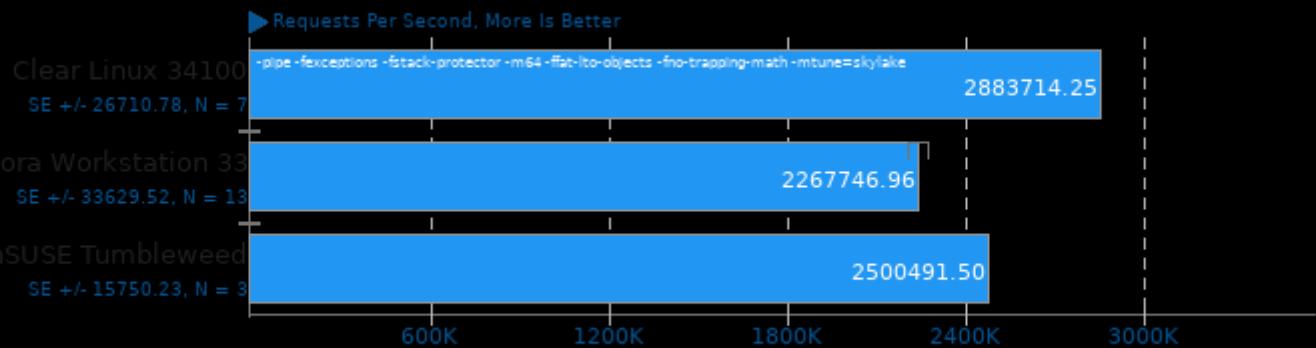
Test: GET



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

Redis 6.0.9

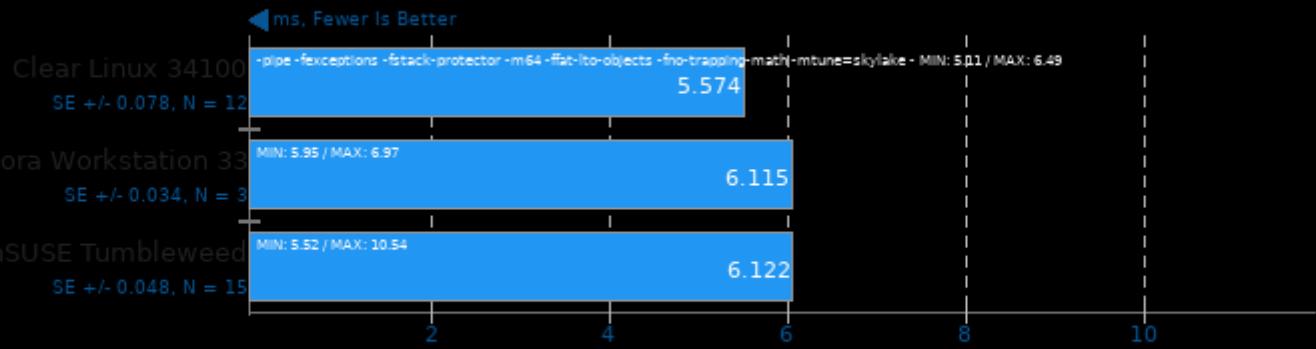
Test: SET



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

Mobile Neural Network 2020-09-17

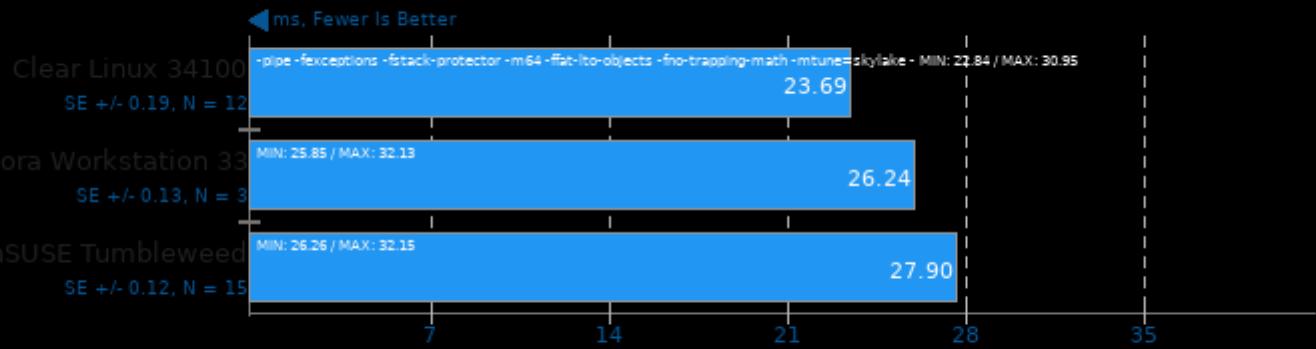
Model: SqueezeNetV1.0



1. (CXX) g++ options: -O3 -std=c++11 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-threadsafe-statics

Mobile Neural Network 2020-09-17

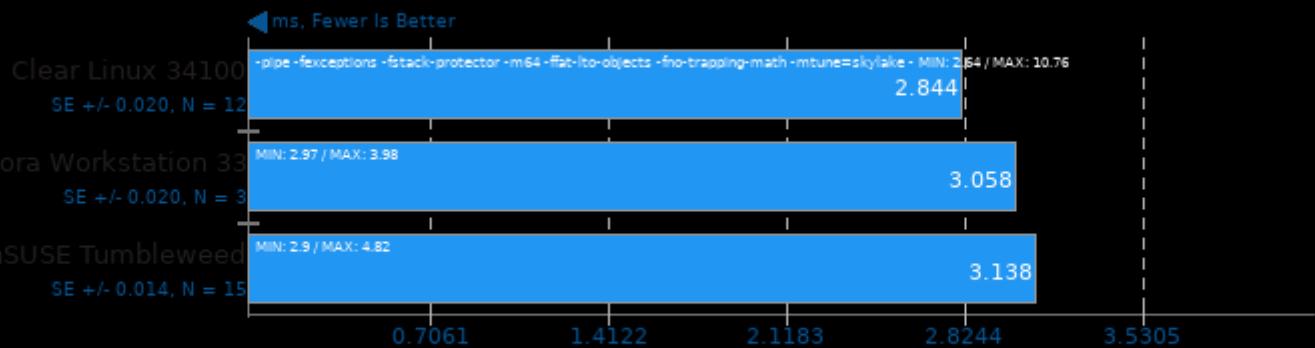
Model: resnet-v2-50



1. (CXX) g++ options: -O3 -std=c++11 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-threadsafe-statics

Mobile Neural Network 2020-09-17

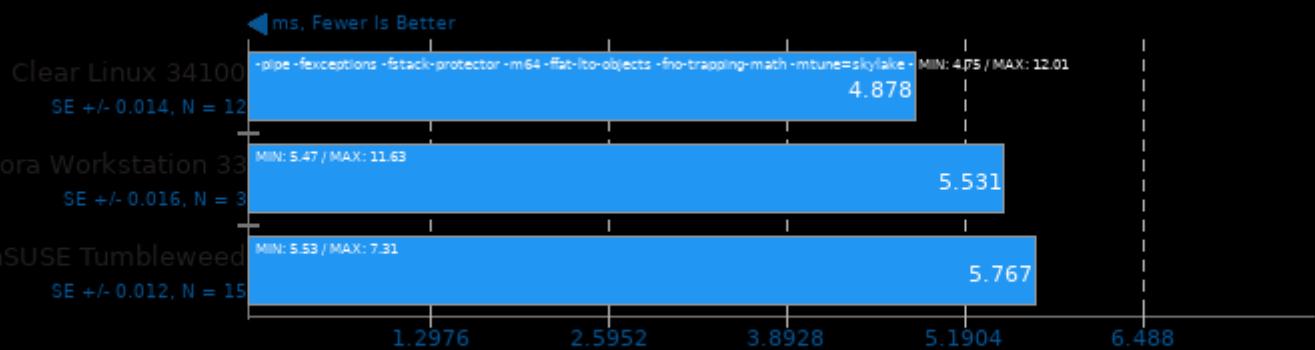
Model: MobileNetV2_224



1. (CXX) g++ options: -O3 -std=c++11 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr

Mobile Neural Network 2020-09-17

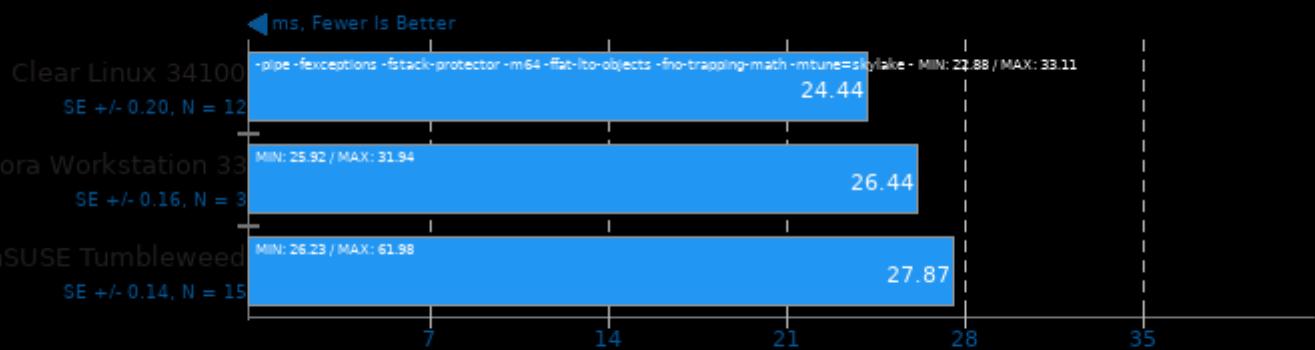
Model: mobilenet-v1-1.0



1. (CXX) g++ options: -O3 -std=c++11 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr

Mobile Neural Network 2020-09-17

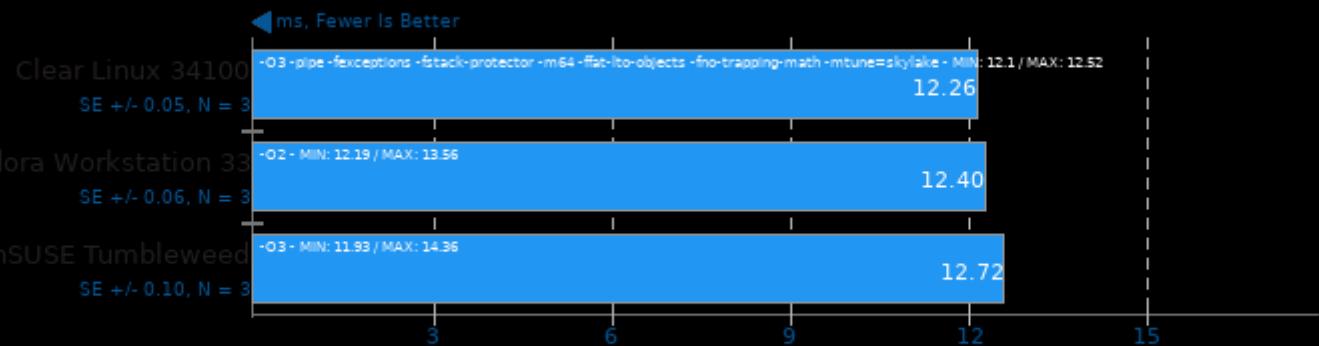
Model: inception-v3



1. (CXX) g++ options: -O3 -std=c++11 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr

