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RTX 3070 Compute

AMD Ryzen 9 5900X 12-Core testing with a ASUS ROG CROSSHAIR VIII HERO (3402 BIOS) and NVIDIA GeForce RTX 3070 8GB on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 71% of the tests.

Based on the geometric mean of all complete results, the fastest (2) was 1.003x the speed of the slowest (3). 1 was 1x the speed of 2 and 3 was 0.997x the speed of 1.

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

NCNN (Target: Vulkan GPU - Model: squeezenet_ssdlite) at 1.066x
NCNN (Target: Vulkan GPU - Model: mobilenet) at 1.055x
ViennaCL (Test: CPU BLAS - dAXPY) at 1.033x
NCNN (Target: Vulkan GPU - Model: blazeface) at 1.033x
ViennaCL (Test: CPU BLAS - dCOPY) at 1.027x
ViennaCL (Test: CPU BLAS - sCOPY) at 1.023x
ViennaCL (Test: CPU BLAS - dGEMM-NN) at 1.022x
ViennaCL (Test: CPU BLAS - dGEMM-TN) at 1.022x
ViennaCL (Test: CPU BLAS - dDOT) at 1.018x

ViennaCL (Test: OpenCL BLAS - dGEMM-TN) at 1.018x.

Test Systems:

1

2

3

Processor: AMD Ryzen 9 5900X 12-Core @ 3.70GHz (12 Cores / 24 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (3402 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 1000GB Sabrent Rocket 4.0 Plus + 2000GB, Graphics: NVIDIA GeForce RTX 3070 8GB, Audio: NVIDIA Device 228b, Monitor: ASUS VP28U, Network: Realtek RTL8125 2.5GbE + Intel I211

OS: Ubuntu 20.04, Kernel: 5.8.0-48-generic (x86_64), Desktop: GNOME Shell 3.36.7, Display Server: X Server 1.20.9, Display Driver: NVIDIA 460.67, OpenGL: 4.6.0, OpenCL: OpenCL 1.2 CUDA 11.2.162, Vulkan: 1.2.155, Compiler: GCC 9.3.0 + CUDA 11.2, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
 Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale-gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-HskZEA/gcc-9-9.3.0/debian/tmp-nvptx/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
 Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa201009
 OpenCL Notes: GPU Compute Cores: 5888

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

	1	2	3
RealSR-NCNN - 4x - No (sec)	8.438	8.427	8.437
Normalized	99.87%	100%	99.88%
Standard Deviation	1.7%	1.9%	2%
RealSR-NCNN - 4x - Yes (sec)	50.058	49.994	50.181
Normalized	99.87%	100%	99.63%
Standard Deviation	0.3%	0.3%	0.3%
Waifu2x-NCNN Vulkan - 2x - 3 - Yes (sec)	4.297	4.303	4.321
Normalized	100%	99.86%	99.44%
Standard Deviation	0.1%	0.2%	0%
VkFFT (Benchmark Score)	32004	32323	
Normalized	99.01%	100%	
Standard Deviation	1.3%	2.3%	
Hashcat - MD5 (H/s)	38778833333	38839033333	
Normalized	99.85%	100%	
Standard Deviation	0.2%	0.2%	

Hashcat - SHA1 (H/s)	13120133333	13144266667
Normalized	99.82%	100%
Standard Deviation	0.3%	0.1%
Hashcat - 7-Zip (H/s)	686733	686700
Normalized	100%	100%
Standard Deviation	0.3%	0.3%
Hashcat - SHA-512 (H/s)	1664800000	1669566667
Normalized	99.71%	100%
Standard Deviation	0.1%	0.1%
Hashcat - T.R.X (H/s)	501033	502833
Normalized	99.64%	100%
Standard Deviation	0.5%	0.4%
Mixbench - OpenCL - Integer (GIOPS)	11434	11337
Normalized	100%	99.15%
Standard Deviation	0%	0.8%
Mixbench - OpenCL - Double Precision (GFLOPS)	295.11	299.65
Normalized	98.48%	100%
Standard Deviation	1.1%	0.4%
Mixbench - OpenCL - Single Precision (GFLOPS)	22082	21966
Normalized	100%	99.47%
Standard Deviation	0.1%	0.9%
SHOC Scalable Heterogeneous Computing - OpenCL - S3D (GFLOPS)	218.440	218.605
Normalized	99.92%	100%
Standard Deviation	0.2%	0.2%
SHOC Scalable Heterogeneous Computing - OpenCL - Triad (GB/s)	24.6721	24.6714
Normalized	100%	100%
Standard Deviation	0.1%	0.1%
SHOC Scalable Heterogeneous Computing - OpenCL - FFT SP (GFLOPS)	1135	1134
Normalized	100%	99.9%
Standard Deviation	0.1%	0.2%
SHOC Scalable Heterogeneous Computing - OpenCL - MD5 Hash (GHash/s)	25.4712	25.4940
Normalized	99.91%	100%
Standard Deviation	0.1%	0.3%
SHOC Scalable Heterogeneous Computing - OpenCL - Reduction (GB/s)	325.671	325.801
Normalized	99.96%	100%
Standard Deviation	0.3%	0.2%
SHOC Scalable Heterogeneous Computing - OpenCL - GEMM SGEMM_N (GFLOPS)	3807	3769
Normalized	100%	99.02%
Standard Deviation	0.5%	1%
SHOC Scalable Heterogeneous Computing - OpenCL - Max SP Flops (GFLOPS)	23118	23179
Normalized	99.74%	100%
Standard Deviation	0.2%	0.4%

SHOC Scalable Heterogeneous Computing - OpenCL - Bus Speed Download (GB/s)	26.2814	26.3097
Normalized	99.89%	100%
Standard Deviation	0.2%	0.2%
SHOC Scalable Heterogeneous Computing - OpenCL - Bus Speed Readback (GB/s)	26.3950	26.3909
Normalized	100%	99.98%
Standard Deviation	0%	0.1%
SHOC Scalable Heterogeneous Computing - OpenCL - T.R.B (GB/s)	2121	2131
Normalized	99.5%	100%
Standard Deviation	0.6%	0.4%
GROMACS - Water Benchmark (Ns/Day)	8.138	8.083
Normalized	100%	99.32%
Standard Deviation	0.5%	0.4%
cl-mem - Copy (GB/s)	297.6	296.9
Normalized	100%	99.76%
Standard Deviation	0.1%	0.1%
cl-mem - Read (GB/s)	393.6	393.2
Normalized	100%	99.9%
Standard Deviation	0%	0.2%
cl-mem - Write (GB/s)	380.2	379.9
Normalized	100%	99.92%
Standard Deviation	0%	0.1%
NAMD CUDA - ATPase Simulation - 327,506 Atoms (days/ns)	0.13273	0.13388
Normalized	100%	99.14%
Standard Deviation	0.7%	1.9%
Betsy GPU Compressor - ETC1 - Highest	4.309	4.300
Normalized	99.79%	100%
Standard Deviation	0.4%	0.8%
Betsy GPU Compressor - ETC2 RGB - Highest (sec)	6.039	6.051
Normalized	100%	99.8%
Standard Deviation	0.7%	0.4%
VkResample - 2x - Double (ms)	220.452	221.037
Normalized	100%	99.74%
Standard Deviation	0.1%	0.1%
VkResample - 2x - Single (ms)	17.489	17.532
Normalized	100%	99.75%
Standard Deviation	0.1%	0.1%
OctaneBench - Total Score (Score)	410.514043	411.111675
Normalized	99.85%	100%
RedShift Demo (sec)	228	228
Standard Deviation	0.7%	0.8%
LuxCoreRender OpenCL - DLSC (M samples/sec)	7.97	7.94
Normalized	100%	99.62%
Standard Deviation	0.1%	0.1%
LuxCoreRender OpenCL - Food (M samples/sec)	3.39	3.39
Standard Deviation	1.4%	1.2%

LuxCoreRender OpenCL - LuxCore Benchmark (M samples/sec)	6.51	6.50
Normalized	100%	99.85%
Standard Deviation	0%	0.3%
LuxCoreRender OpenCL - R.C.a.P (M samples/sec)	19.18	19.19
Normalized	99.95%	100%
Standard Deviation	0.4%	0.2%
FAHBench (Ns/Day)	267.0901	265.8324
Normalized	100%	99.53%
Standard Deviation	0%	0.1%
LeelaChessZero - OpenCL (Nodes/s)	28914	29117
Normalized	99.3%	100%
Standard Deviation	0.4%	1.4%
Rodinia - O.P.F (sec)	5.958	6.016
Normalized	100%	99.04%
Standard Deviation	0.4%	0.7%
ArrayFire - C.G.O (ms)	2.086	2.094
Normalized	100%	99.62%
Standard Deviation	0%	0%
FinanceBench - B.S.O (ms)	10.483	10.496
Normalized	100%	99.88%
Standard Deviation	0.2%	0.6%
ViennaCL - CPU BLAS - sCOPY (GB/s)	62.0	63.4
Normalized	97.79%	100%
Standard Deviation	2.3%	1.6%
ViennaCL - CPU BLAS - sAXPY (GB/s)	94.0	92.8
Normalized	100%	98.72%
Standard Deviation	1.6%	4.2%
ViennaCL - CPU BLAS - sDOT (GB/s)	141	139
Normalized	100%	98.58%
Standard Deviation	1.4%	4.4%
ViennaCL - CPU BLAS - dCOPY (GB/s)	23.2	22.6
Normalized	100%	97.41%
Standard Deviation	0.7%	5.7%
ViennaCL - CPU BLAS - dAXPY (GB/s)	34.5	33.4
Normalized	100%	96.81%
Standard Deviation	1.1%	3.4%
ViennaCL - CPU BLAS - dDOT (GB/s)	44.3	43.5
Normalized	100%	98.19%
Standard Deviation	1.6%	2.5%
ViennaCL - CPU BLAS - dGEMV-N (GB/s)	76.5	77.0
Normalized	99.35%	100%
Standard Deviation	1%	1.1%
ViennaCL - CPU BLAS - dGEMV-T (GB/s)	81.3	81.9
Normalized	99.27%	100%
Standard Deviation	3.1%	1.2%
ViennaCL - CPU BLAS - dGEMM-NN (GFLOPs/s)	54.7	53.5
Normalized	100%	97.81%
Standard Deviation	0.3%	3.2%
ViennaCL - CPU BLAS - dGEMM-NT (GFLOPs/s)	53.4	52.7
Normalized	100%	98.69%
Standard Deviation	0.5%	2.3%

ViennaCL - CPU BLAS - dGEMM-TN	57.0	55.8
	(GFLOPs/s)	
Normalized	100%	97.89%
Standard Deviation	0.4%	3.8%
ViennaCL - CPU BLAS - dGEMM-TT	55.3	54.5
	(GFLOPs/s)	
Normalized	100%	98.55%
Standard Deviation	0.5%	3.1%
ViennaCL - OpenCL BLAS - sCOPY (GB/s)	293	293
	Standard Deviation	0.3%
ViennaCL - OpenCL BLAS - sAXPY (GB/s)	358	357
	Normalized	100%
Normalized	100%	99.72%
ViennaCL - OpenCL BLAS - sDOT (GB/s)	325	324
	Normalized	100%
Normalized	100%	99.69%
ViennaCL - OpenCL BLAS - dCOPY (GB/s)	365	364
	Normalized	100%
Normalized	100%	99.73%
Standard Deviation		0.2%
ViennaCL - OpenCL BLAS - dAXPY (GB/s)	396	395
	Normalized	100%
Normalized	100%	99.75%
ViennaCL - OpenCL BLAS - dDOT (GB/s)	397	396
	Normalized	100%
Normalized	100%	99.75%
ViennaCL - OpenCL BLAS - dGEMV-N (GB/s)	222	220
	Normalized	100%
Normalized	100%	99.1%
ViennaCL - OpenCL BLAS - dGEMV-T (GB/s)	334	332
	Normalized	100%
Normalized	100%	99.4%
ViennaCL - OpenCL BLAS - dGEMM-NN	342	338
	(GFLOPs/s)	
Normalized	100%	98.83%
Standard Deviation	0.5%	0.3%
ViennaCL - OpenCL BLAS - dGEMM-NT	343	340
	(GFLOPs/s)	
Normalized	100%	99.13%
Standard Deviation	0.6%	
ViennaCL - OpenCL BLAS - dGEMM-TN	342	336
	(GFLOPs/s)	
Normalized	100%	98.25%
NCNN - Vulkan GPU - mobilenet (ms)	12.85	13.56
	Normalized	100%
Normalized	100%	94.76%
Standard Deviation	1.1%	0.2%
NCNN - Vulkan GPU-v2-v2 - mobilenet-v2	4.39	4.35
	Normalized	99.09%
Normalized	100%	100%
Standard Deviation	1.6%	1.8%
NCNN - Vulkan GPU-v3-v3 - mobilenet-v3	4.22	4.24
	Normalized	100%
Normalized	100%	99.53%
Standard Deviation	2.6%	6.1%
NCNN - Vulkan GPU - shufflenet-v2 (ms)	4.85	4.92
	Normalized	100%
Normalized	100%	98.58%
Standard Deviation	2.2%	0.7%
NCNN - Vulkan GPU - mnasnet (ms)	4.05	4.10
	Normalized	100%
Normalized	100%	98.78%
Standard Deviation	4.8%	0.2%
NCNN - Vulkan GPU - efficientnet-b0 (ms)	5.58	5.62
	Normalized	100%
Normalized	100%	99.29%
Standard Deviation	3.1%	3.8%