NCNN 20201218

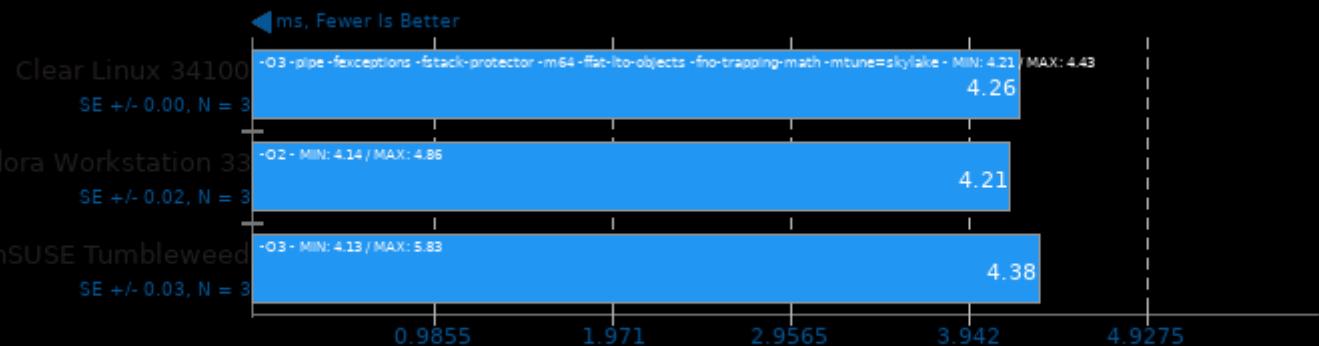
Target: CPU - Model: mobilenet



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

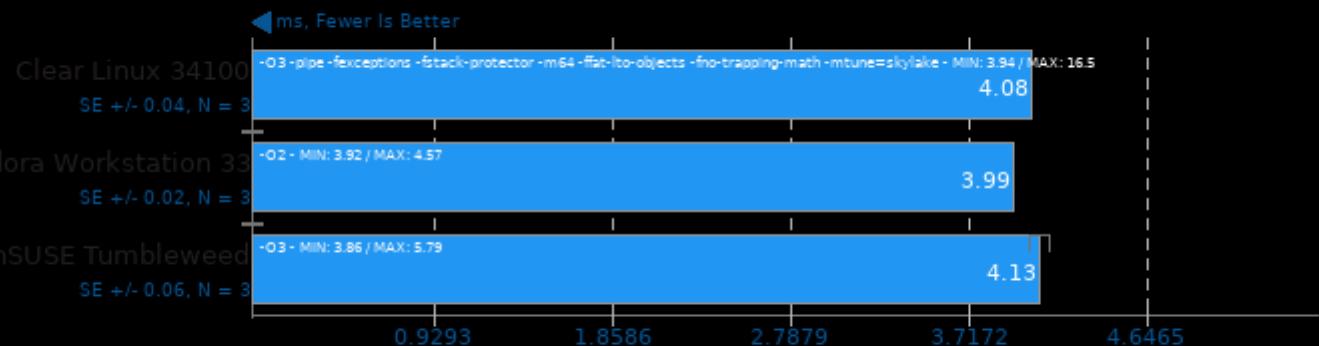
Target: CPU-v2-v2 - Model: mobilenet-v2



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

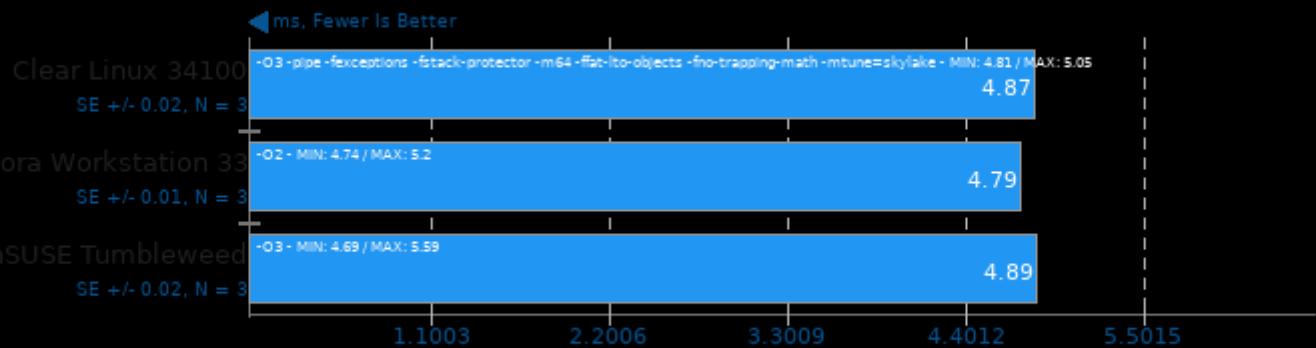
Target: CPU-v3-v3 - Model: mobilenet-v3



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

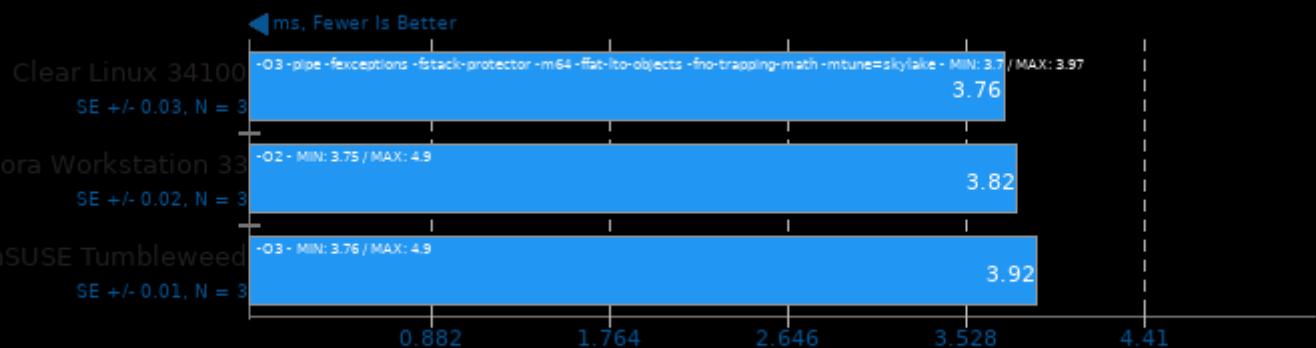
Target: CPU - Model: shufflenet-v2



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

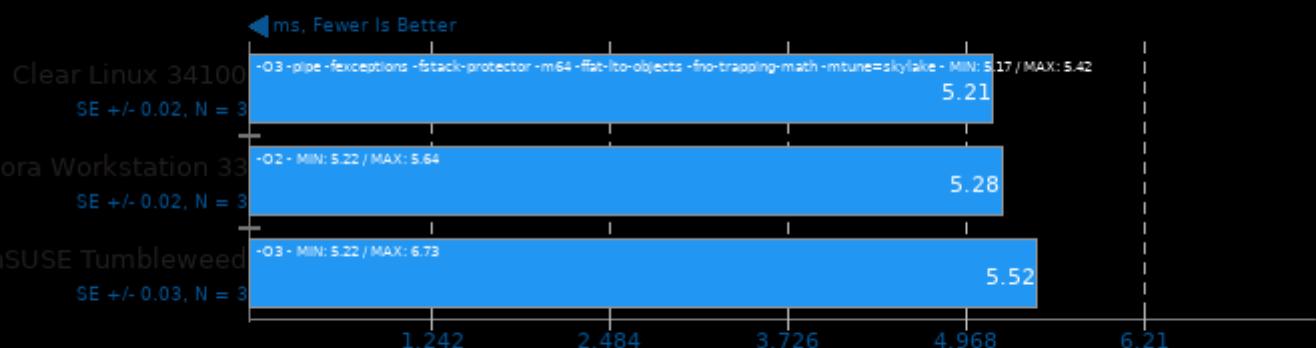
Target: CPU - Model: mnasnet



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

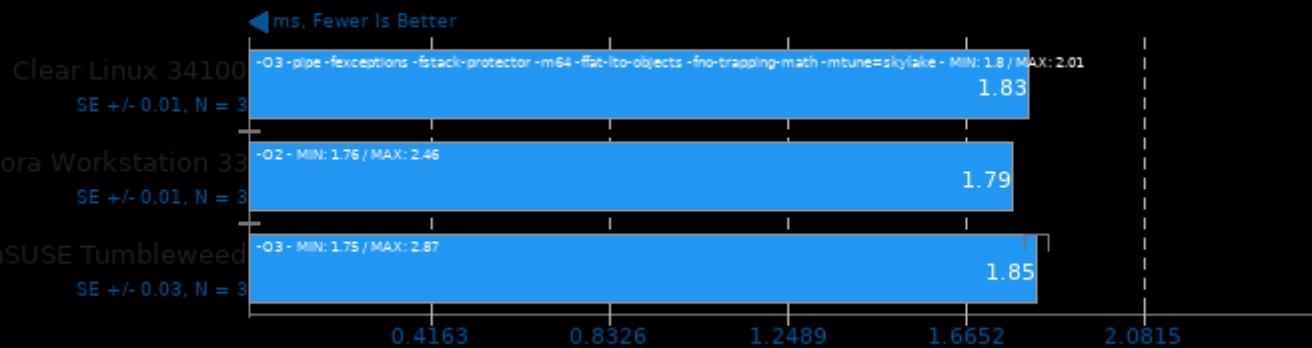
Target: CPU - Model: efficientnet-b0



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

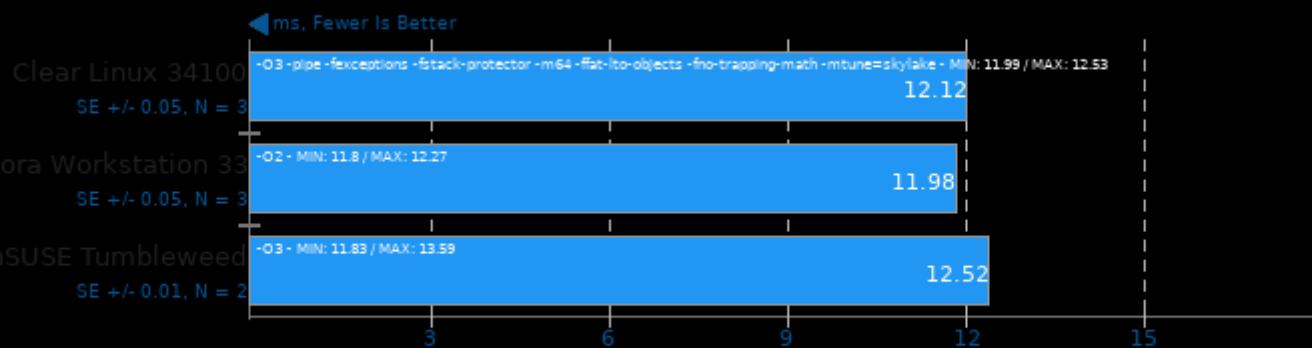
Target: CPU - Model: blazeface



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

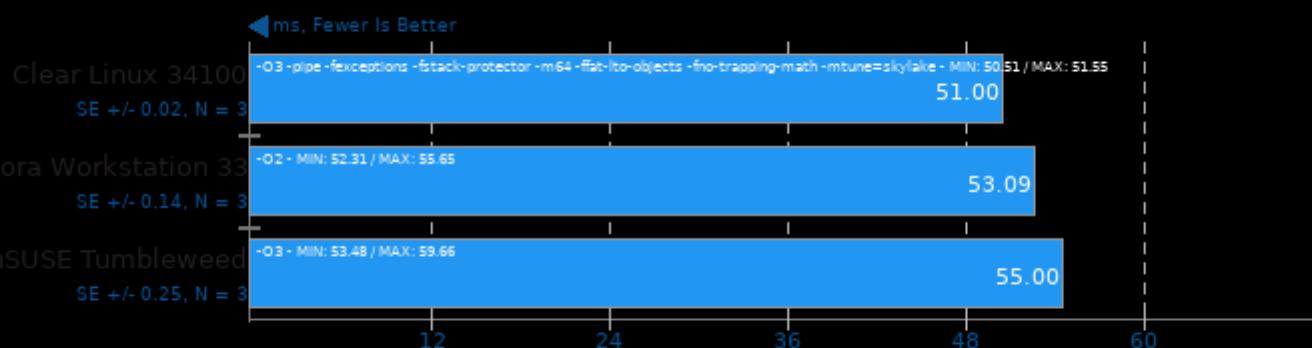
Target: CPU - Model: googlenet



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

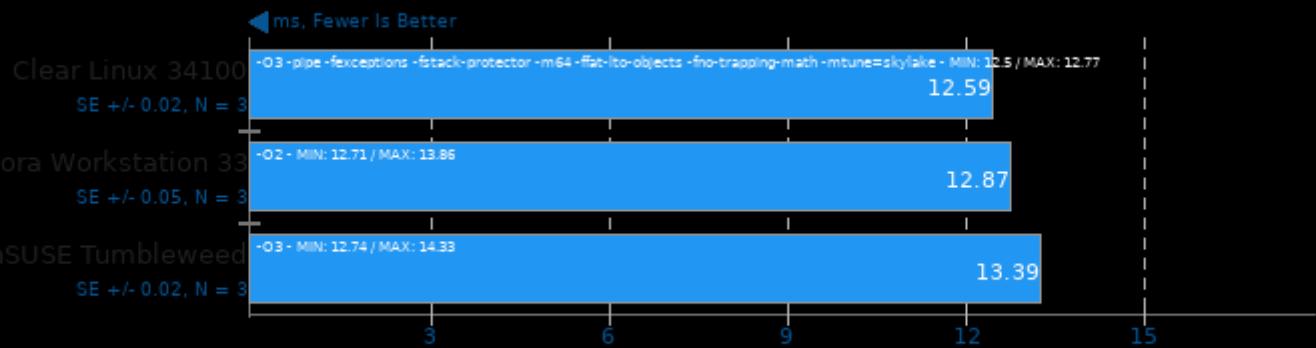
Target: CPU - Model: vgg16



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

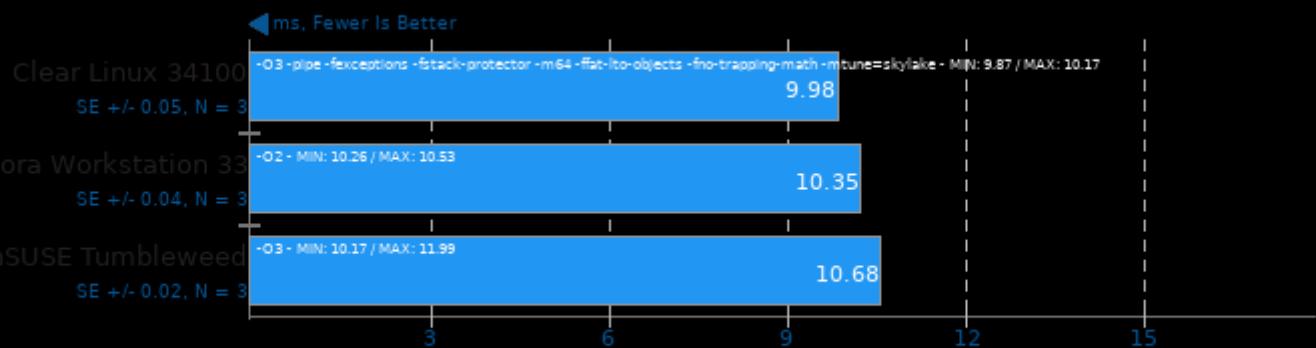
Target: CPU - Model: resnet18



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

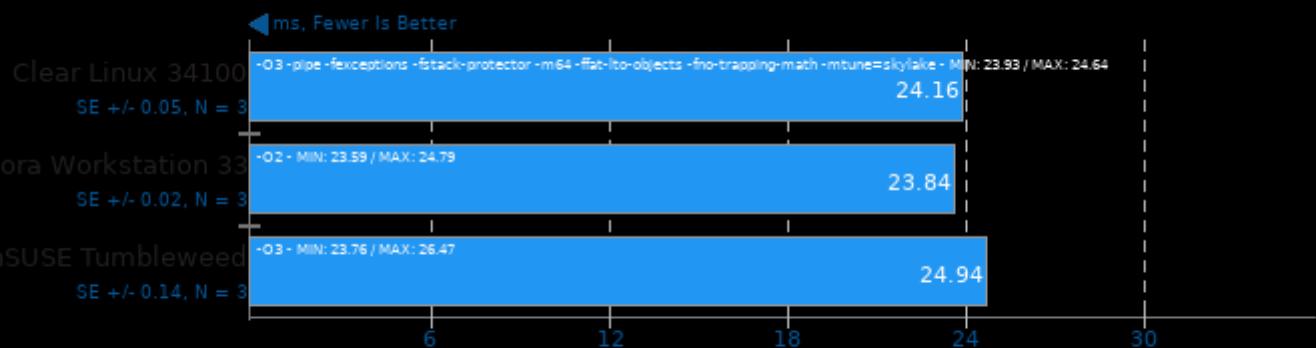
Target: CPU - Model: alexnet