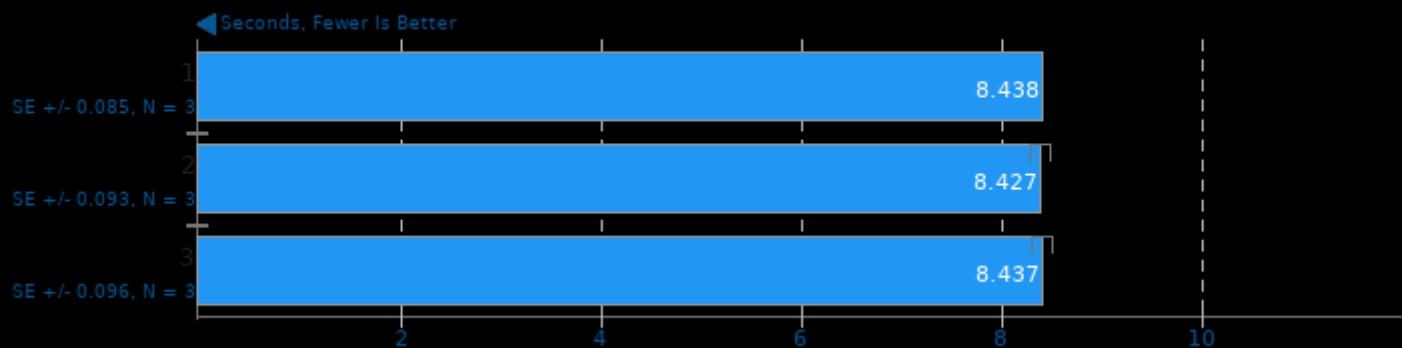
RTX 3070 Compute

NCNN - Vulkan GPU - blazeface (ms)	1.84	1.90
Normalized	100%	96.84%
Standard Deviation	0.6%	5.8%
NCNN - Vulkan GPU - googlenet (ms)	13.27	13.17
Normalized	99.25%	100%
Standard Deviation	1.1%	3.6%
NCNN - Vulkan GPU - vgg16 (ms)	55.71	55.89
Normalized	100%	99.68%
Standard Deviation	0.6%	0.3%
NCNN - Vulkan GPU - resnet18 (ms)	13.95	14.03
Normalized	100%	99.43%
Standard Deviation	0.1%	0.9%
NCNN - Vulkan GPU - alexnet (ms)	11.08	11.22
Normalized	100%	98.75%
Standard Deviation	0.5%	1%
NCNN - Vulkan GPU - resnet50 (ms)	24.47	24.75
Normalized	100%	98.87%
Standard Deviation	2.4%	2.6%
NCNN - Vulkan GPU - yolov4-tiny (ms)	22.20	23.73
Normalized	100%	93.55%
Standard Deviation	0.1%	8.7%
NCNN - Vulkan GPU - squeezenet_ssd (ms)	14.49	15.45
Normalized	100%	93.79%
Standard Deviation	1.8%	1.3%
NCNN - Vulkan GPU - regnety_400m (ms)	16.75	16.87
Normalized	100%	99.29%
Standard Deviation	2.6%	3.3%
IndigoBench - OpenCL GPU - Bedroom (M samples/s)	12.917	12.882
Normalized	100%	99.73%
Standard Deviation	0.2%	0.2%
IndigoBench - OpenCL GPU - Supercar (M samples/s)	37.257	37.163
Normalized	100%	99.75%
Standard Deviation	0.1%	0.1%
Blender - BMW27 - CUDA (sec)	29.07	29.03
Normalized	99.86%	100%
Standard Deviation	0.2%	0%
Blender - Classroom - CUDA (sec)	76.10	76.49
Normalized	100%	99.49%
Standard Deviation	0%	0%
Blender - Fishy Cat - CUDA (sec)	54.20	54.44
Normalized	100%	99.56%
Standard Deviation	0%	0.1%
Blender - Barbershop - CUDA (sec)	509.33	508.38
Normalized	99.81%	100%
Standard Deviation	0.1%	0.1%
Blender - BMW27 - NVIDIA OptiX (sec)	16.11	16.17
Normalized	100%	99.63%
Standard Deviation	0.4%	0.4%
Blender - Classroom - NVIDIA OptiX (sec)	48.17	48.26
Normalized	100%	99.81%
Standard Deviation	0.1%	0.1%
Blender - Fishy Cat - NVIDIA OptiX (sec)	35.70	35.84
Normalized	100%	99.61%

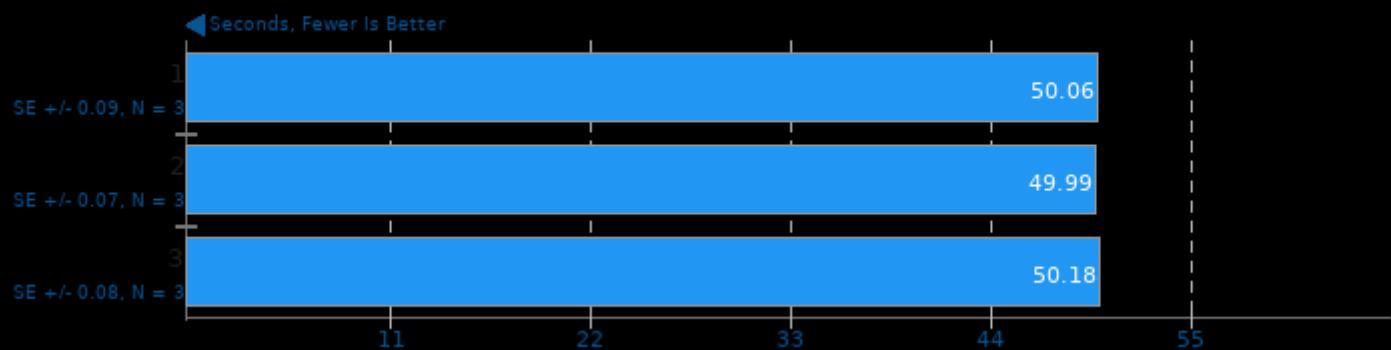
	Standard Deviation	0.1%	0.1%
Blender - Barbershop - NVIDIA OptiX (sec)	465.14	464.01	
Normalized	99.76%	100%	
Standard Deviation	0.7%	0.5%	
Blender - Pabellon Barcelona - CUDA (sec)	190.29	190.98	
Normalized	100%	99.64%	
Standard Deviation	0%	0%	
Blender - Pabellon Barcelona - NVIDIA OptiX (sec)	76.77	77.16	
Normalized	100%	99.49%	
Standard Deviation	0.1%	0.1%	
MandelGPU - GPU (Samples/sec)	319970659	319688588	
Normalized	100%	99.91%	
Standard Deviation	0.4%	0.6%	
clpeak - I.C.I (GIOPS)	10264	10202	
Normalized	100%	99.4%	
Standard Deviation	2.3%	1.5%	
clpeak - S.P.F (GFLOPS)	20100	19992	
Normalized	100%	99.46%	
Standard Deviation	0%	0.9%	
clpeak - D.P.D (GFLOPS)	360.90	364.99	
Normalized	98.88%	100%	
Standard Deviation	0%	0%	
clpeak - G.M.B (GBPS)	389.57	389.61	
Normalized	99.99%	100%	
Standard Deviation	0%	0%	
Chaos Group V-RAY - NVIDIA RTX GPU (vrays)	1713	1710	
Normalized	100%	99.82%	
Standard Deviation	0.2%		
Chaos Group V-RAY - NVIDIA CUDA GPU (vpaths)	1342	1337	
Normalized	100%	99.63%	
Standard Deviation	0.2%	0.1%	

RealSR-NCNN 20200818

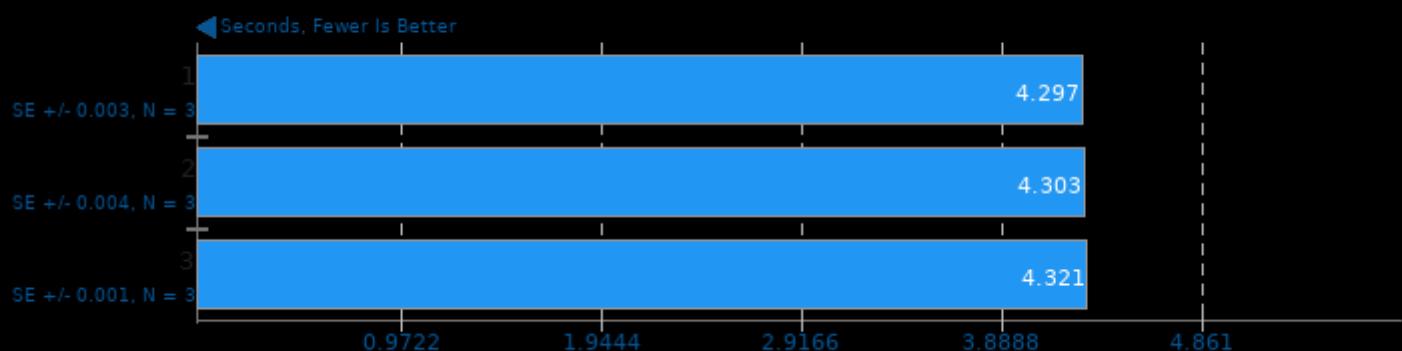
Scale: 4x - TAA: No

**RealSR-NCNN 20200818**

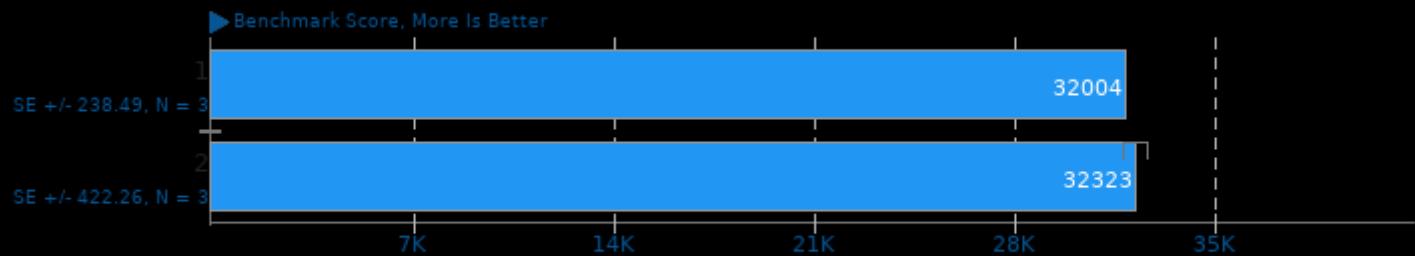
Scale: 4x - TAA: Yes

**Waifu2x-NCNN Vulkan 20200818**

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



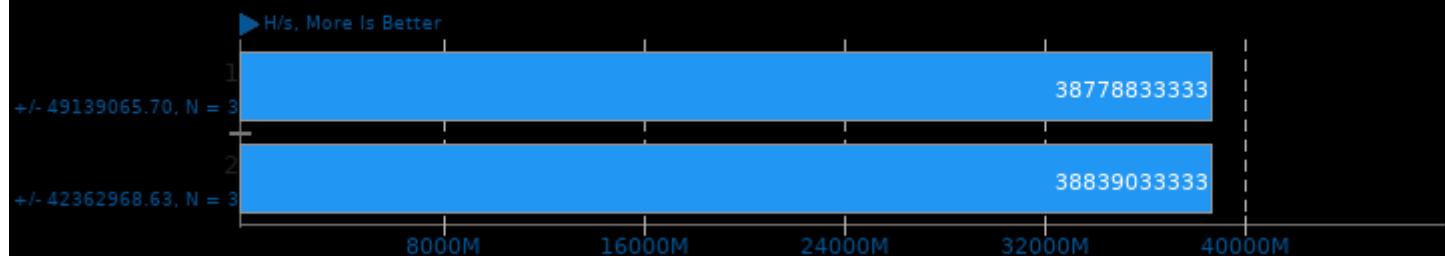
VkFFT 1.1.1



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

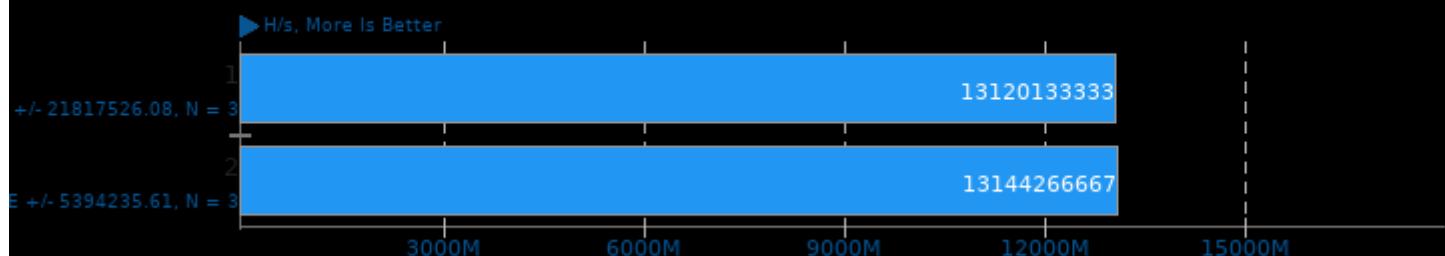
Hashcat 6.1.1

Benchmark: MD5



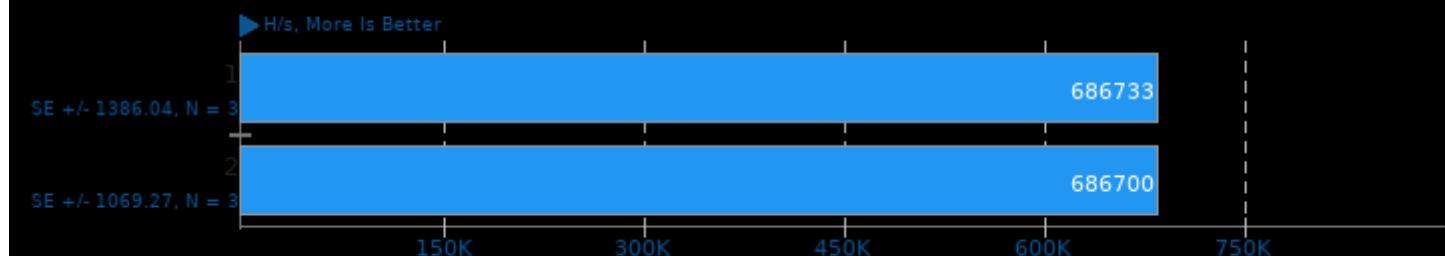
Hashcat 6.1.1

Benchmark: SHA1



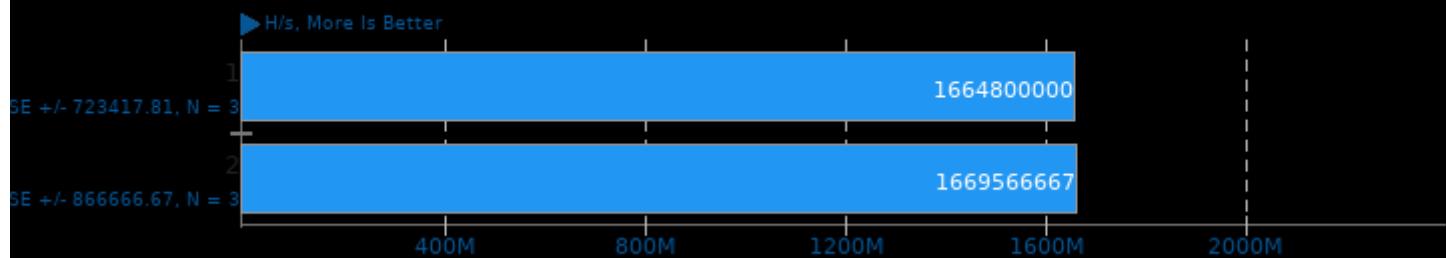
Hashcat 6.1.1

Benchmark: 7-Zip



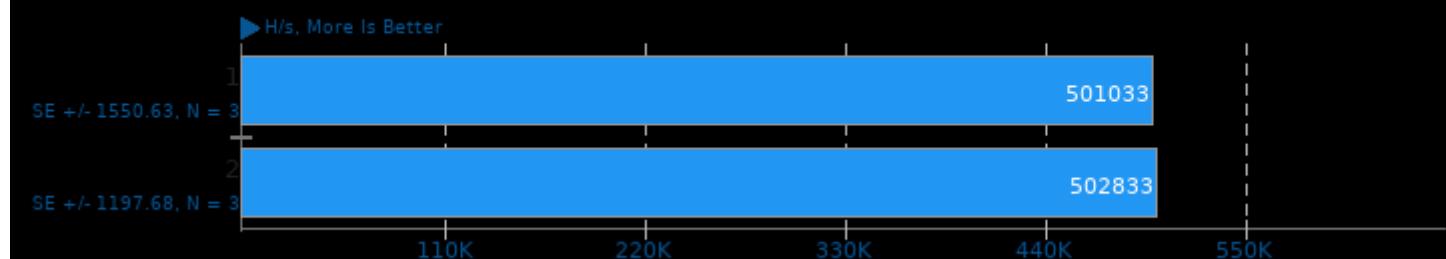
Hashcat 6.1.1

Benchmark: SHA-512



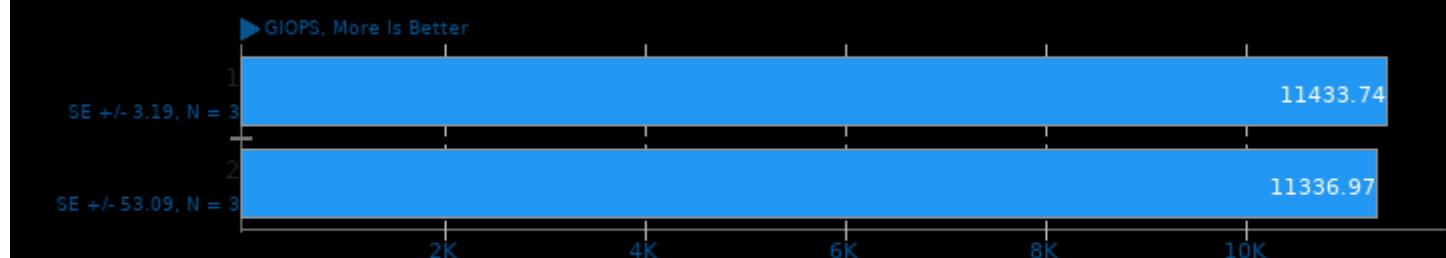
Hashcat 6.1.1

Benchmark: TrueCrypt RIPEMD160 + XTS



Mixbench 2020-06-23

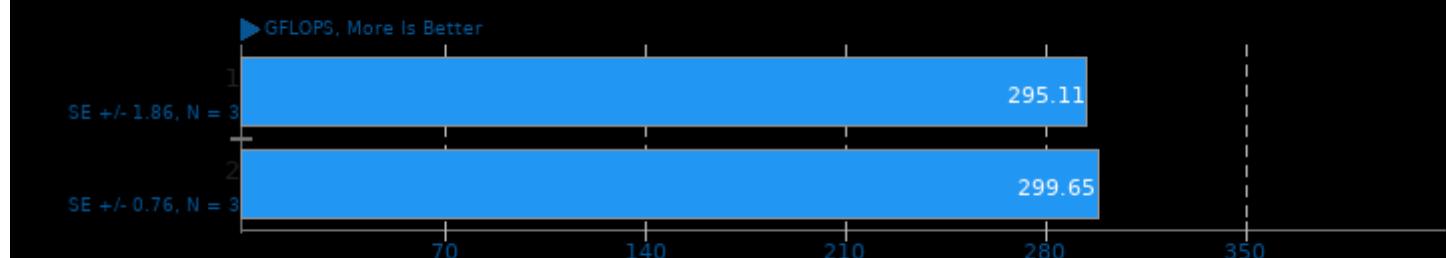
Backend: OpenCL - Benchmark: Integer



1. (CXX) g++ options: -lm -stdc++ -lOpenCL -lrt -O2

Mixbench 2020-06-23

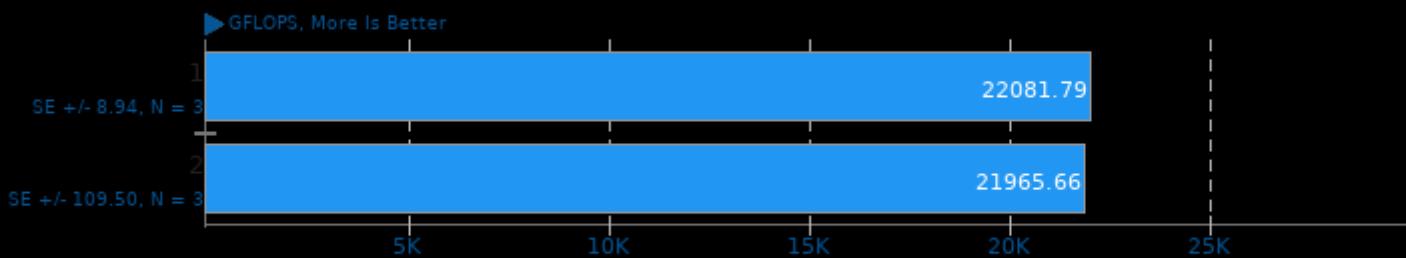
Backend: OpenCL - Benchmark: Double Precision



1. (CXX) g++ options: -lm -stdc++ -lOpenCL -lrt -O2

Mixbench 2020-06-23

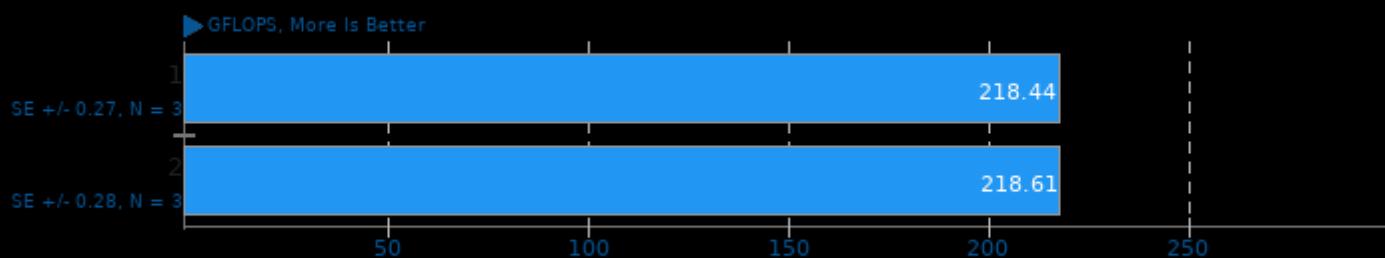
Backend: OpenCL - Benchmark: Single Precision