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

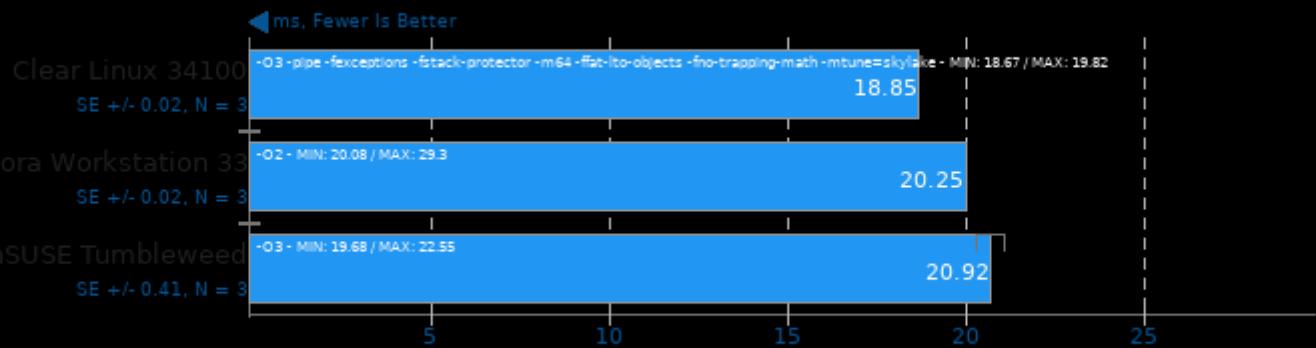
Target: CPU - Model: resnet50



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

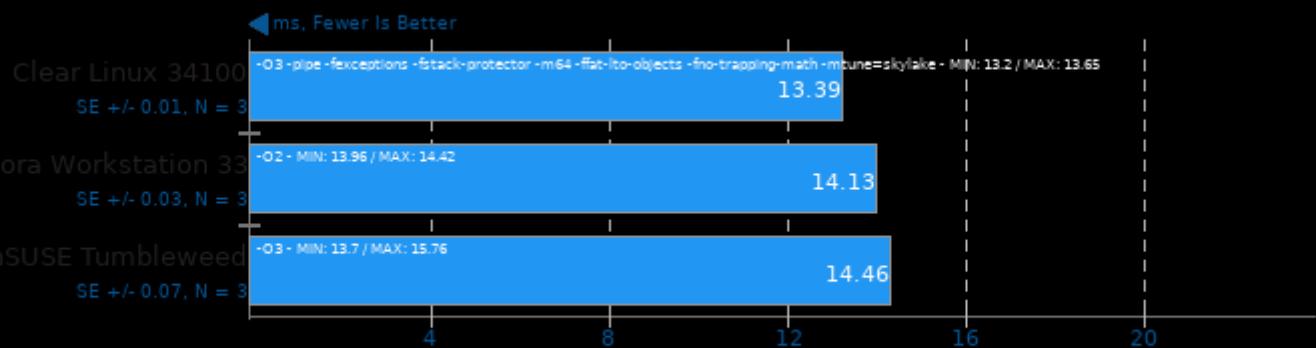
Target: CPU - Model: yolov4-tiny



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

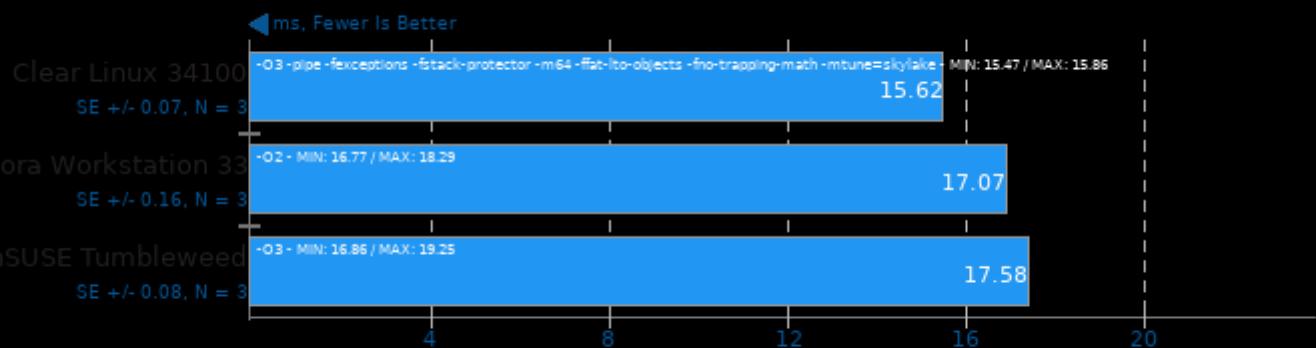
Target: CPU - Model: squeezenet_ssdl



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

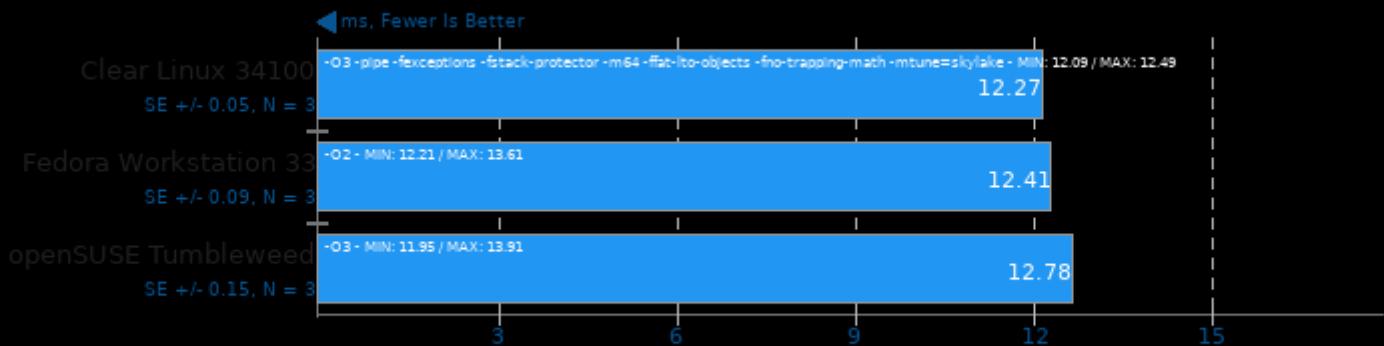
Target: CPU - Model: regnety_400m



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

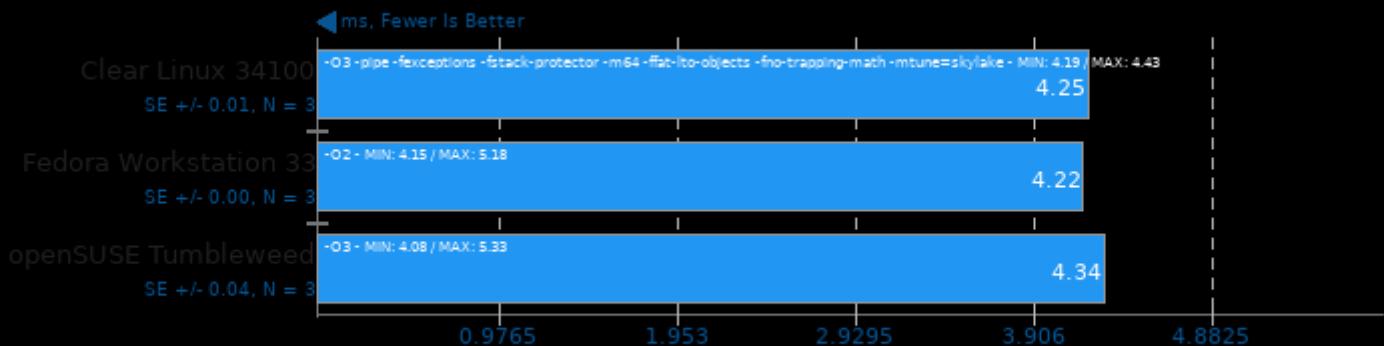
Target: Vulkan GPU - Model: mobilenet



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

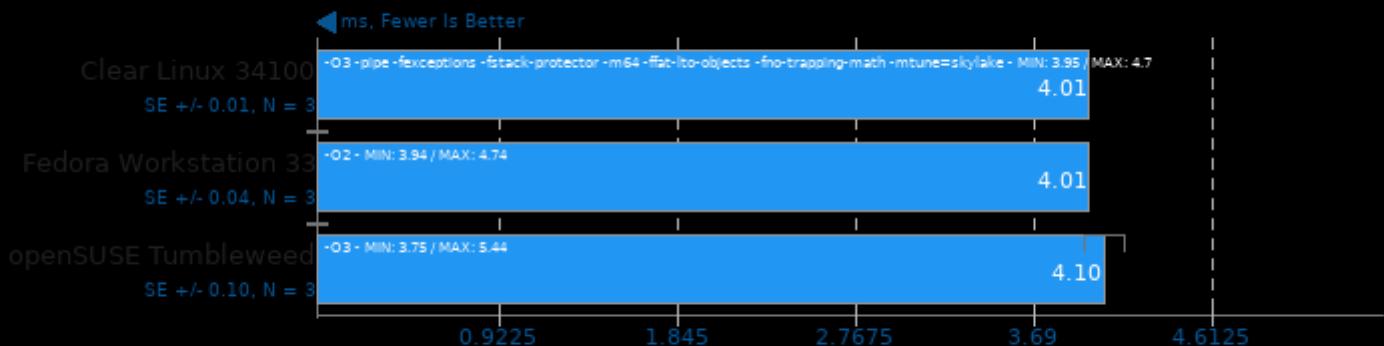
Target: Vulkan GPU-v2-v2 - Model: mobilenet-v2



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

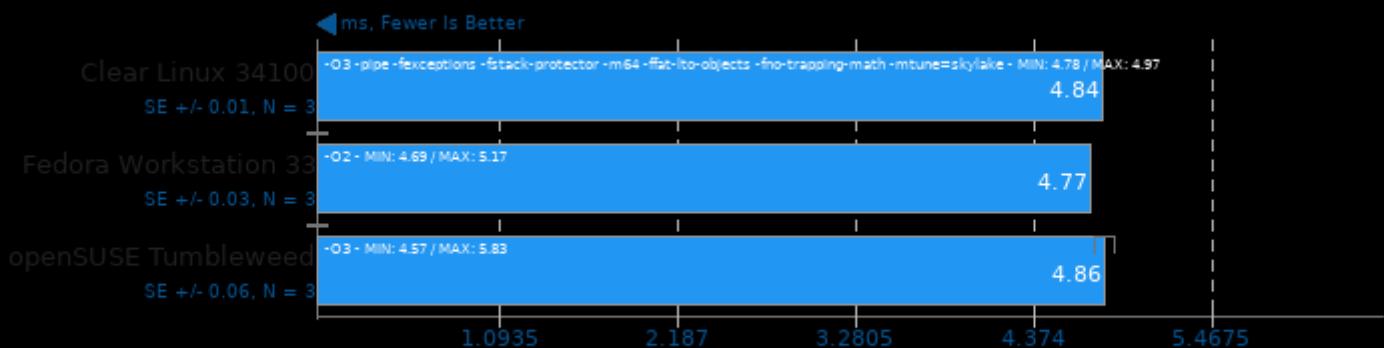
Target: Vulkan GPU-v3-v3 - Model: mobilenet-v3



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

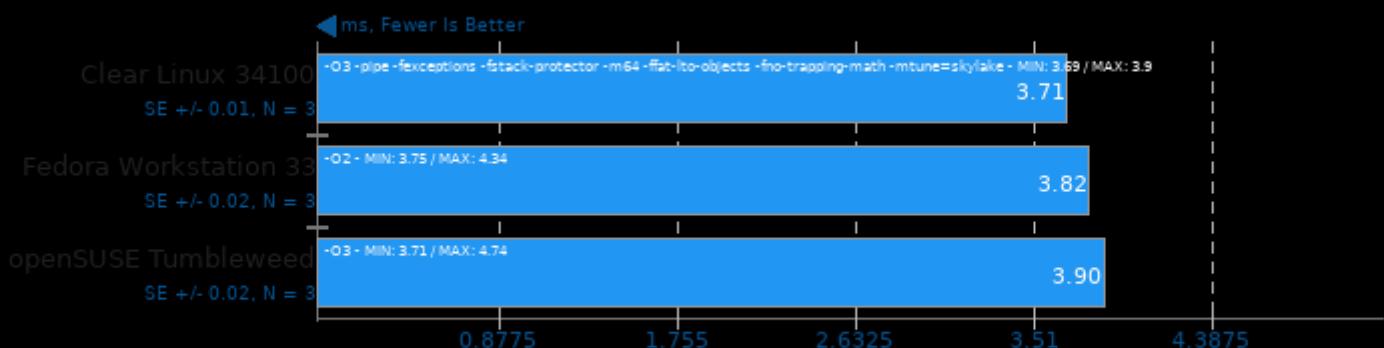
Target: Vulkan GPU - Model: shufflenet-v2



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

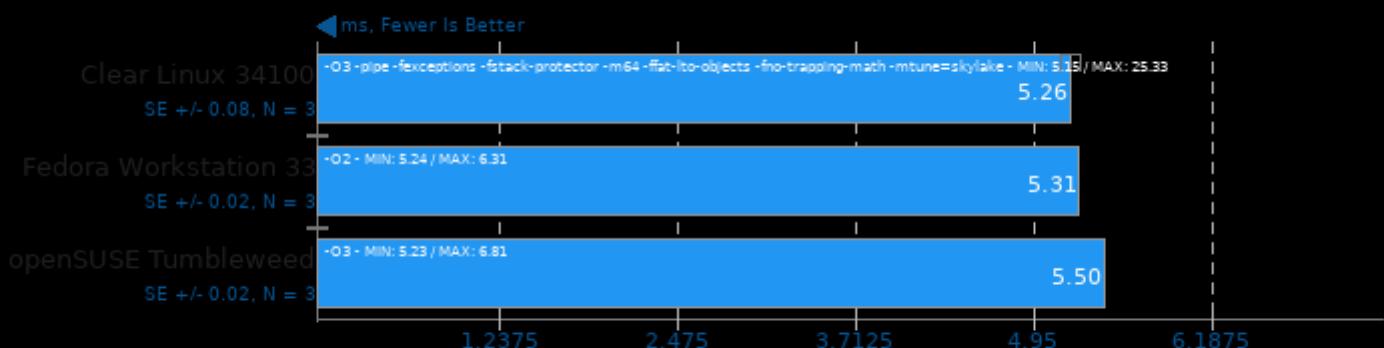
Target: Vulkan GPU - Model: mnasnet



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

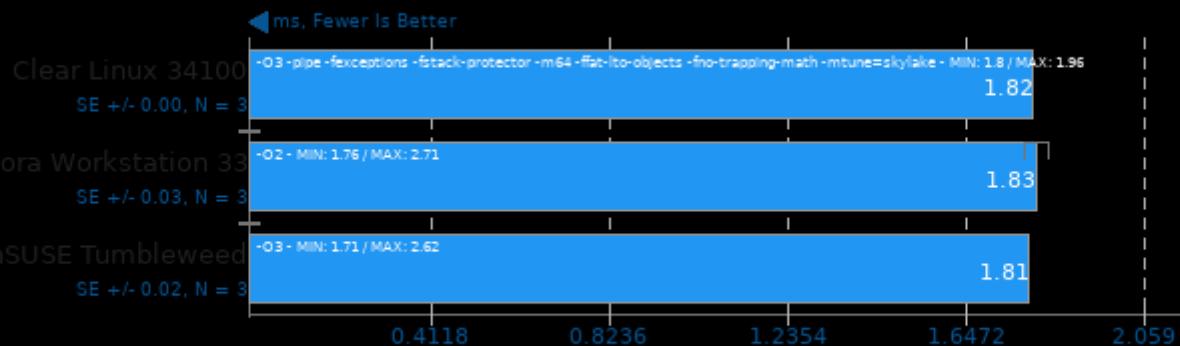
Target: Vulkan GPU - Model: efficientnet-b0