1. (CXX) g++ options: -lm -stdc++ -IOpenCL -lrt -O2

SHOC Scalable Heterogeneous Computing 2020-04-17

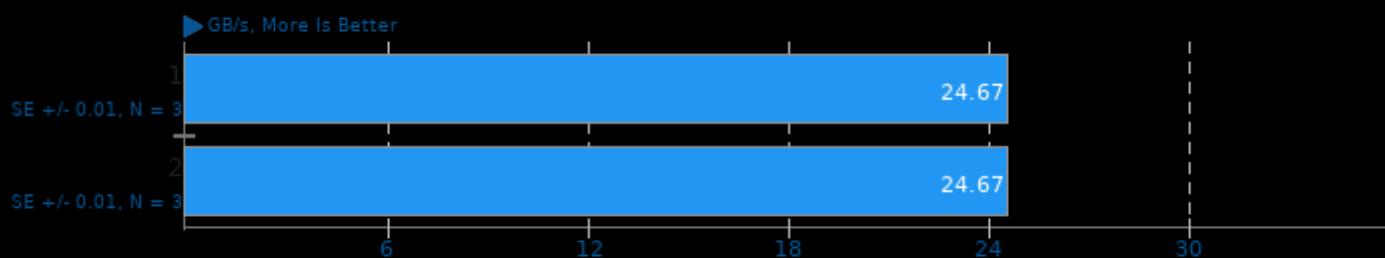
Target: OpenCL - Benchmark: S3D



1. (CXX) g++ options: -O2 -ISHOCCommonMPI -ISHOCCommonOpenCL -ISHOCCommon -IOpenCL -lrt -pthread -lmpi_cxx -lmpi

SHOC Scalable Heterogeneous Computing 2020-04-17

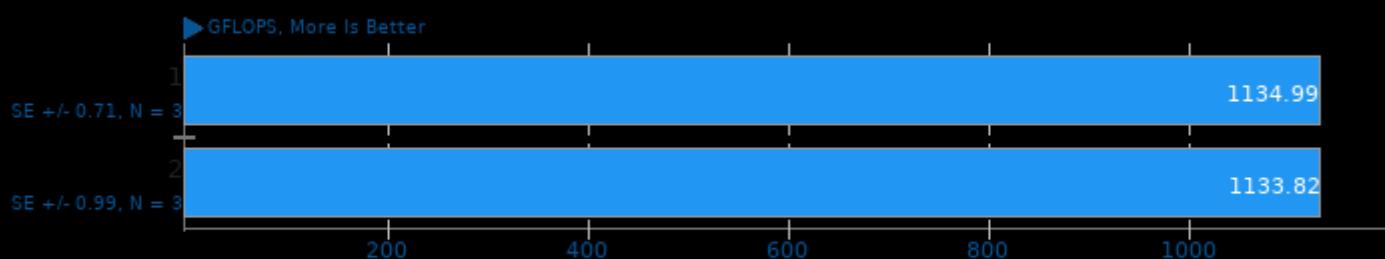
Target: OpenCL - Benchmark: Triad



1. (CXX) g++ options: -O2 -ISHOCCommonMPI -ISHOCCommonOpenCL -ISHOCCommon -IOpenCL -lrt -pthread -lmpi_cxx -lmpi

SHOC Scalable Heterogeneous Computing 2020-04-17

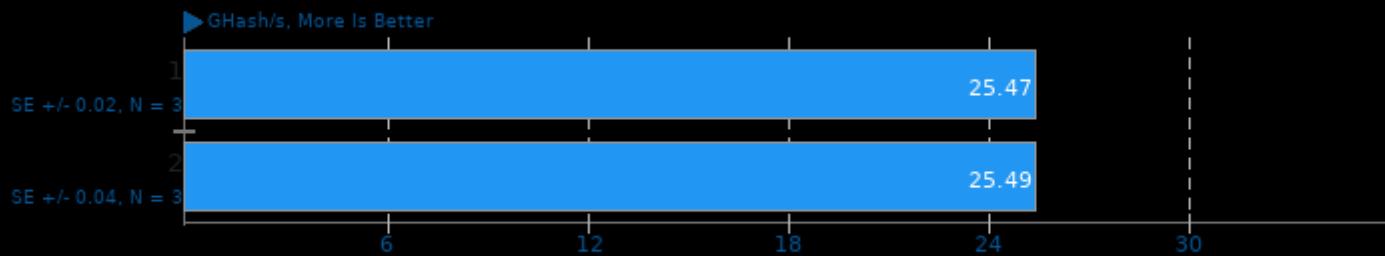
Target: OpenCL - Benchmark: FFT SP



1. (CXX) g++ options: -O2 -ISHOCCommonMPI -ISHOCCommonOpenCL -ISHOCCommon -IOpenCL -lrt -pthread -lmpi_cxx -lmpi

SHOC Scalable Heterogeneous Computing 2020-04-17

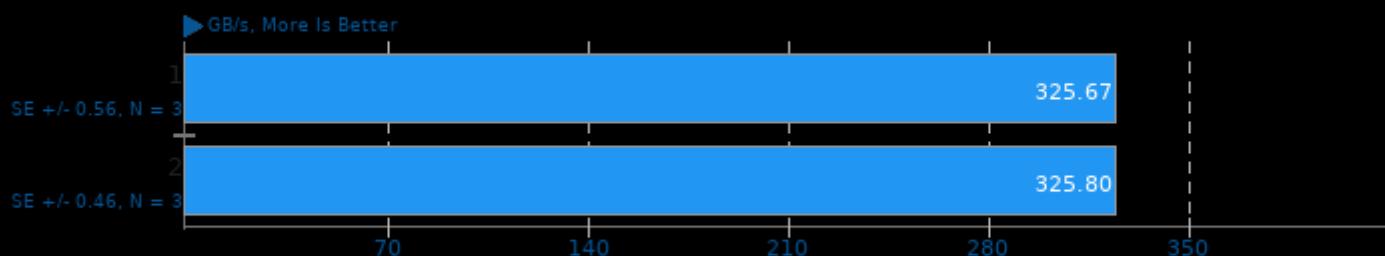
Target: OpenCL - Benchmark: MD5 Hash



1. (CXX) g++ options: -O2 -lSHOCCommonMPI -lSHOCCommonOpenCL -lSHOCCommon -lOpenCL -lrt -pthread -lmpi_cxx -lmpi

SHOC Scalable Heterogeneous Computing 2020-04-17

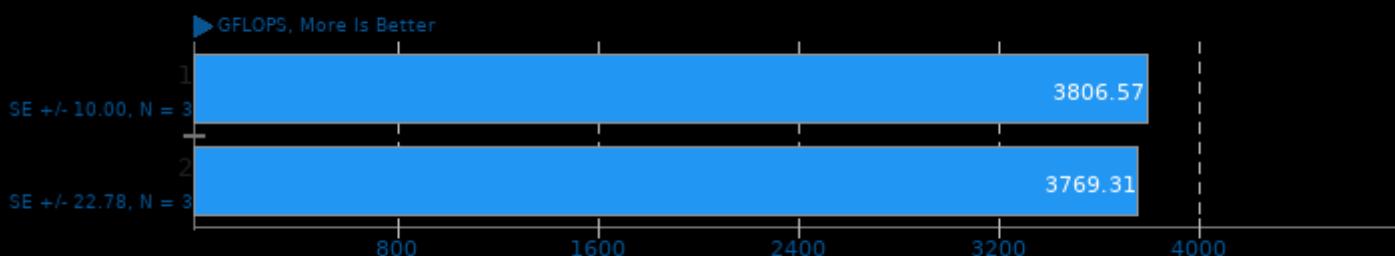
Target: OpenCL - Benchmark: Reduction



1. (CXX) g++ options: -O2 -lSHOCCommonMPI -lSHOCCommonOpenCL -lSHOCCommon -lOpenCL -lrt -pthread -lmpi_cxx -lmpi

SHOC Scalable Heterogeneous Computing 2020-04-17

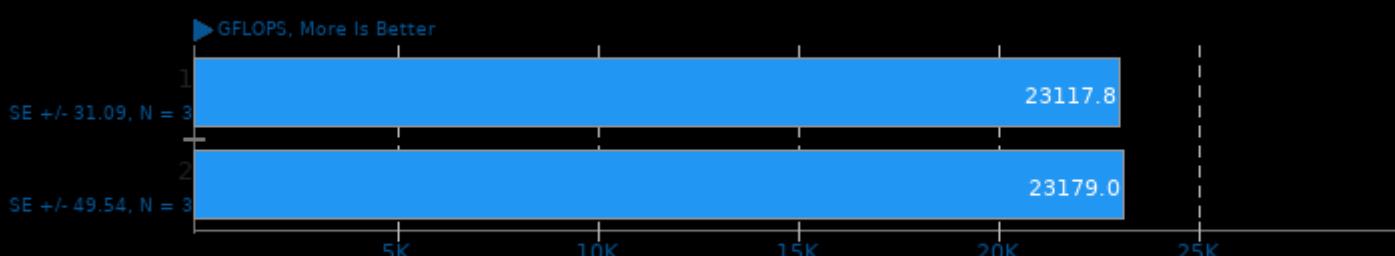
Target: OpenCL - Benchmark: GEMM SGEMM_N



1. (CXX) g++ options: -O2 -lSHOCCommonMPI -lSHOCCommonOpenCL -lSHOCCommon -lOpenCL -lrt -pthread -lmpi_cxx -lmpi

SHOC Scalable Heterogeneous Computing 2020-04-17

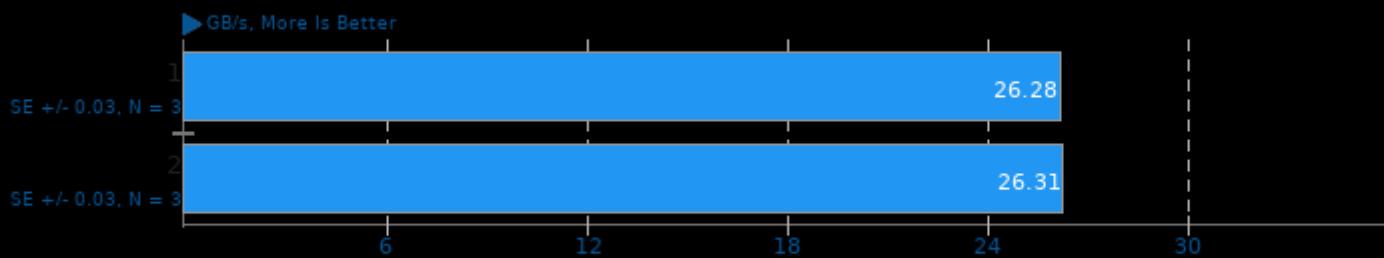
Target: OpenCL - Benchmark: Max SP Flops



1. (CXX) g++ options: -O2 -lSHOCCommonMPI -lSHOCCommonOpenCL -lSHOCCommon -lOpenCL -lrt -pthread -lmpi_cxx -lmpi

SHOC Scalable Heterogeneous Computing 2020-04-17

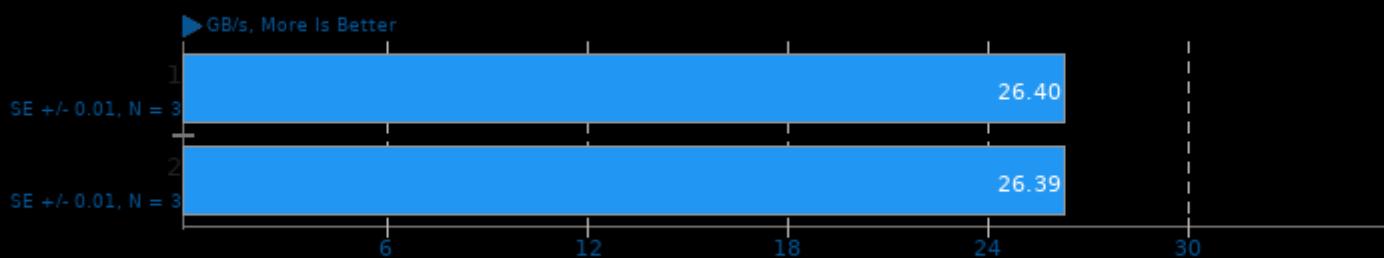
Target: OpenCL - Benchmark: Bus Speed Download



1. (CXX) g++ options: -O2 -lSHOCCommonMPI -lSHOCCommonOpenCL -lSHOCCommon -lOpenCL -lrt -pthread -lmpi_cxx -lmpi

SHOC Scalable Heterogeneous Computing 2020-04-17

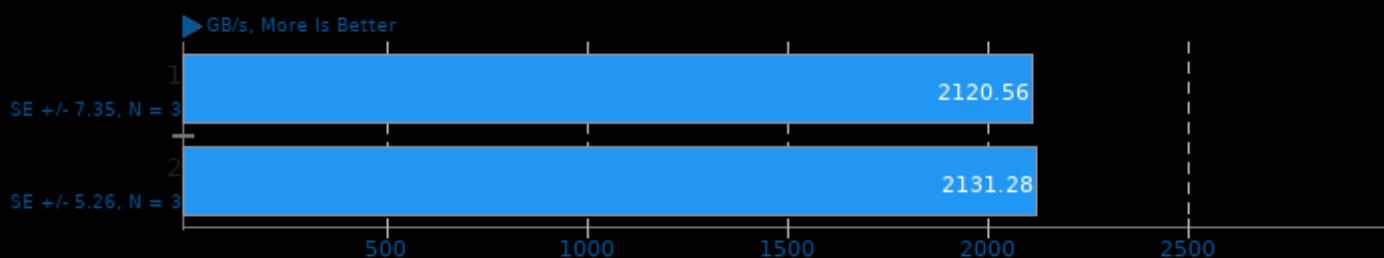
Target: OpenCL - Benchmark: Bus Speed Readback



1. (CXX) g++ options: -O2 -lSHOCCommonMPI -lSHOCCommonOpenCL -lSHOCCommon -lOpenCL -lrt -pthread -lmpi_cxx -lmpi

SHOC Scalable Heterogeneous Computing 2020-04-17

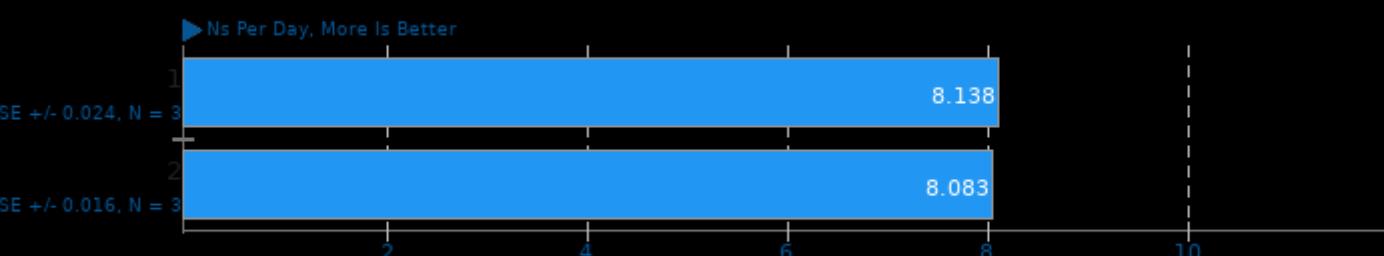
Target: OpenCL - Benchmark: Texture Read Bandwidth



1. (CXX) g++ options: -O2 -lSHOCCommonMPI -lSHOCCommonOpenCL -lSHOCCommon -lOpenCL -lrt -pthread -lmpi_cxx -lmpi