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

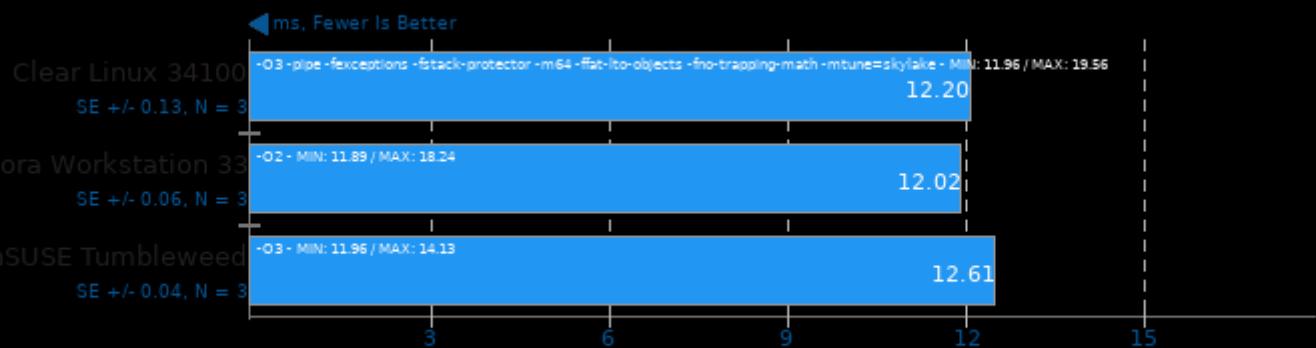
Target: Vulkan GPU - Model: blazeface



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

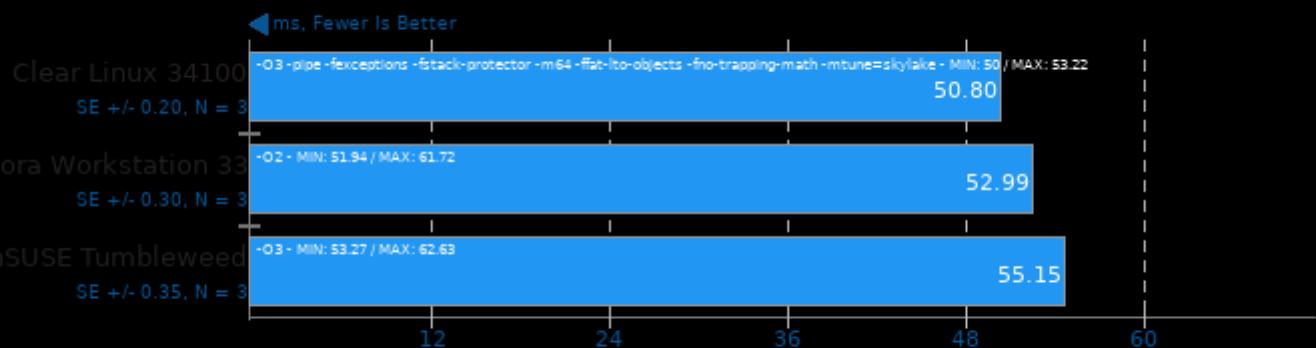
Target: Vulkan GPU - Model: googlenet



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

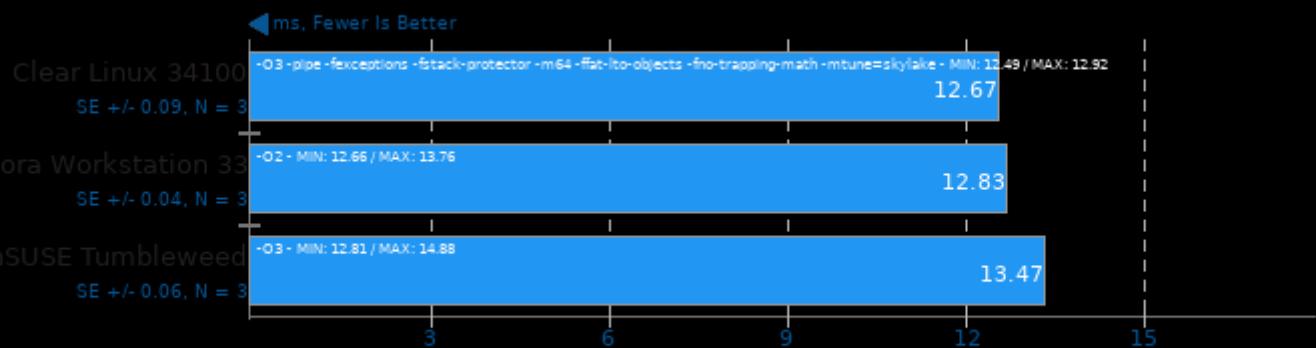
Target: Vulkan GPU - Model: vgg16



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

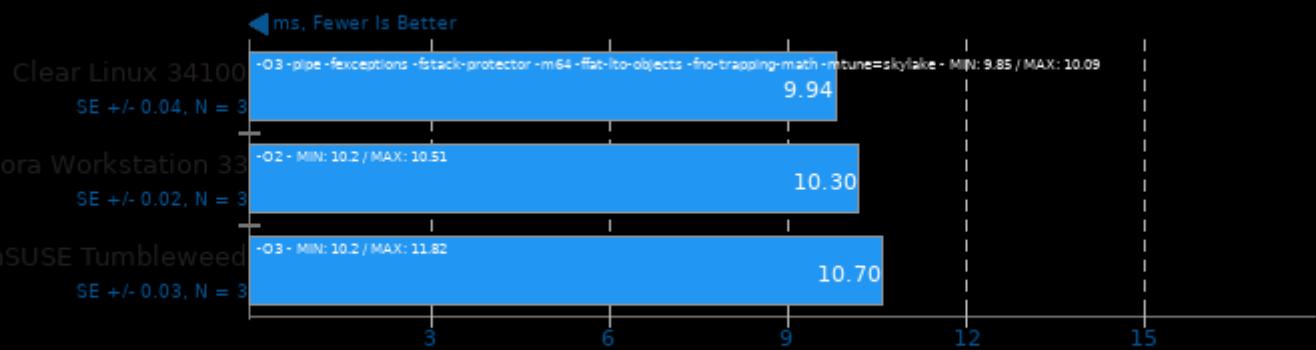
Target: Vulkan GPU - Model: resnet18



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

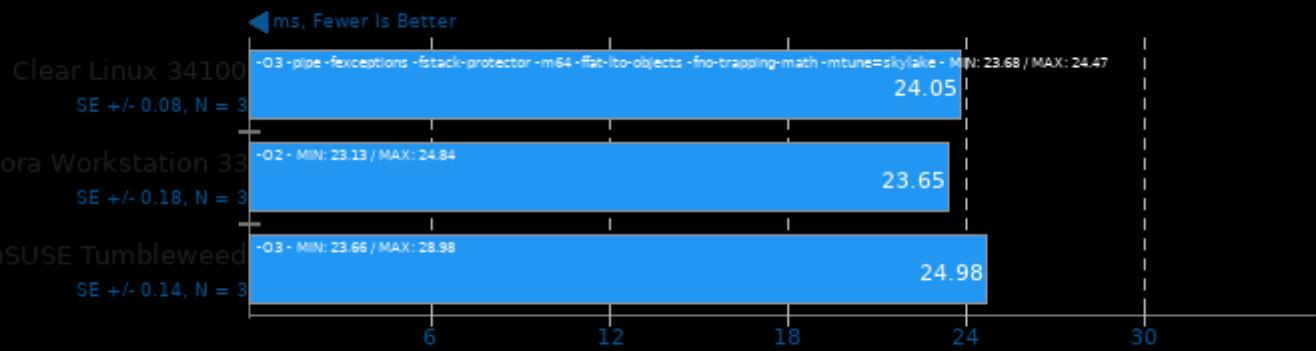
Target: Vulkan GPU - Model: alexnet



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

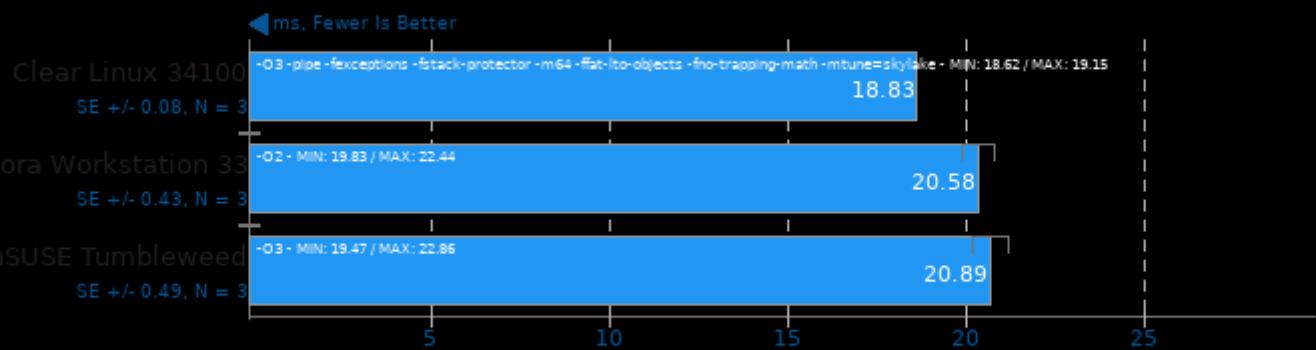
Target: Vulkan GPU - Model: resnet50



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

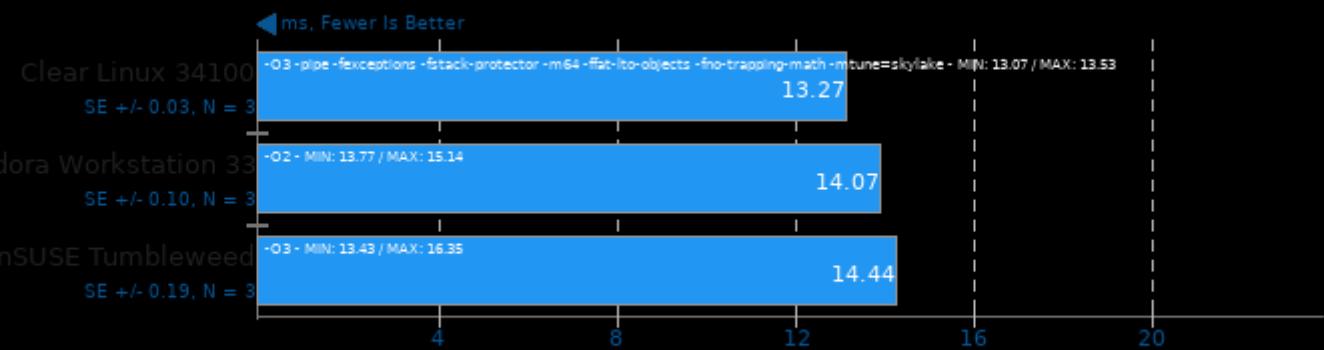
Target: Vulkan GPU - Model: yolov4-tiny



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

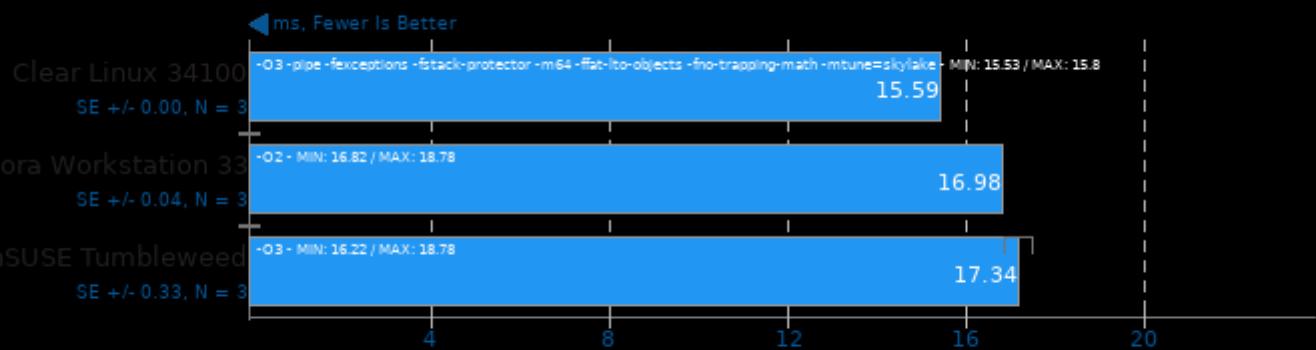
Target: Vulkan GPU - Model: squeezenet_ss



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

NCNN 20201218

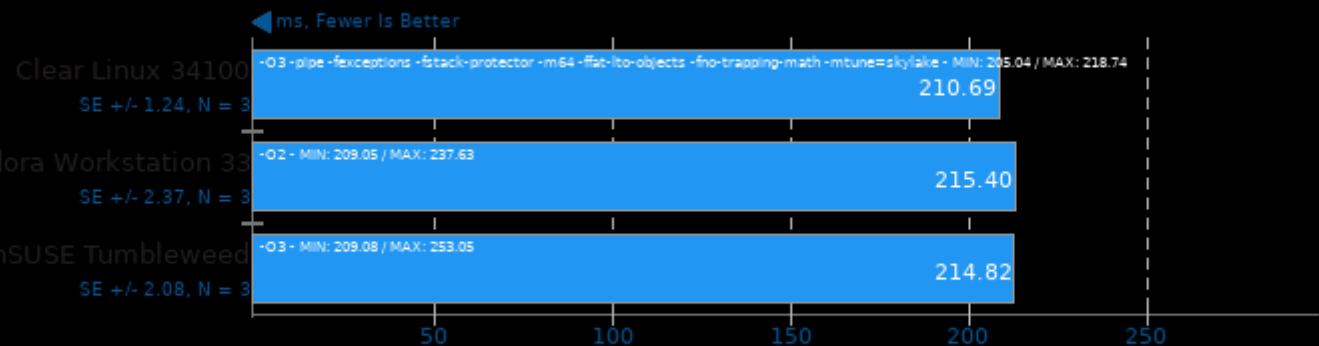
Target: Vulkan GPU - Model: regnety_400m



1. (CXX) g++ options: -rdynamic -lgomp -lpthread

TNN 0.2.3

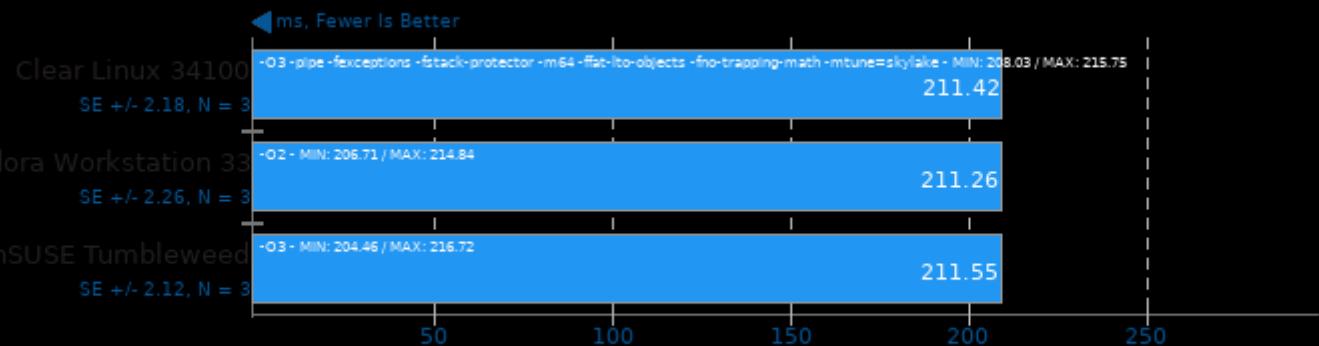
Target: CPU - Model: MobileNet v2



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -rdynamic -ldl

TNN 0.2.3

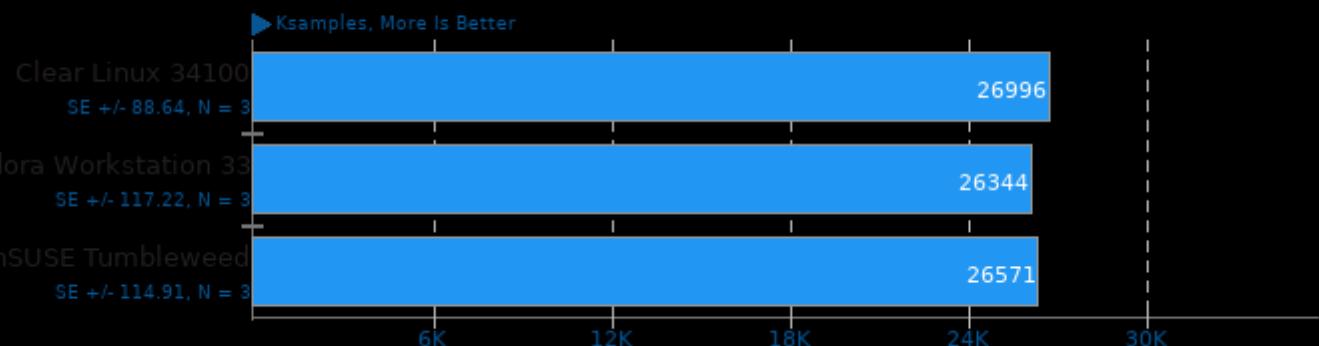
Target: CPU - Model: SqueezeNet v1.1



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -rdynamic -ldl

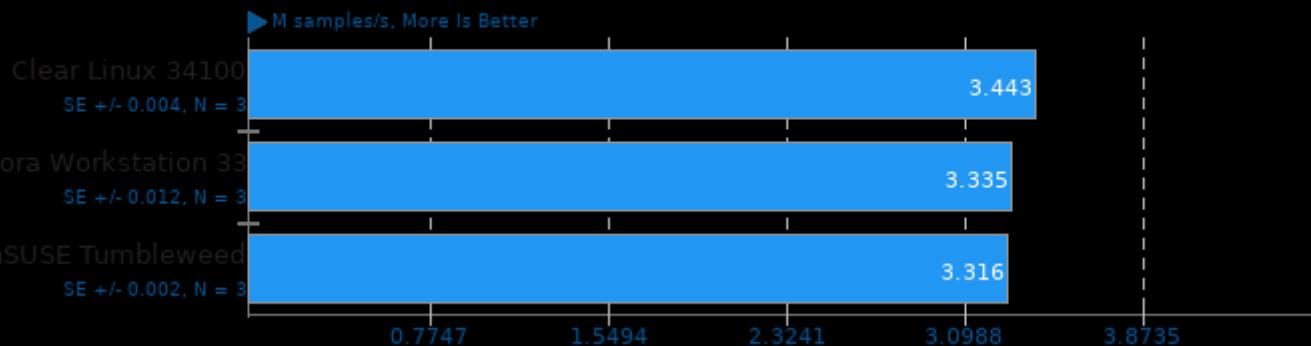
Chaos Group V-RAY 4.10.07

Mode: CPU



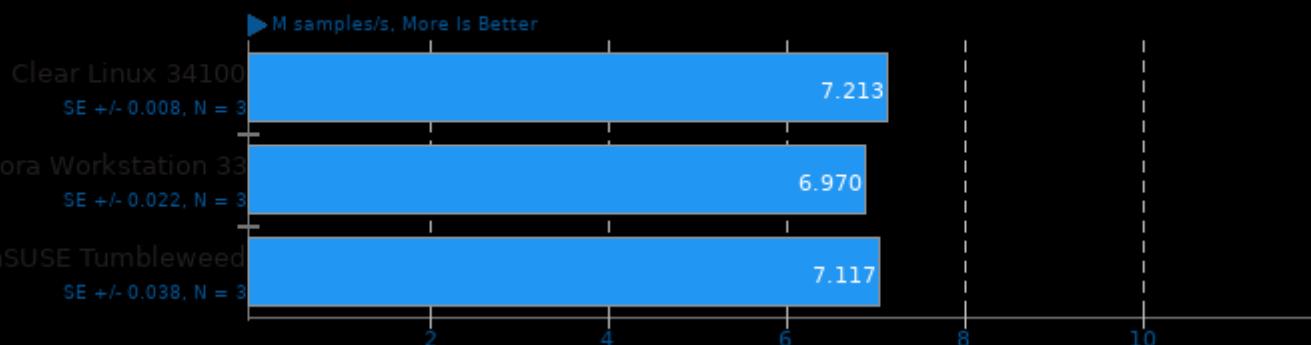
IndigoBench 4.4

Acceleration: CPU - Scene: Bedroom



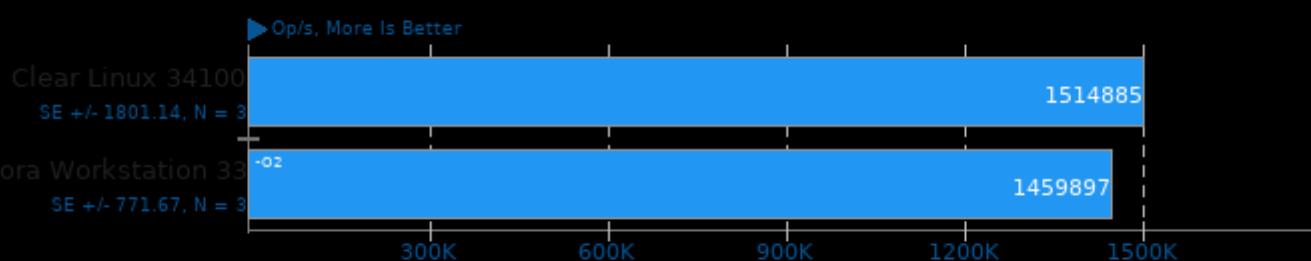
IndigoBench 4.4

Acceleration: CPU - Scene: Supercar



Facebook RocksDB 6.3.6

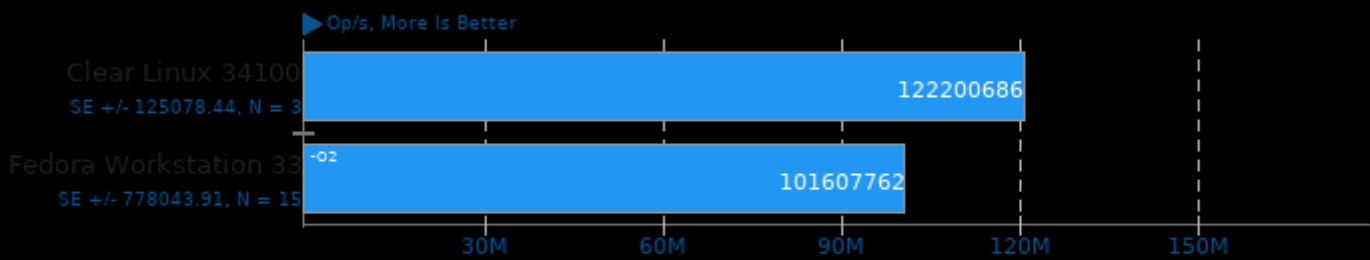
Test: Random Fill



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fno-built-in-memcmp -fno-rtti -rdynamic -lpthread

Facebook RocksDB 6.3.6

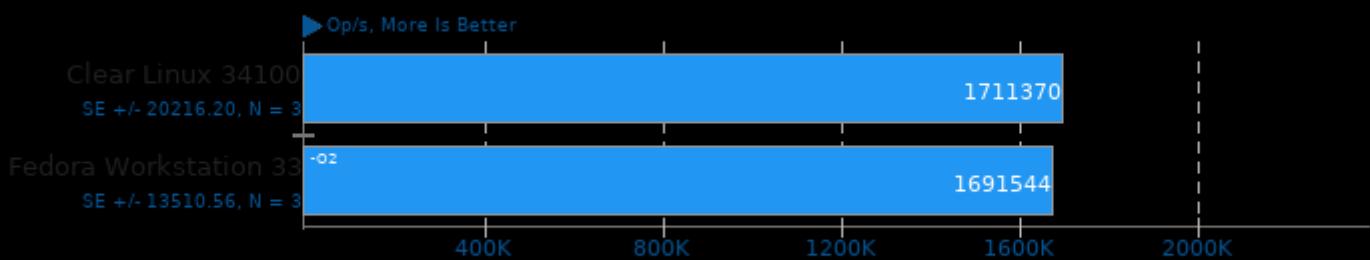
Test: Random Read



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fno-built-in-memcmp -fno-rtti -rdynamic -lpthread