GROMACS 2020.3

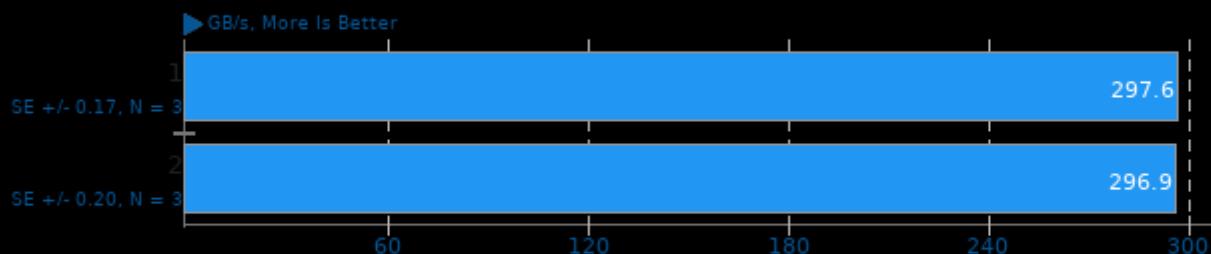
Water Benchmark



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

cl-mem 2017-01-13

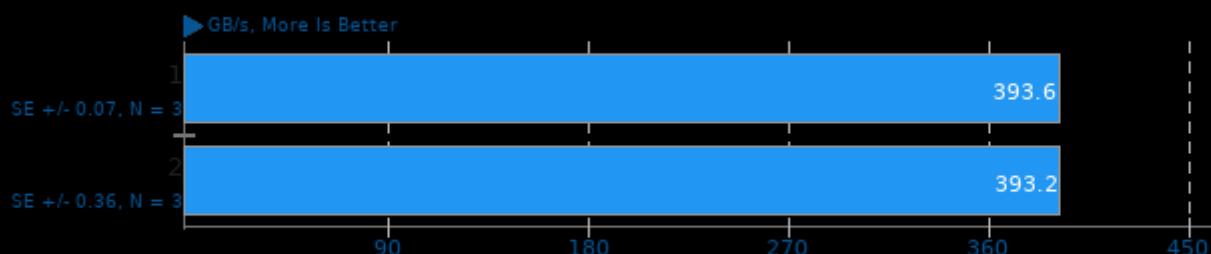
Benchmark: Copy



1. (CC) gcc options: -O2 -fno -IOpenCL

cl-mem 2017-01-13

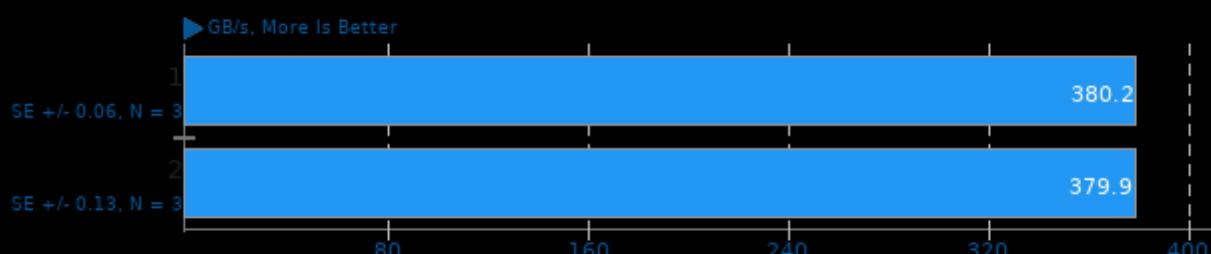
Benchmark: Read



1. (CC) gcc options: -O2 -fno -IOpenCL

cl-mem 2017-01-13

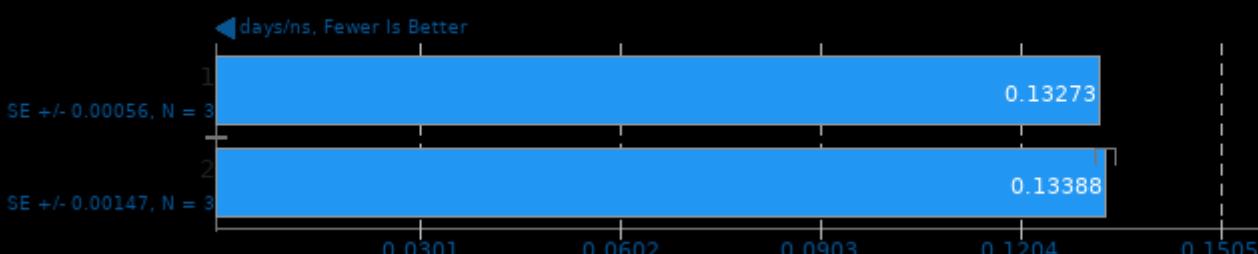
Benchmark: Write



1. (CC) gcc options: -O2 -fno -IOpenCL

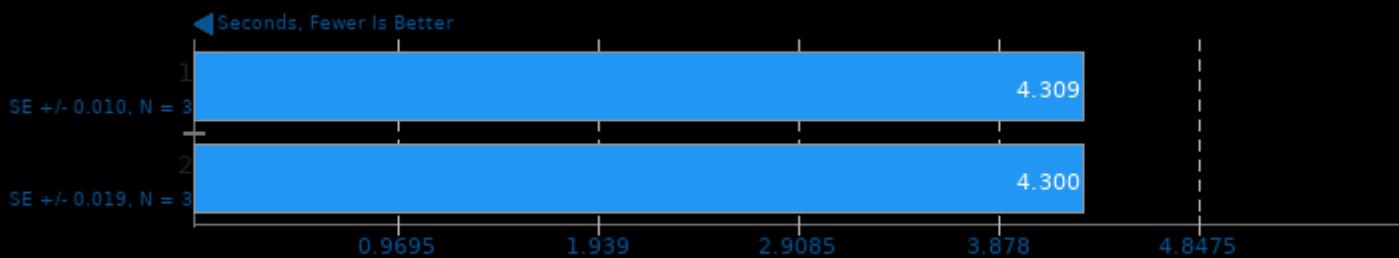
NAMD CUDA 2.14

ATPase Simulation - 327,506 Atoms



Betsy GPU Compressor 1.1 Beta

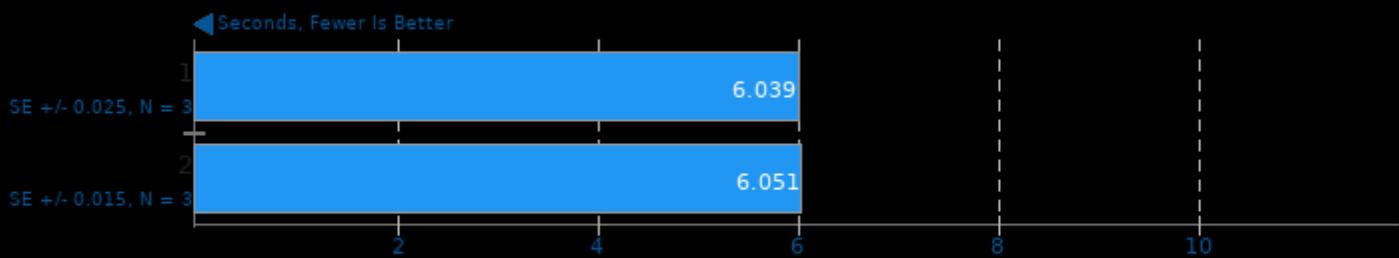
Codec: ETC1 - Quality: Highest



1. (CXX) g++ options: -O3 -O2 -lpthread -ldl

Betsy GPU Compressor 1.1 Beta

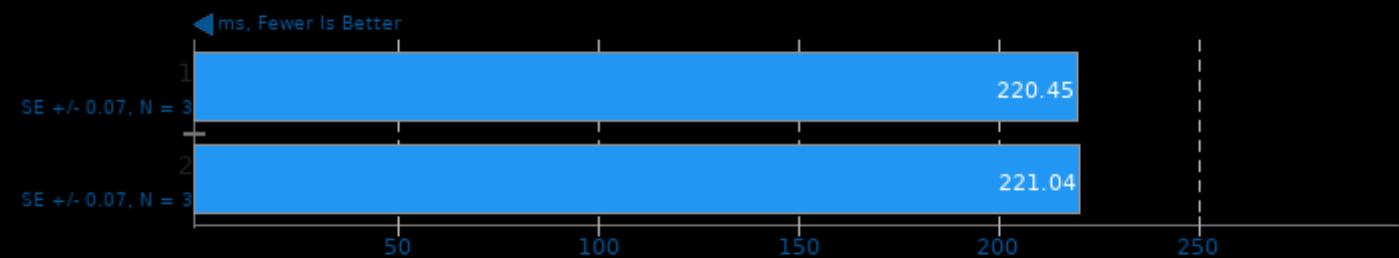
Codec: ETC2 RGB - Quality: Highest



1. (CXX) g++ options: -O3 -O2 -lpthread -ldl

VkResample 1.0

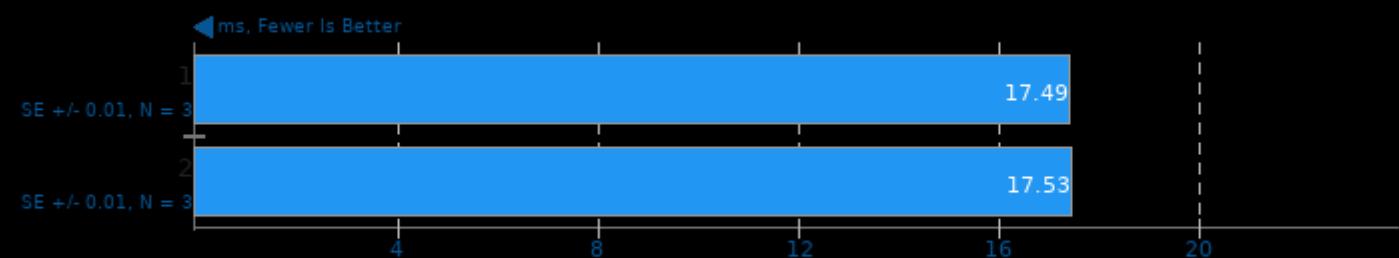
Upscale: 2x - Precision: Double



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

VkResample 1.0

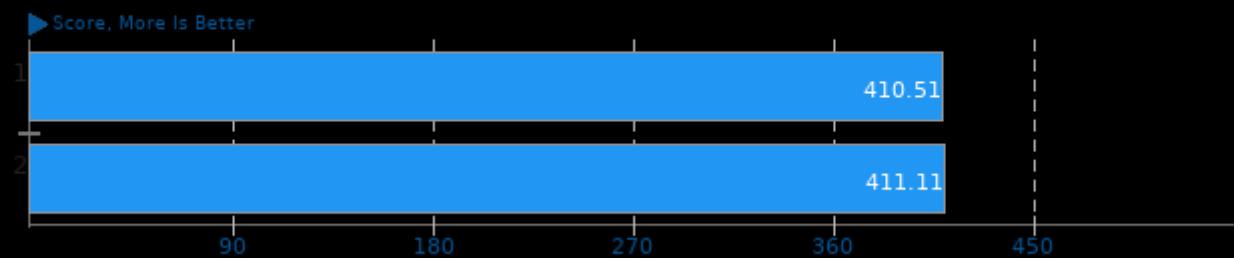
Upscale: 2x - Precision: Single



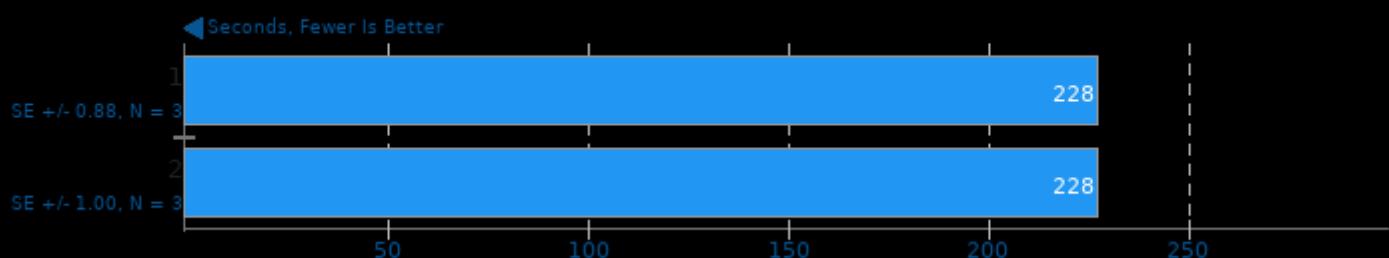
1. (CXX) g++ options: -O3 -pthread

OctaneBench 2020.1

Total Score

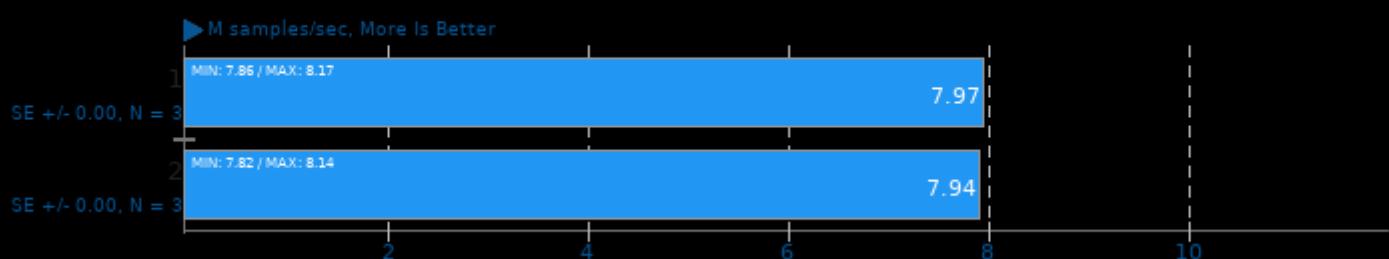


RedShift Demo 3.0



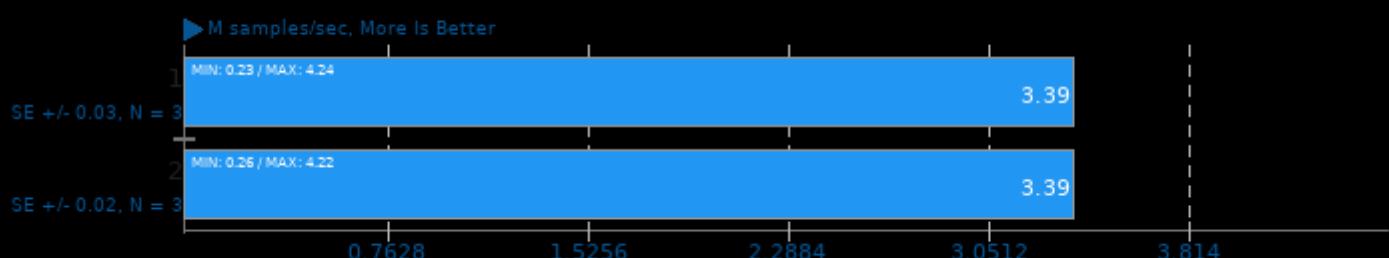
LuxCoreRender OpenCL 2.3

Scene: DLSC



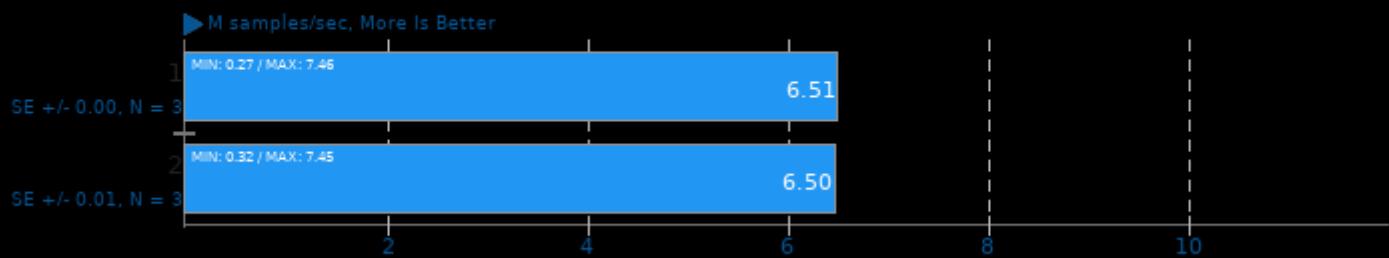
LuxCoreRender OpenCL 2.3

Scene: Food



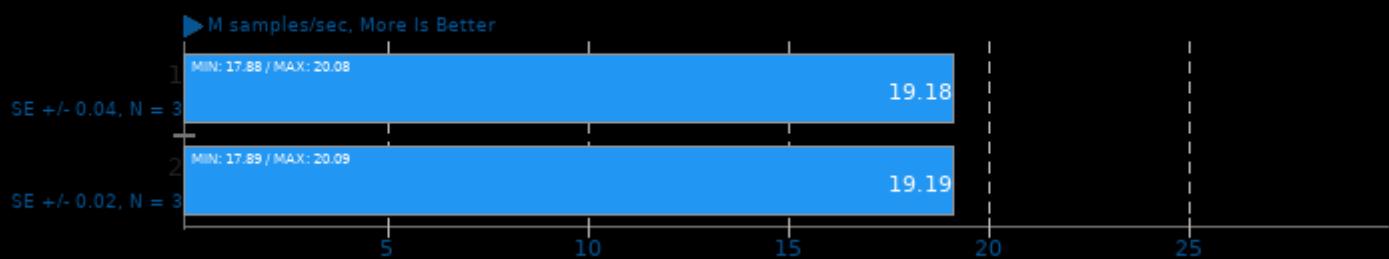
LuxCoreRender OpenCL 2.3

Scene: LuxCore Benchmark

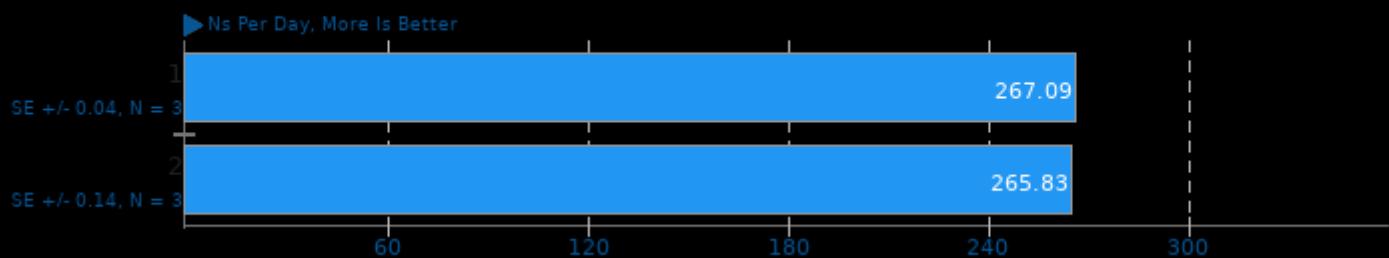


LuxCoreRender OpenCL 2.3

Scene: Rainbow Colors and Prism

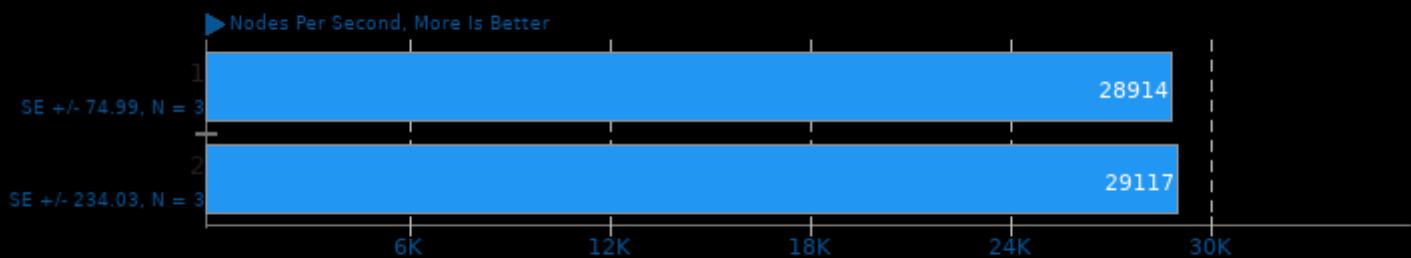


FAHBench 2.3.2



LeelaChessZero 0.26

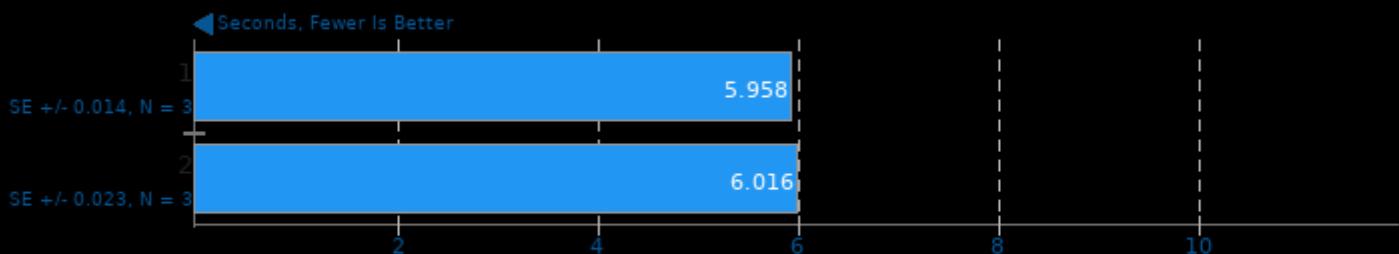
Backend: OpenCL



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

Rodinia 3.1

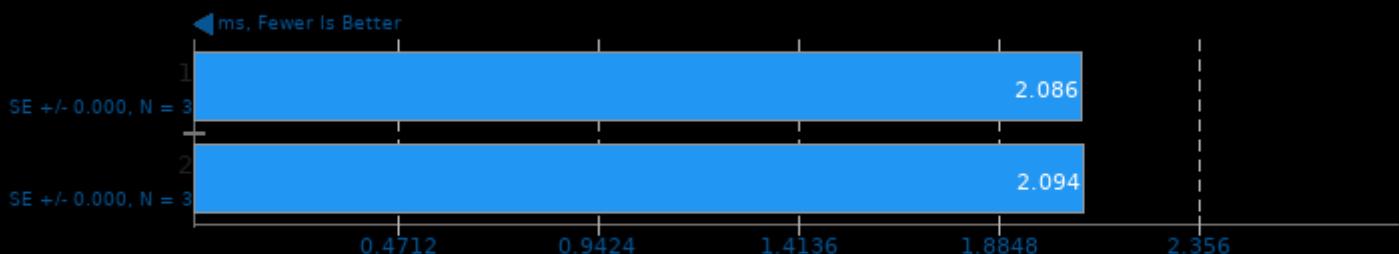
Test: OpenCL Particle Filter



1. (CXX) g++ options: -m64 -lm -lcuda -lcudart -lcudadevrt -lcudart_static -lrt -lpthread -ldl