Facebook RocksDB 6.3.6

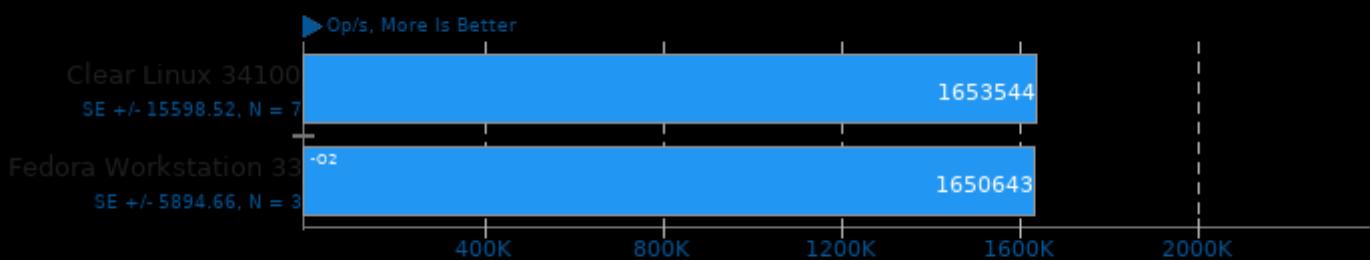
Test: Sequential Fill



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fno-built-in-memcmp -fno-rtti -rdynamic -lpthread

Facebook RocksDB 6.3.6

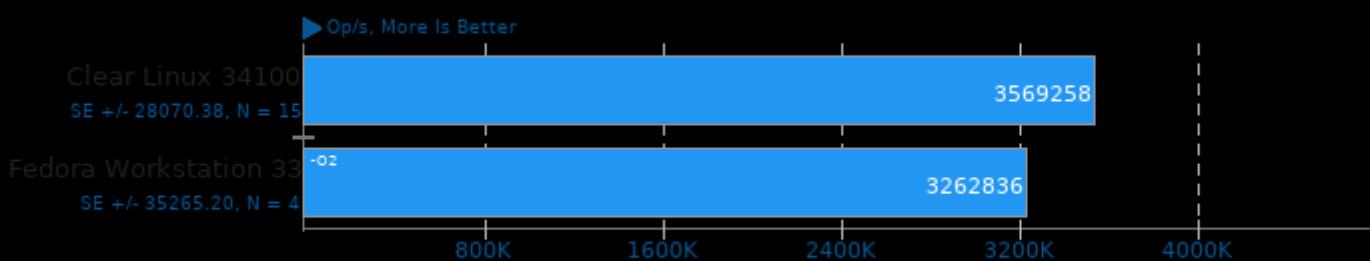
Test: Random Fill Sync



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fno-built-in-memcmp -fno-rtti -rdynamic -lpthread

Facebook RocksDB 6.3.6

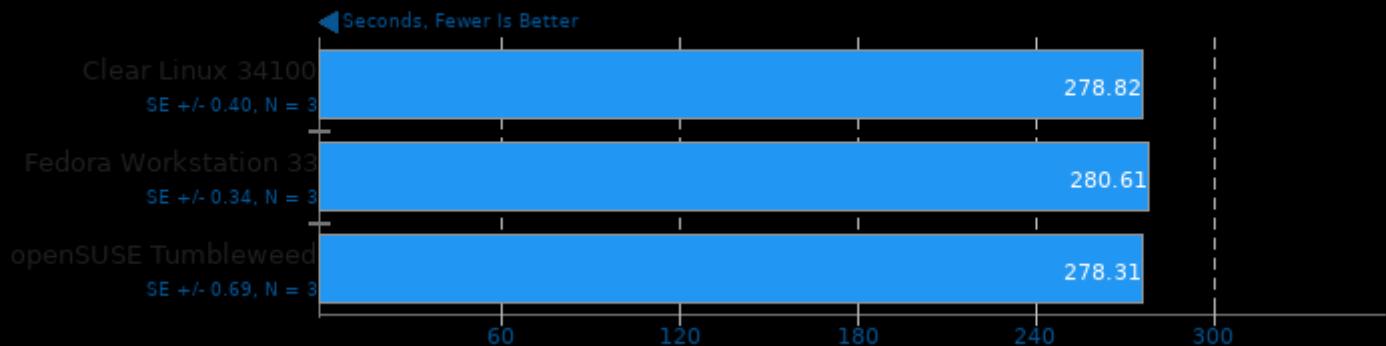
Test: Read While Writing



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fno-built-in-memcmp -fno-rtti -rdynamic -lpthread

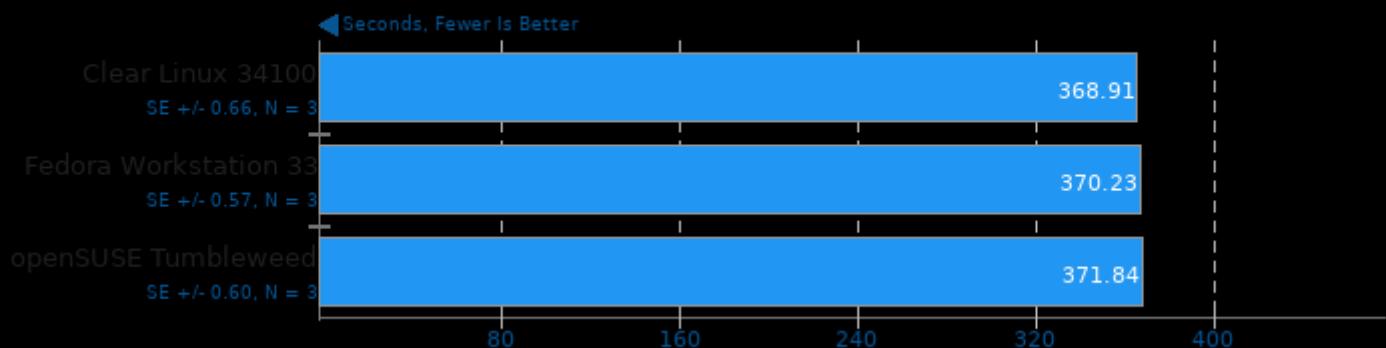
Blender 2.90

Blend File: Classroom - Compute: CPU-Only



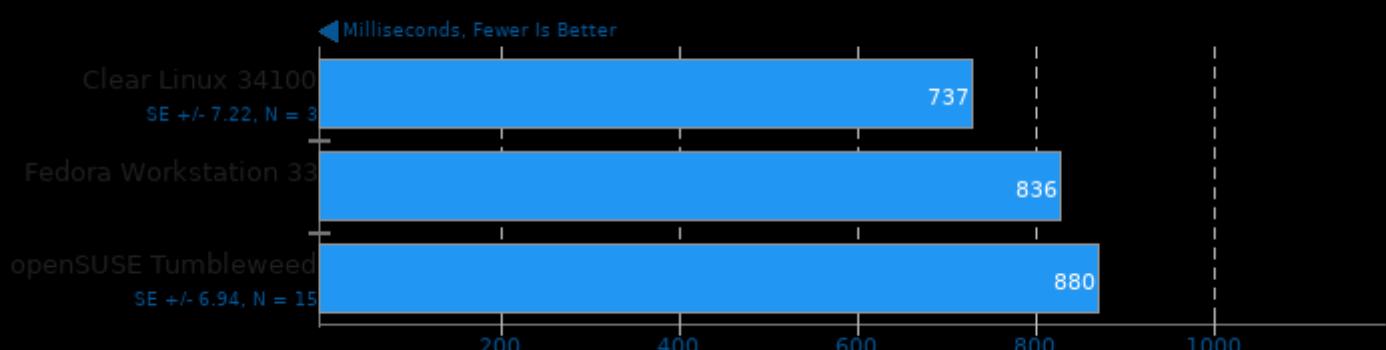
Blender 2.90

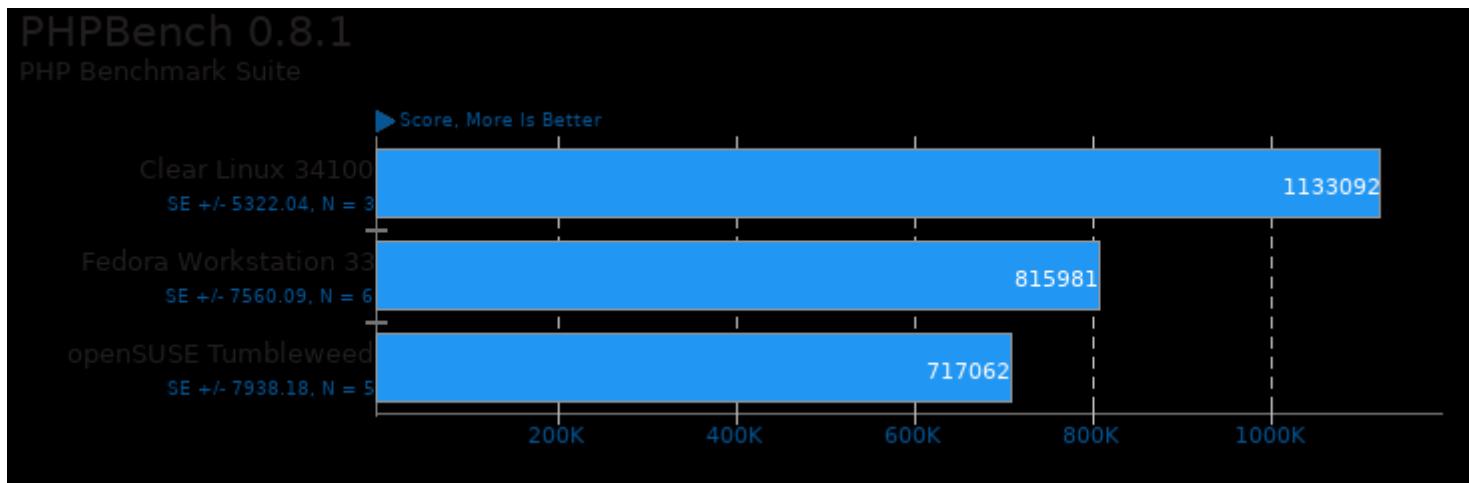
Blend File: Barbershop - Compute: CPU-Only



PyBench 2018-02-16

Total For Average Test Times

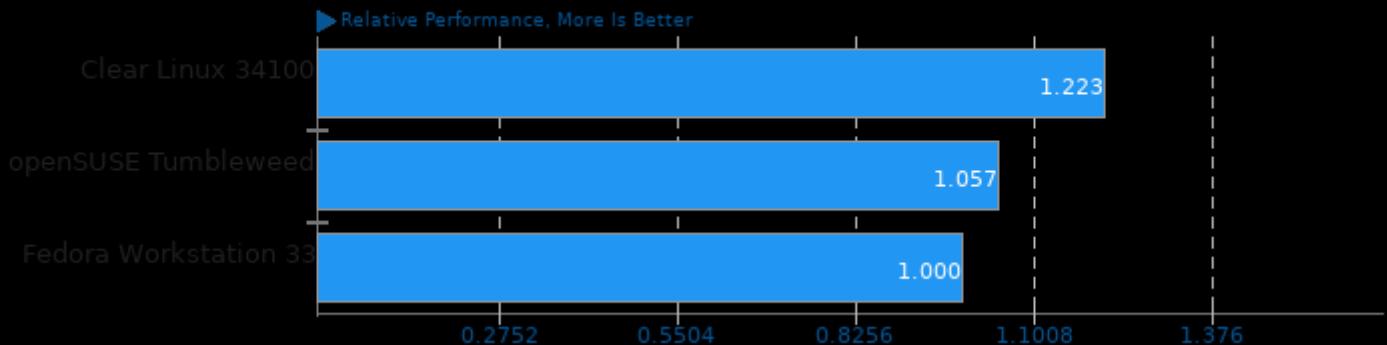




These geometric means are based upon test groupings / test suites for this result file.

Geometric Mean Of AV1 Tests

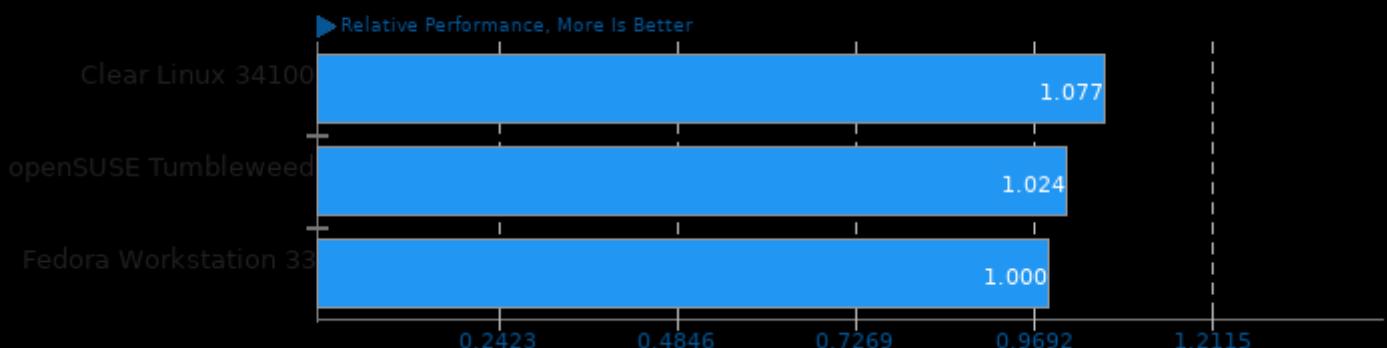
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/svt-av1, pts/rav1e and pts/avifenc

Geometric Mean Of Bioinformatics Tests

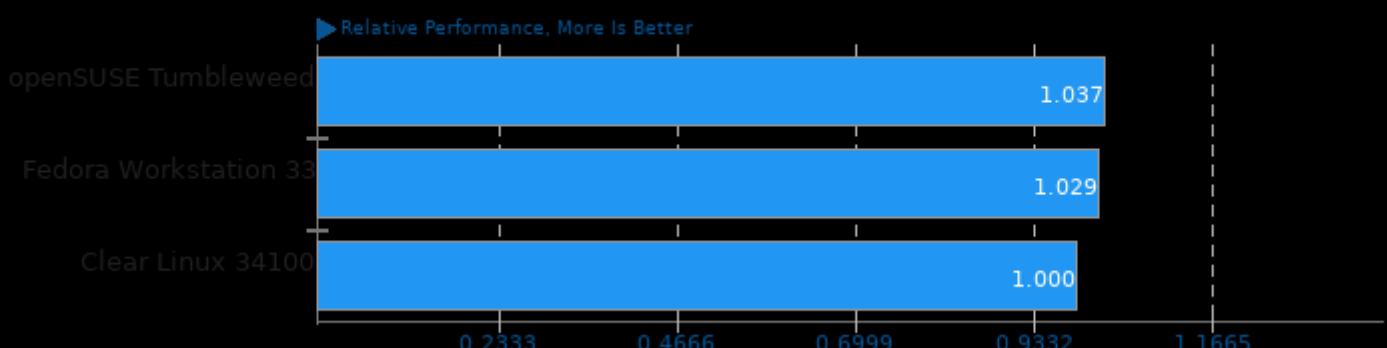
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/himeno, pts/hmmer and pts/mafft

Geometric Mean Of Chess Test Suite

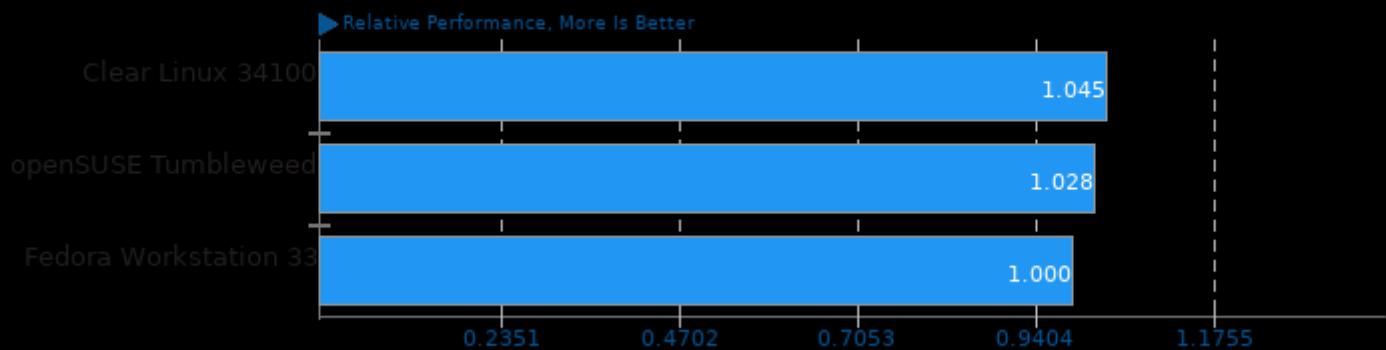
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/crafty, pts/lczero, pts/stockfish and pts/asmfish

Geometric Mean Of Timed Code Compilation Tests

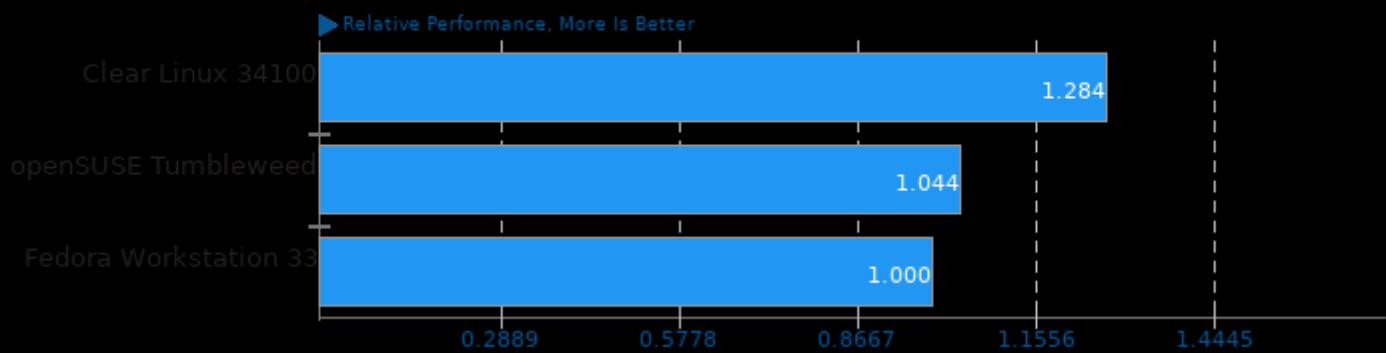
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/build-linux-kernel and pts/build-ffmpeg

Geometric Mean Of C/C++ Compiler Tests

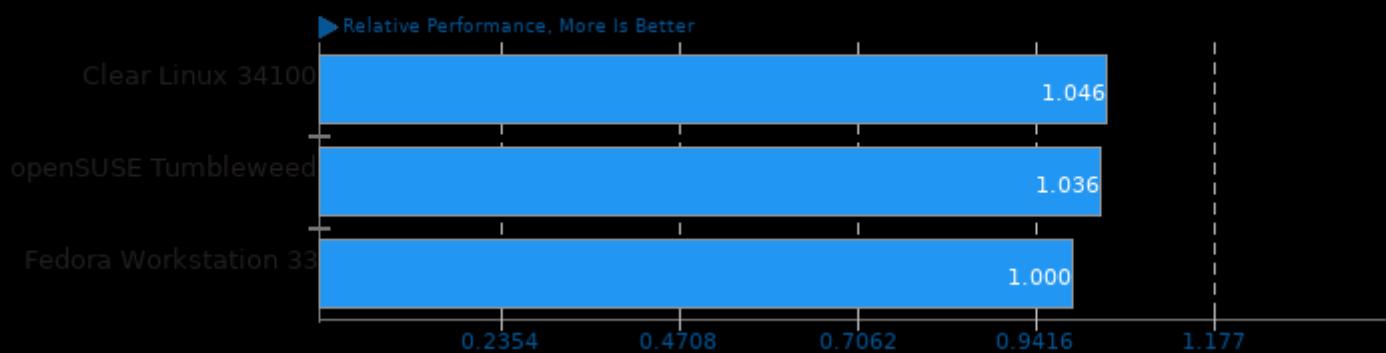
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/mafft, pts/himeno, pts/stockfish, pts/hmmer, pts/sqlite-speedtest, pts/x264, pts/x265, pts/compress-zstd, pts/lammps, pts/svt-av1, pts/gromacs, pts/build-ffmpeg, pts/cryptopp, pts/leveldb and pts/basis

Geometric Mean Of Compression Tests

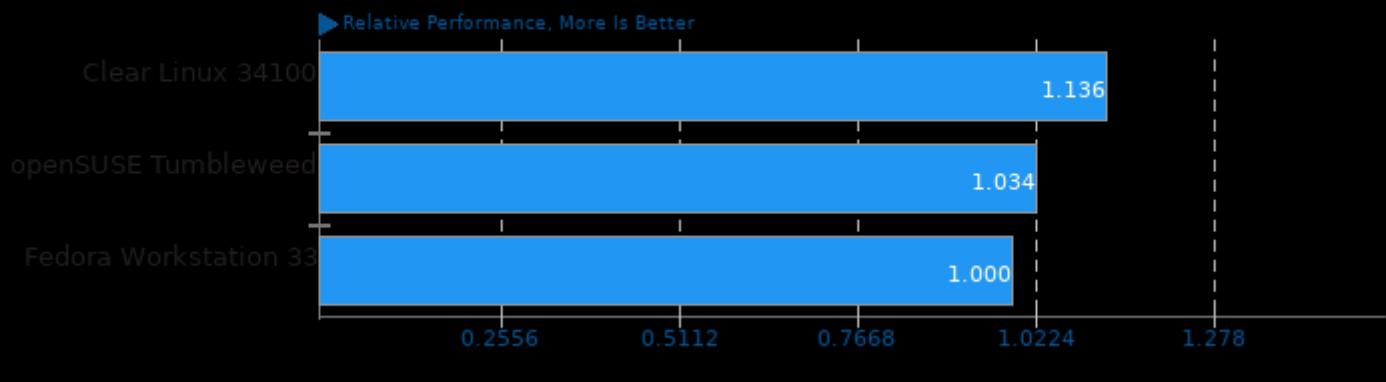
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/compress-zstd, pts/compress-lz4 and pts/blosc

Geometric Mean Of Creator Workloads Tests

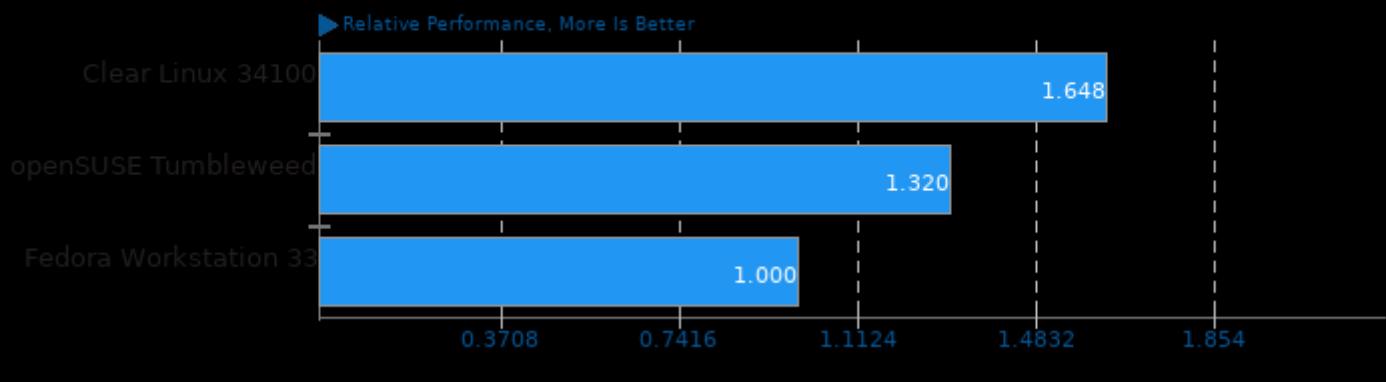
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/blender, pts/v-ray, pts/indigobench, pts/x264, pts/x265, pts/svt-av1, pts/rav1e, pts/avifenc, pts/libraw, pts/webp, system/rawtherapee, pts/basis, pts/astcenc, pts/betsy, pts/deepspeech and pts/rnnoise

Geometric Mean Of Database Test Suite

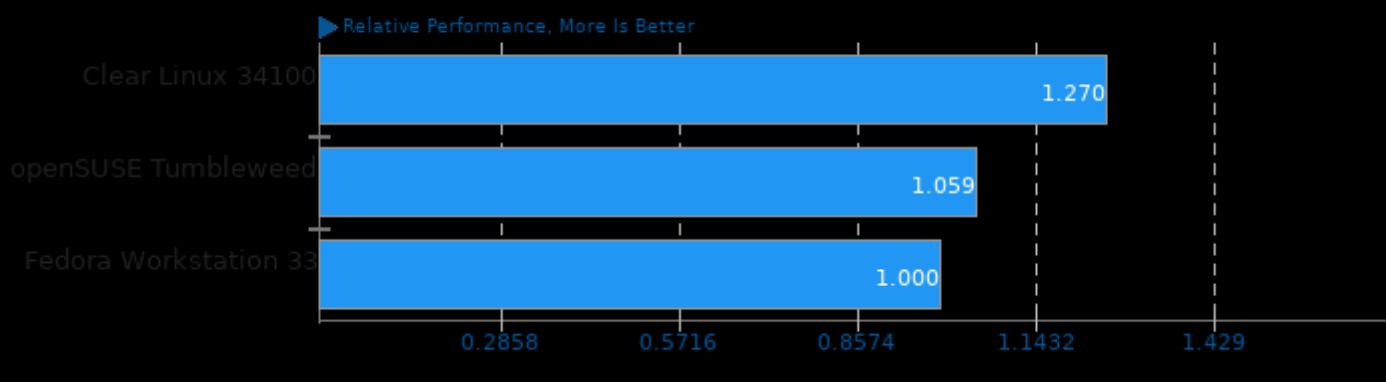
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/sqlite-speedtest, pts/redis, pts/leveldb and pts/rocksdb

Geometric Mean Of Encoding Tests

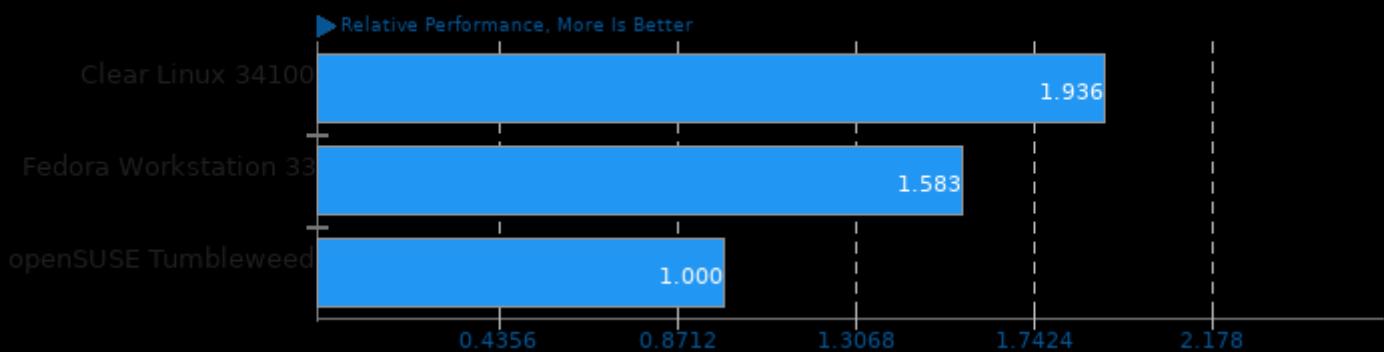
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/x264, pts/x265, pts/svt-av1, pts/rav1e and pts/avifenc

Geometric Mean Of Fortran Tests

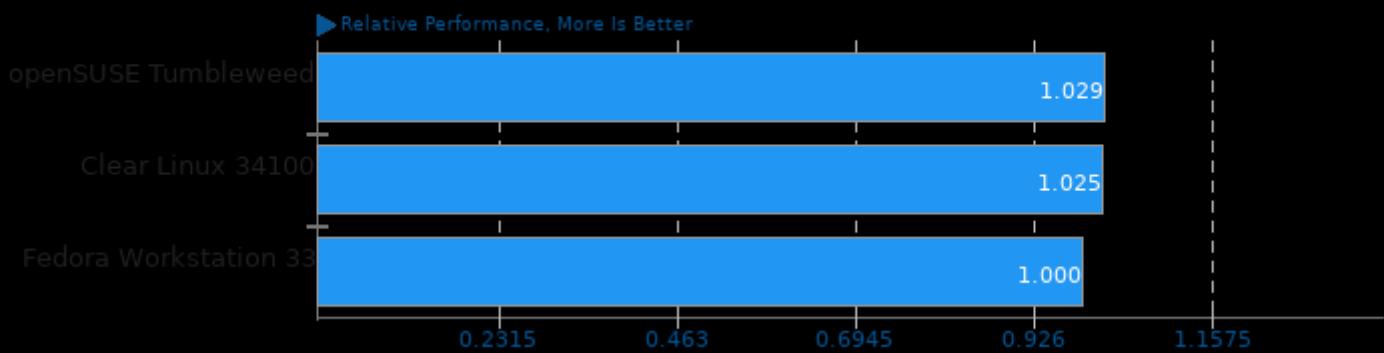
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/hpcg, pts/dolfin, pts/ffte, pts/incompact3d and pts/lammps

Geometric Mean Of Game Development Tests

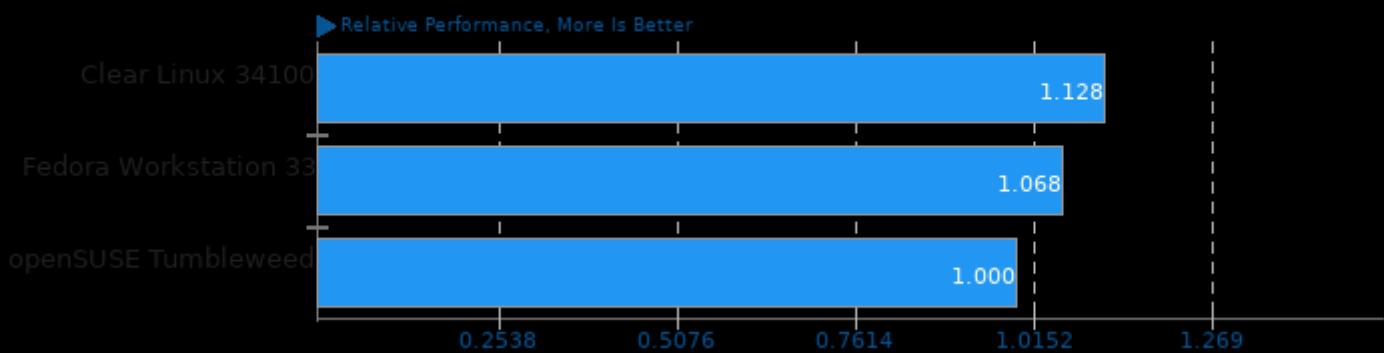
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/basis, pts/astcenc, pts/betsy and pts/blender

Geometric Mean Of HPC - High Performance Computing Tests

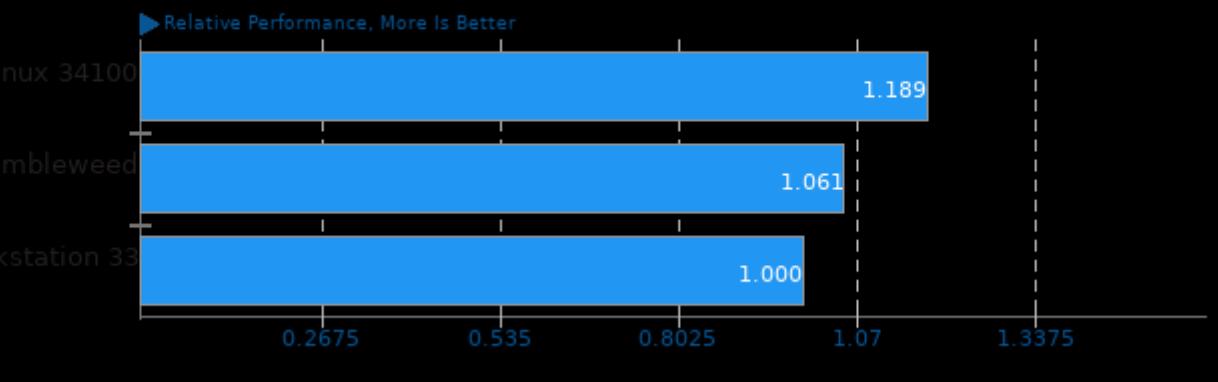
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/hpcg, pts/ffte, pts/gromacs, pts/dolfin, pts/lammps, pts/minife, pts/incompact3d, pts/himeno, pts/hmmer, pts/mafft, pts/mnn, pts/ncnn, pts/tnn, pts(numpy, pts/deepspeech, pts/rnnoise, pts/tensorflow-lite and pts/lczero