ArrayFire 3.7

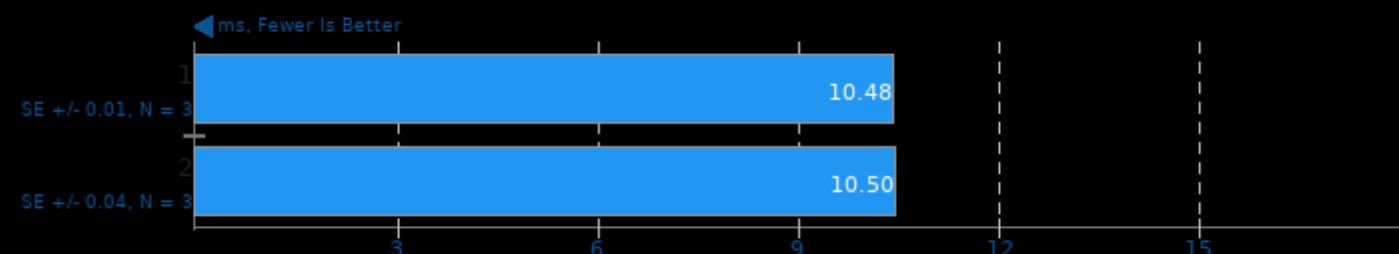
Test: Conjugate Gradient OpenCL



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

FinanceBench 2016-07-25

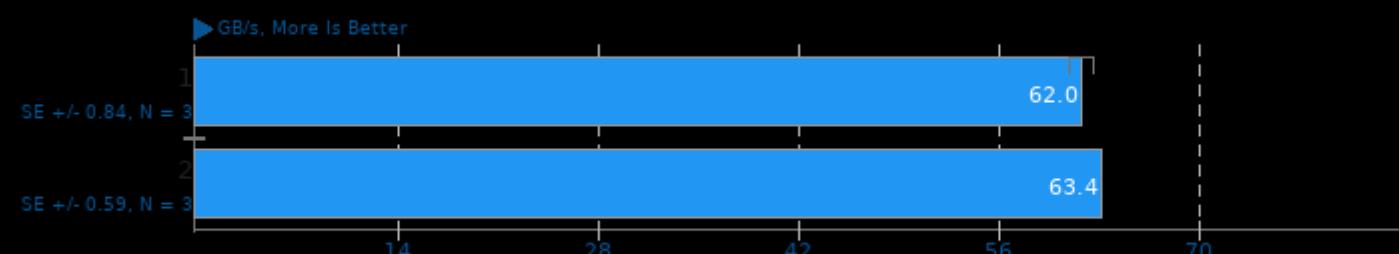
Benchmark: Black-Scholes OpenCL



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

ViennaCL 1.7.1

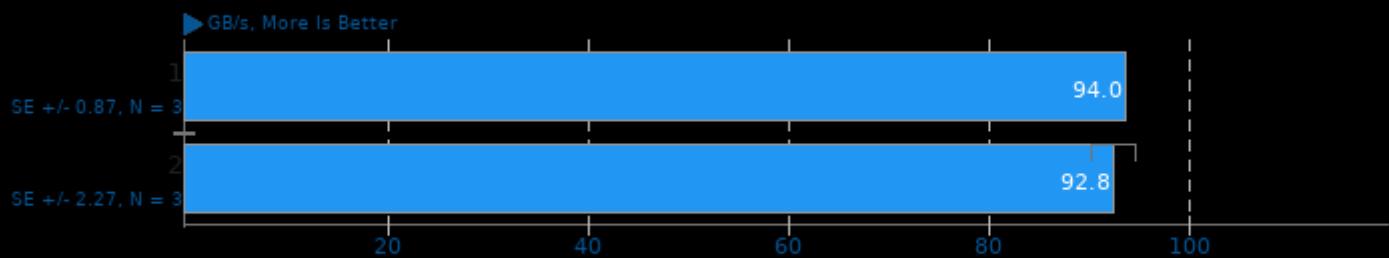
Test: CPU BLAS - sCOPY



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

ViennaCL 1.7.1

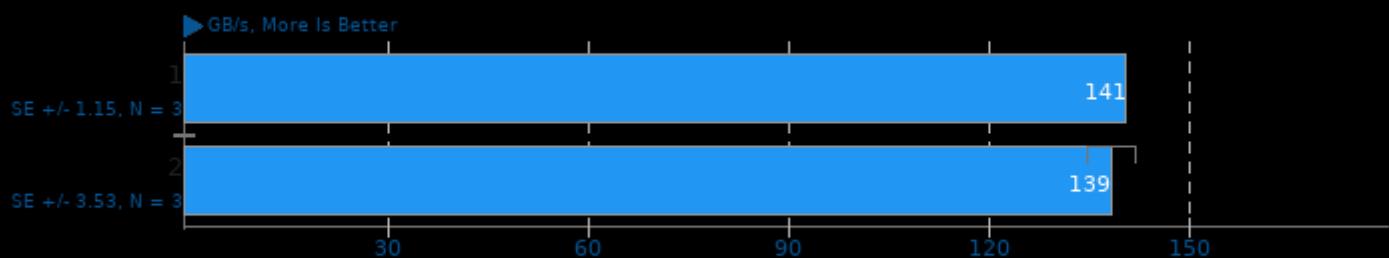
Test: CPU BLAS - sAXPY



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

ViennaCL 1.7.1

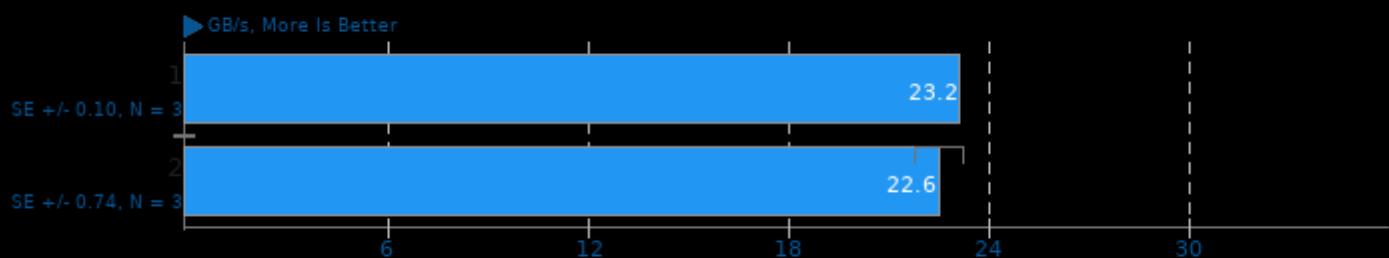
Test: CPU BLAS - sDOT



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

ViennaCL 1.7.1

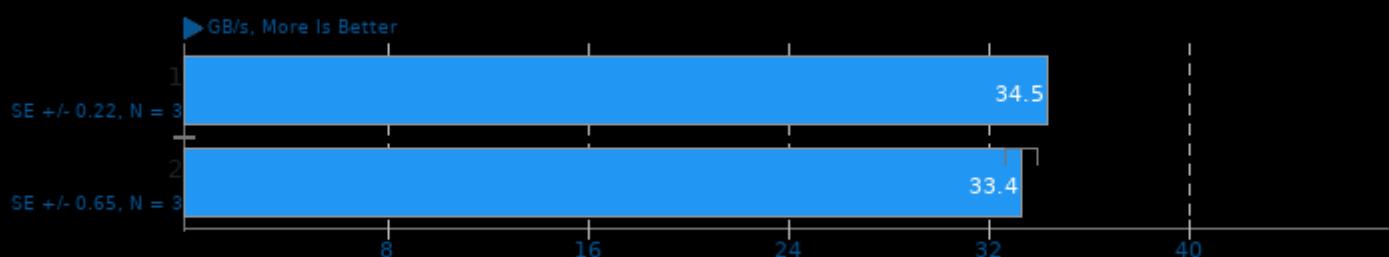
Test: CPU BLAS - dCOPY



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

ViennaCL 1.7.1

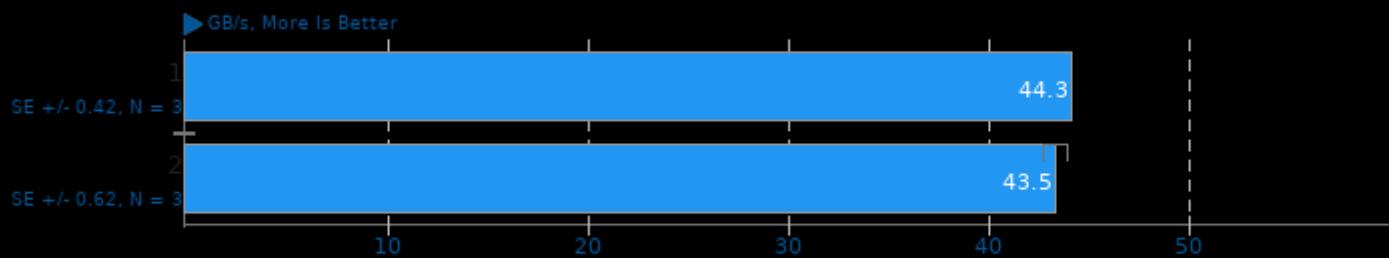
Test: CPU BLAS - dAXPY



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

ViennaCL 1.7.1

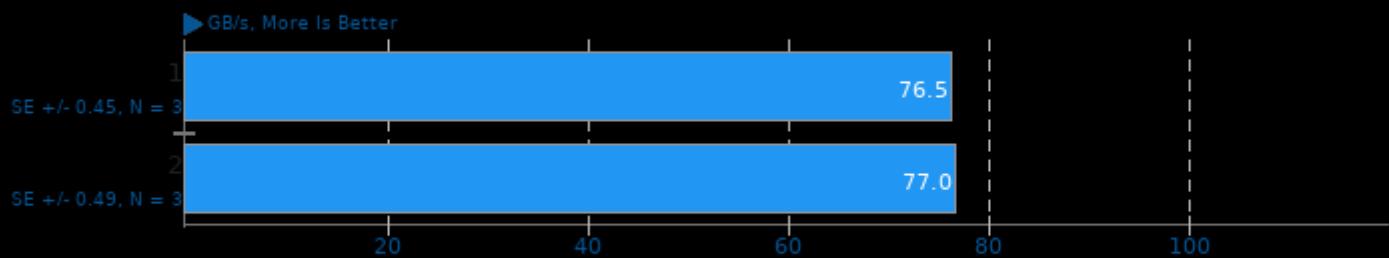
Test: CPU BLAS - dDOT



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

ViennaCL 1.7.1

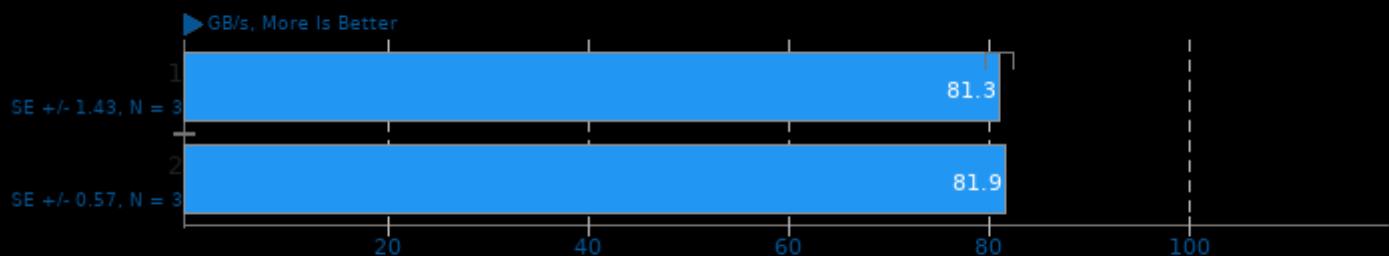
Test: CPU BLAS - dGEMV-N



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