Geometric Mean Of Imaging Tests

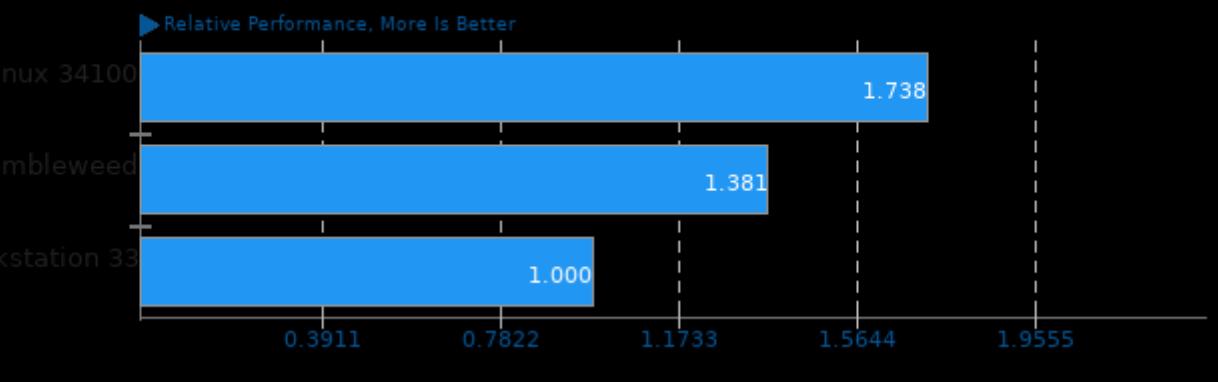
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/libraw, pts/webp, system/rawtherapee and pts/avifenc

Geometric Mean Of Common Kernel Benchmarks Tests

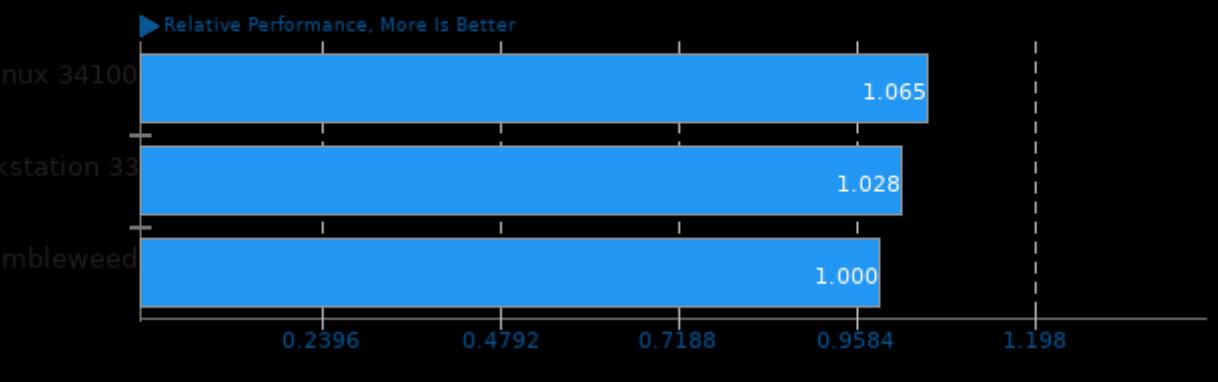
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/sqlite-speedtest, pts/rocksdb and pts/leveldb

Geometric Mean Of Machine Learning Tests

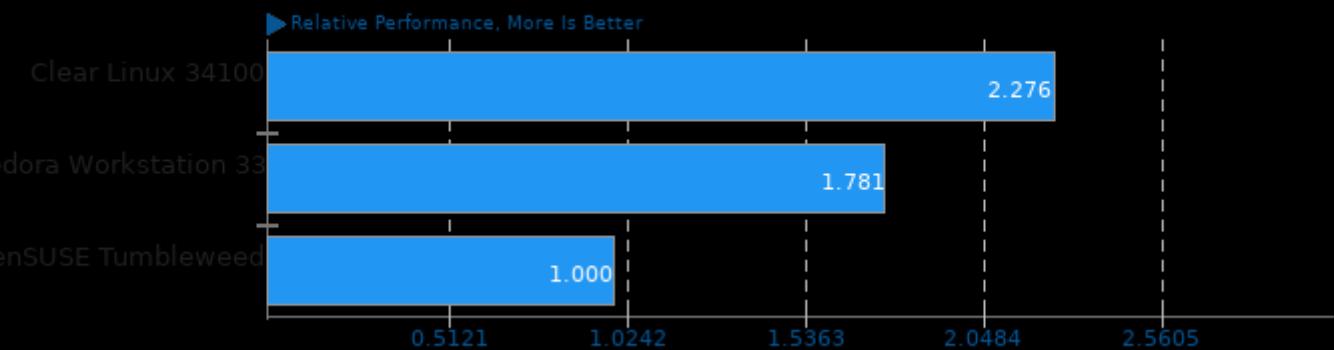
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/mnn, pts/ncnn, pts/tnn, pts/numpy, pts/deepspeech, pts/rnnoise, pts/tensorflow-lite and pts/lczero

Geometric Mean Of Molecular Dynamics Tests

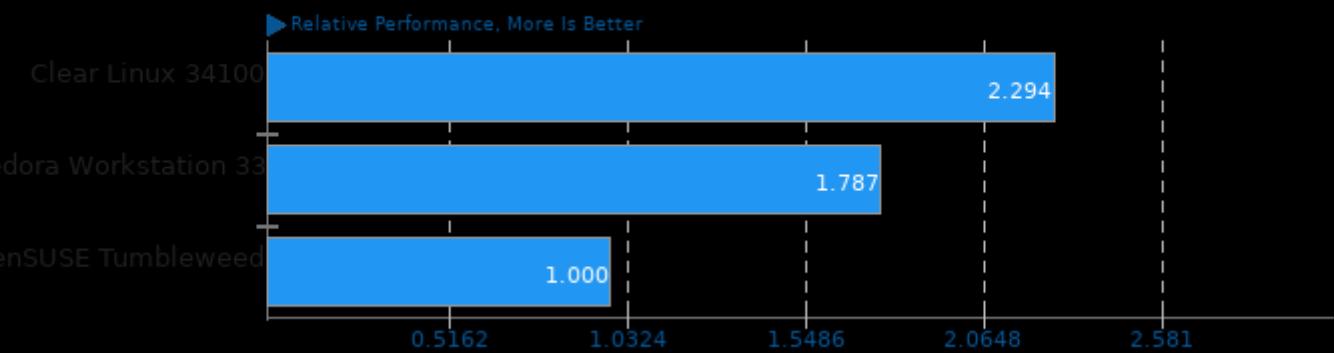
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/gromacs, pts/dolfin, pts/lammps, pts/minife and pts/incompact3d

Geometric Mean Of MPI Benchmarks Tests

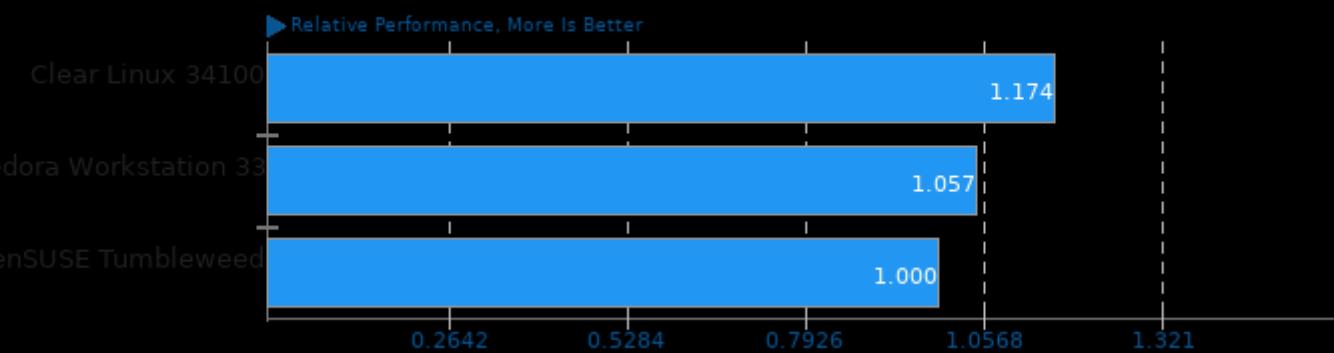
Result Composite - Ryzen 9 5900X Clear Linux



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

Geometric Mean Of Multi-Core Tests

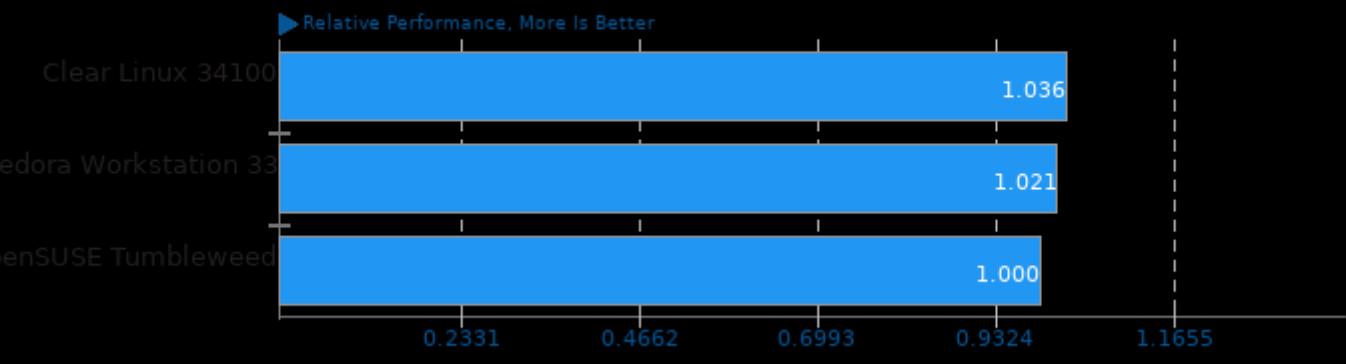
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/blender, pts/stockfish, pts/coremark, pts/x264, pts/x265, pts/svt-av1, pts/rav1e, pts/avifenc, pts/asmfish, pts/lammps, pts/gromacs, pts/compress-zstd, pts/build-linux-kernel, pts/build-ffmpeg, pts/v-ray, pts/indigobench and pts/hpcg

Geometric Mean Of NVIDIA GPU Compute Tests

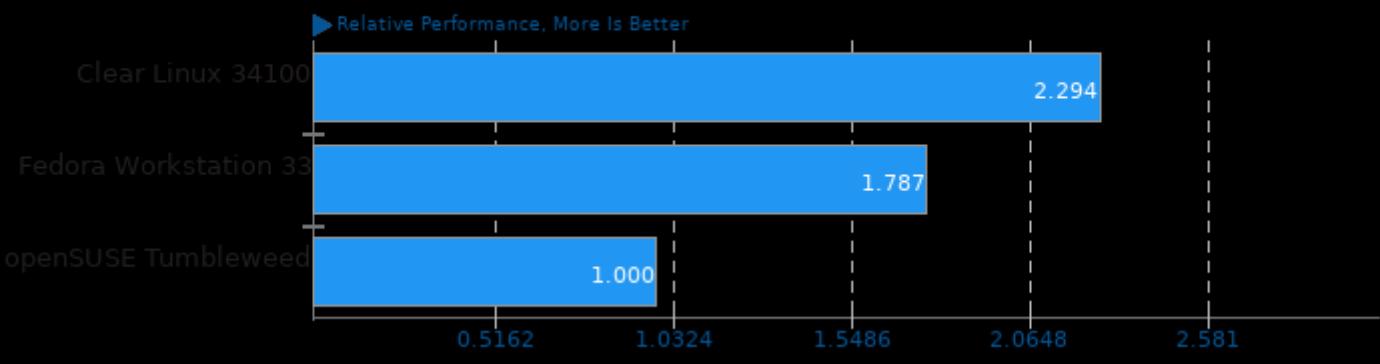
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/gromacs, pts/lczero, pts/indigobench, pts/v-ray, pts/blender, pts/ncnn, pts/realsr-ncnn, pts/waifu2x-ncnn and pts/betsy

Geometric Mean Of OpenMPI Tests

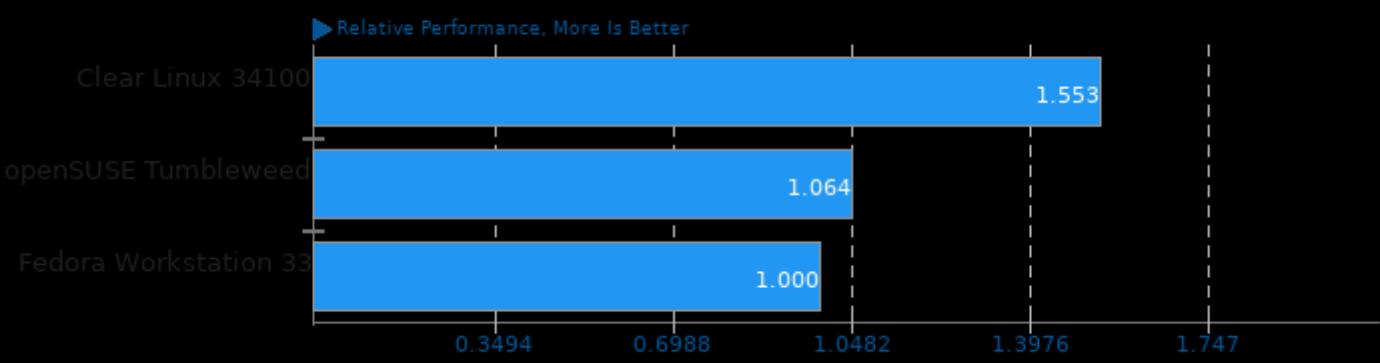
Result Composite - Ryzen 9 5900X Clear Linux



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

Geometric Mean Of Programmer / Developer System Benchmarks Tests

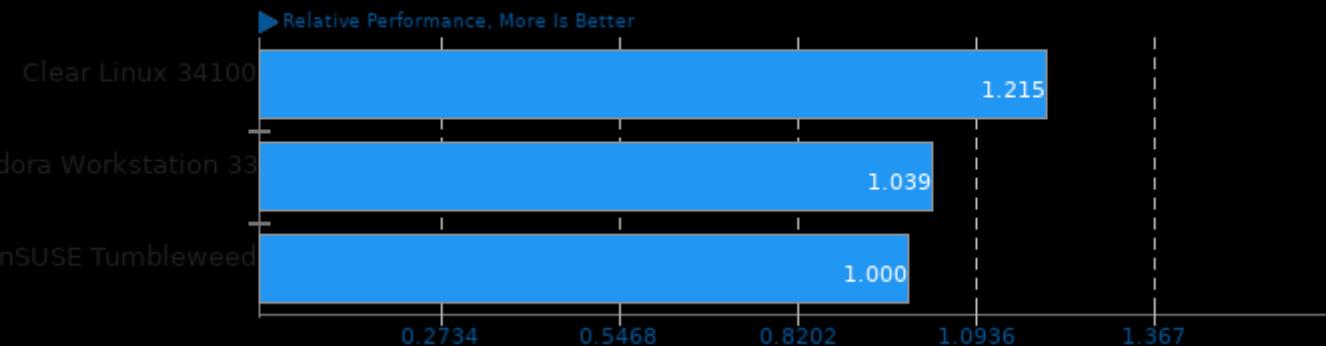
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/simdjson, pts/sqlite-speedtest, pts/node-web-tooling, pts/blosc, pts/compress-zstd, pts/pybench, pts/build-linux-kernel and pts/build-ffmpeg

Geometric Mean Of Python Tests

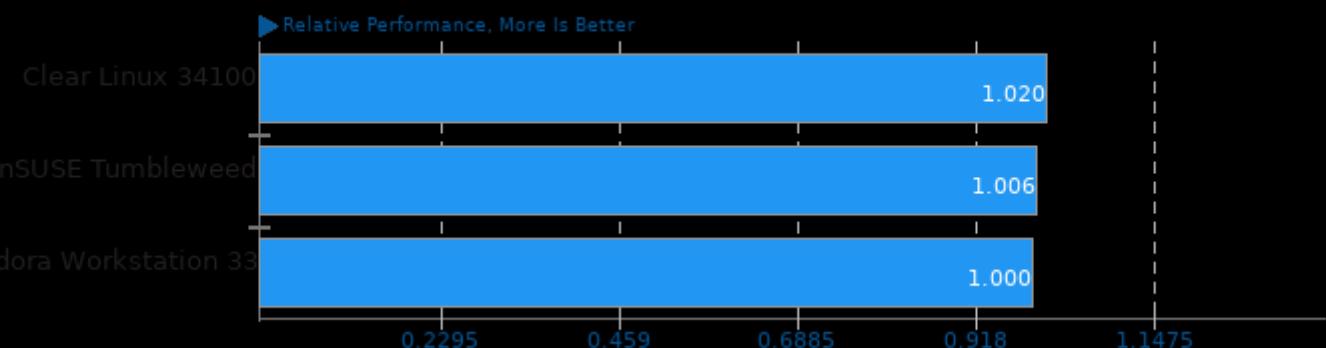
Result Composite - Ryzen 9 5900X Clear Linux



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

Geometric Mean Of Renderers Tests

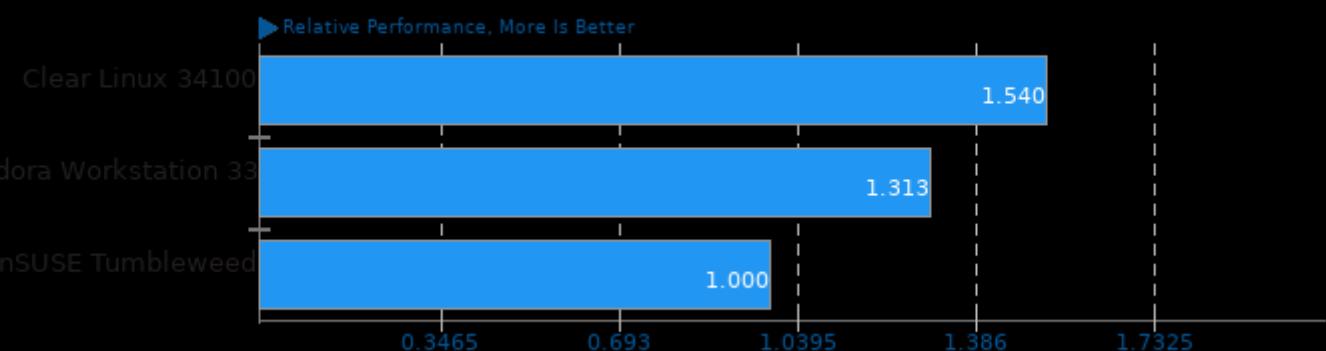
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/blender, pts/v-ray and pts/indigobench

Geometric Mean Of Scientific Computing Tests

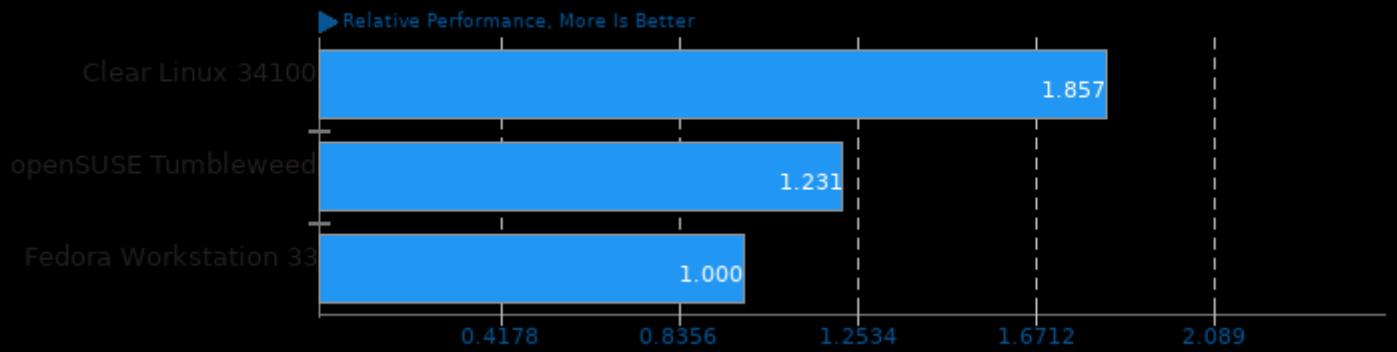
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/ffte, pts/gromacs, pts/dolfin, pts/lammps, pts/minife, pts/incompact3d, pts/himeno, pts/hmmer and pts/mafft

Geometric Mean Of Server Tests

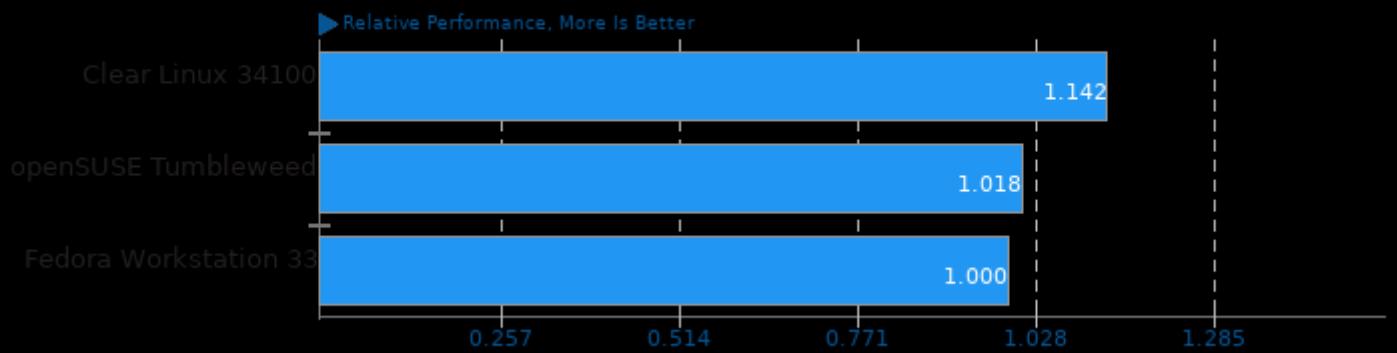
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/redis, pts/rocksdb, pts/phpbench, pts/simdjson, pts/node-web-tooling, pts/sqlite-speedtest and pts/leveldb

Geometric Mean Of Server CPU Tests

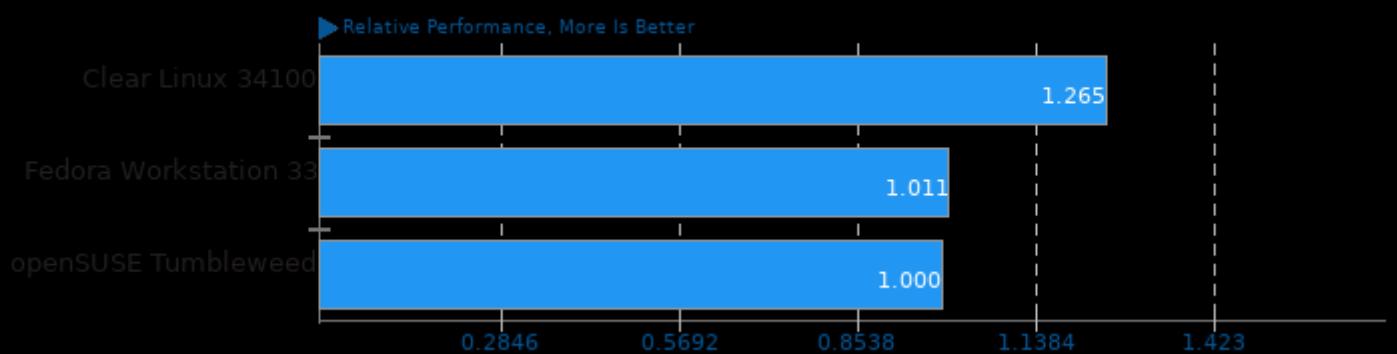
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/svt-av1, pts/x264, pts/x265, pts/himeno, pts/stockfish, pts/asmfish, pts/build-linux-kernel, pts/compress-zstd, pts/redis, pts/blender, pts/pybench, pts/numpy and pts/phpbench

Geometric Mean Of Single-Threaded Tests

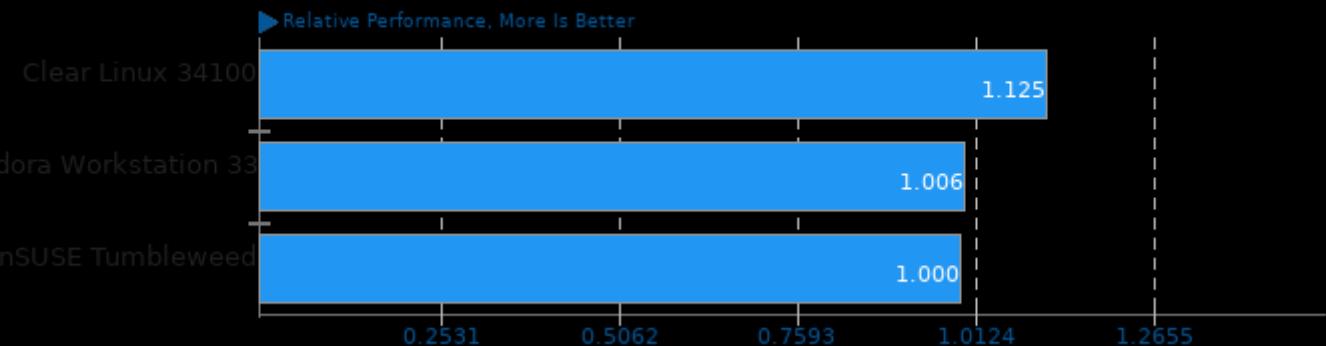
Result Composite - Ryzen 9 5900X Clear Linux



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

Geometric Mean Of Speech Tests

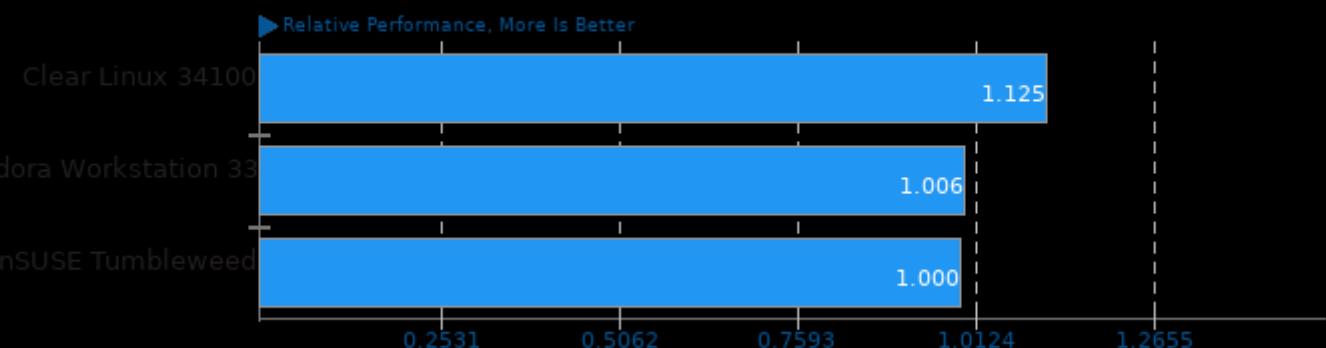
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/deepspeech and pts/rnnoise

Geometric Mean Of Telephony Tests

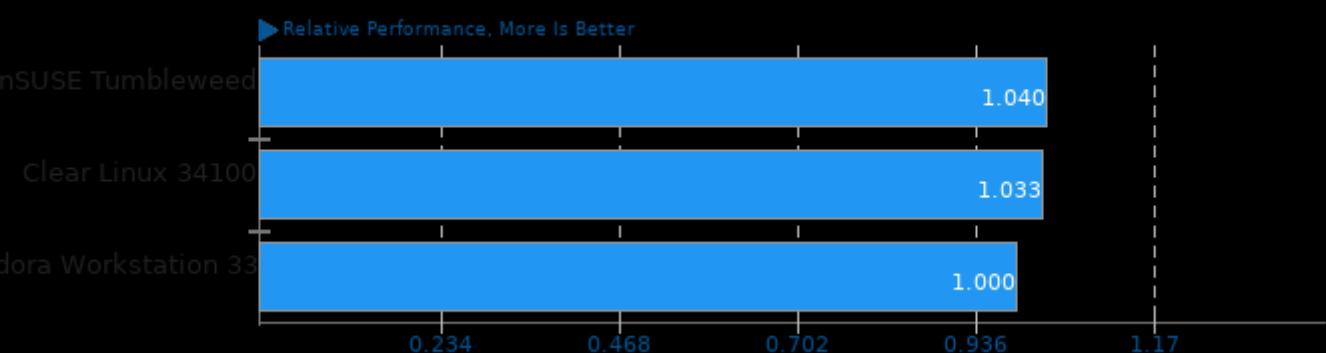
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/deepspeech and pts/rnnoise

Geometric Mean Of Texture Compression Tests

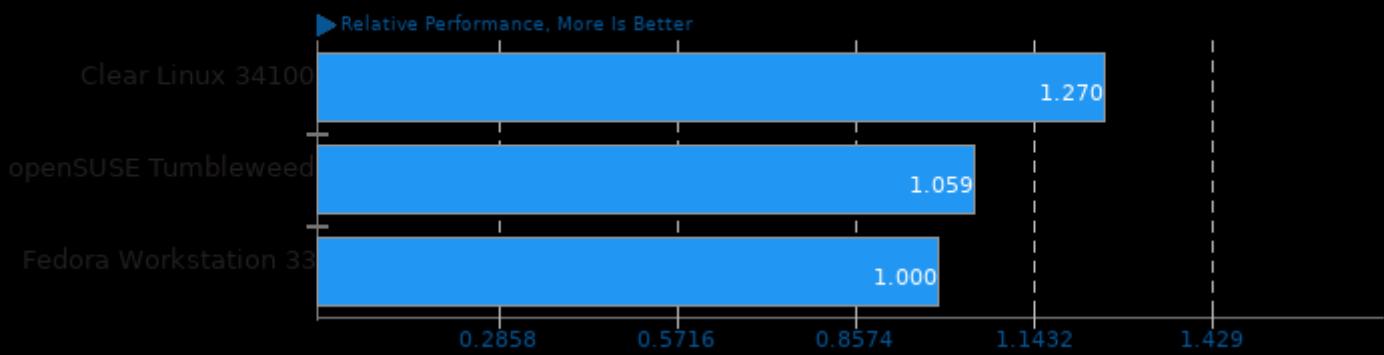
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/basis, pts/astcenc and pts/betsy

Geometric Mean Of Video Encoding Tests

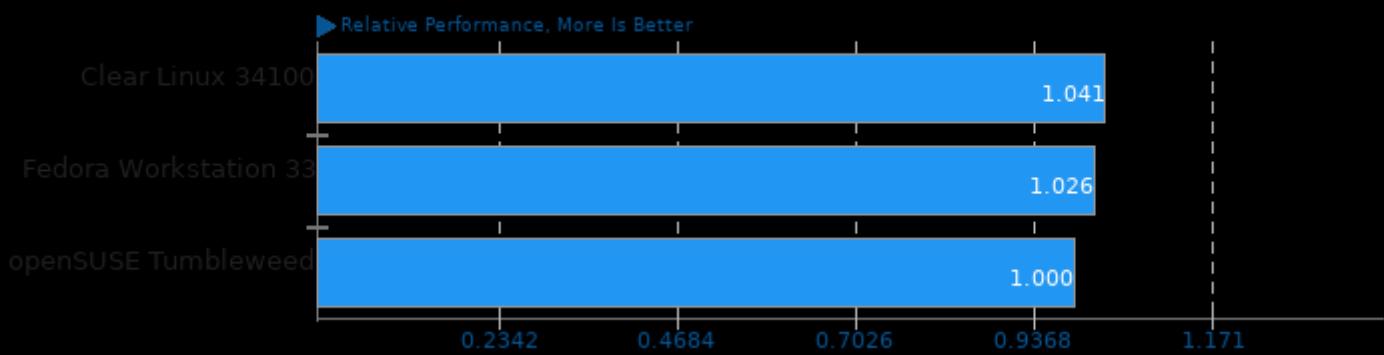
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/x264, pts/x265, pts/svt-av1, pts/rav1e and pts/avifenc

Geometric Mean Of Vulkan Compute Tests

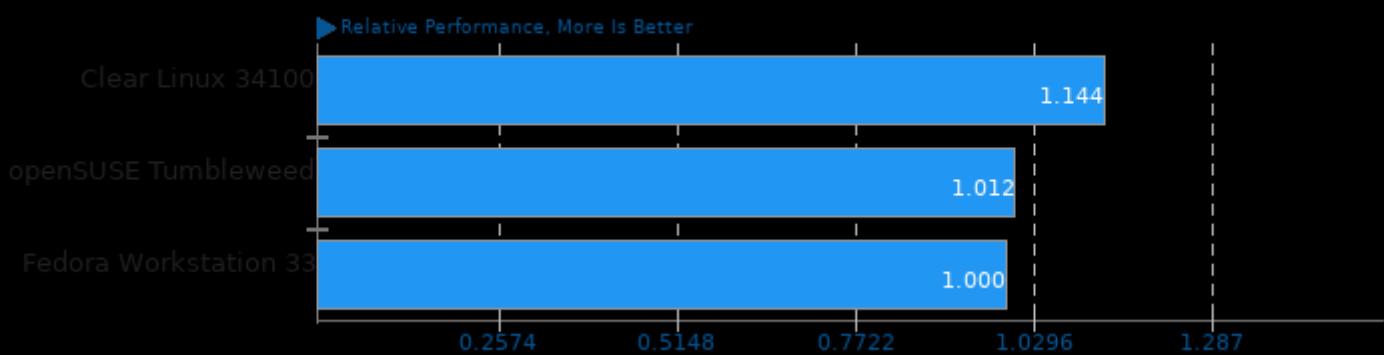
Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/ncnn, pts/realsr-ncnn, pts/waifu2x-ncnn and pts/betsy

Geometric Mean Of Common Workstation Benchmarks Tests

Result Composite - Ryzen 9 5900X Clear Linux



Geometric mean based upon tests: pts/blender, pts/himeno and pts/x265

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 13:07.