ViennaCL 1.7.1

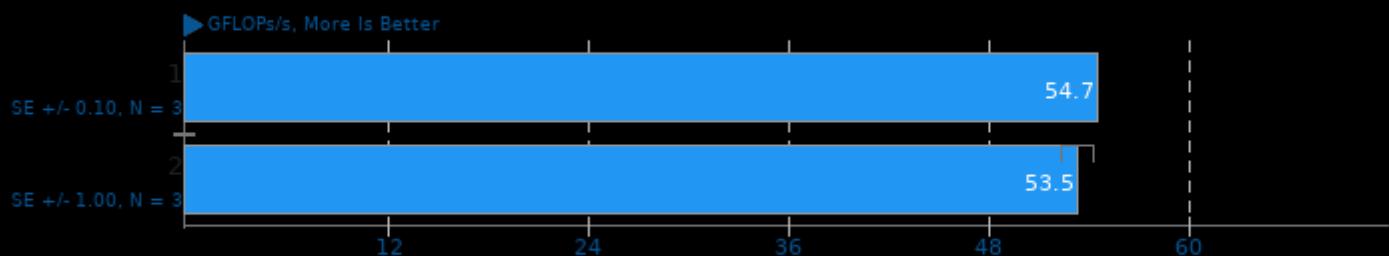
Test: CPU BLAS - dGEMV-T



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

ViennaCL 1.7.1

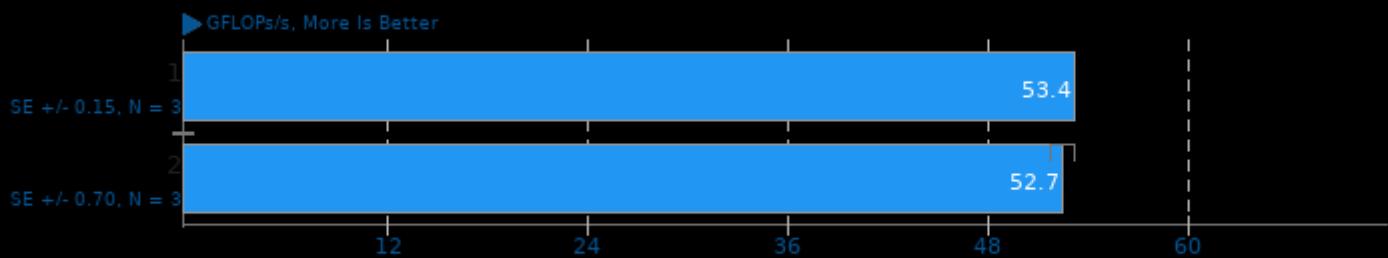
Test: CPU BLAS - dGEMM-NN



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

ViennaCL 1.7.1

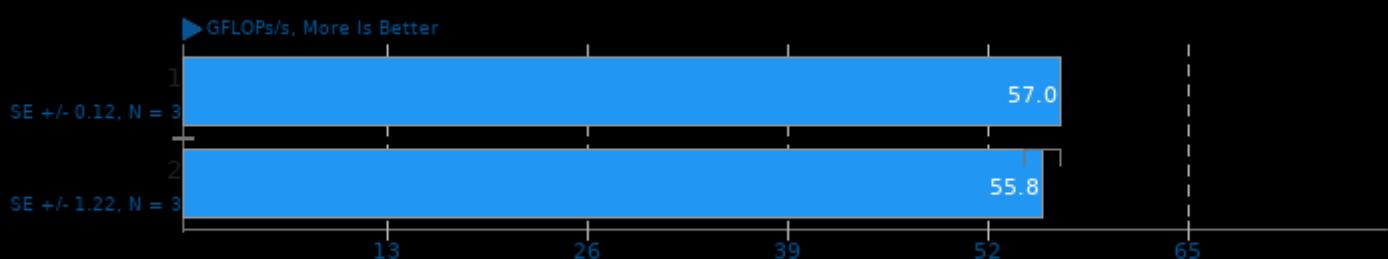
Test: CPU BLAS - dGEMM-NT



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

ViennaCL 1.7.1

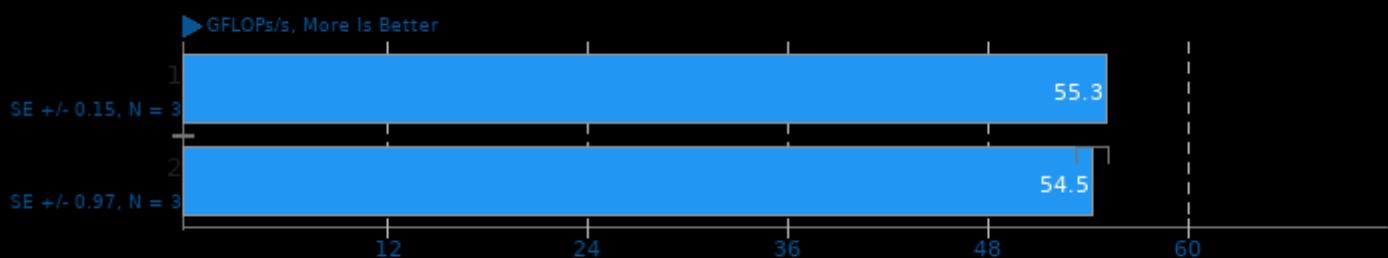
Test: CPU BLAS - dGEMM-TN



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

ViennaCL 1.7.1

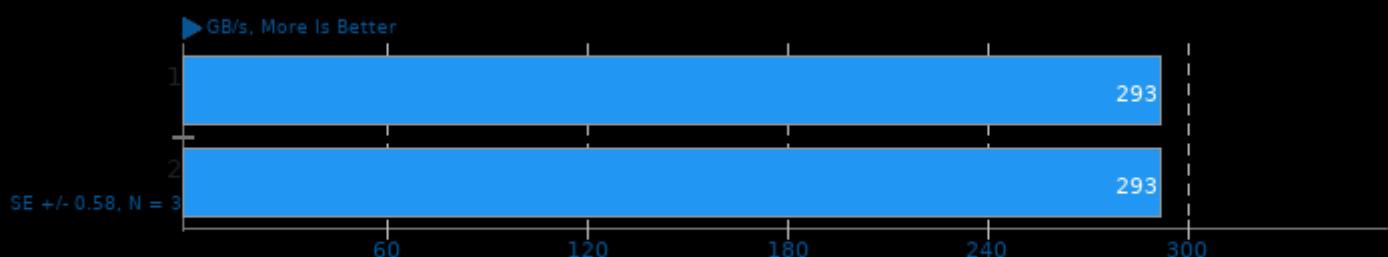
Test: CPU BLAS - dGEMM-TT



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

ViennaCL 1.7.1

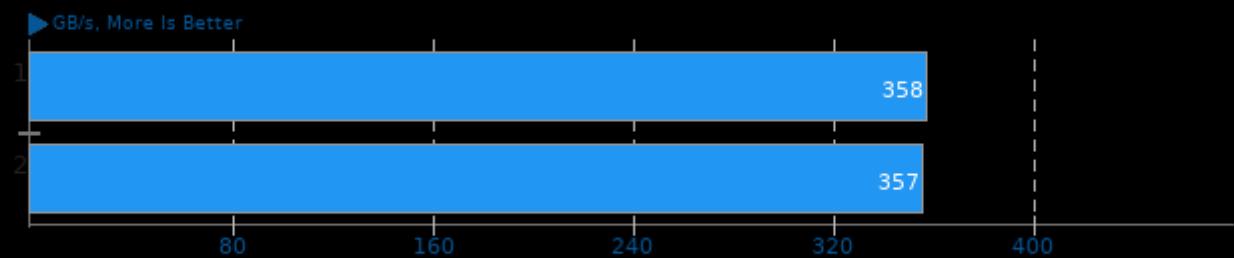
Test: OpenCL BLAS - sCOPY



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

ViennaCL 1.7.1

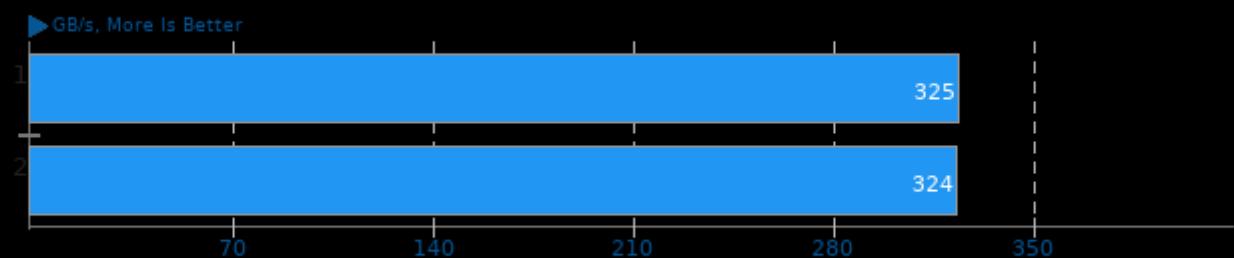
Test: OpenCL BLAS - sAXPY



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

ViennaCL 1.7.1

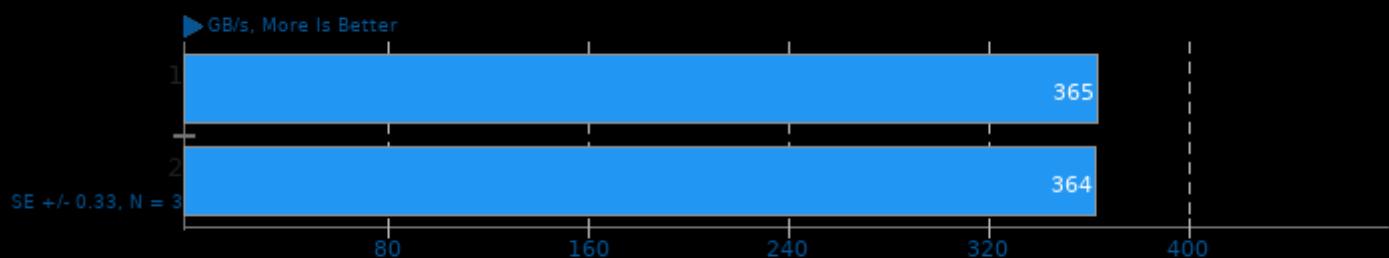
Test: OpenCL BLAS - sDOT



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

ViennaCL 1.7.1

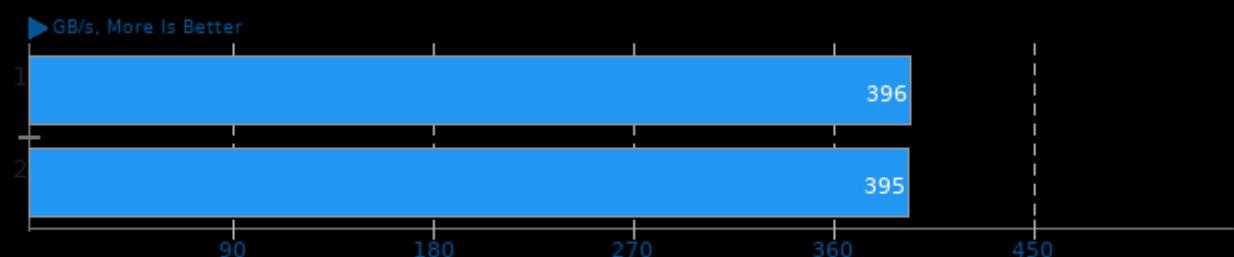
Test: OpenCL BLAS - dCOPY



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

ViennaCL 1.7.1

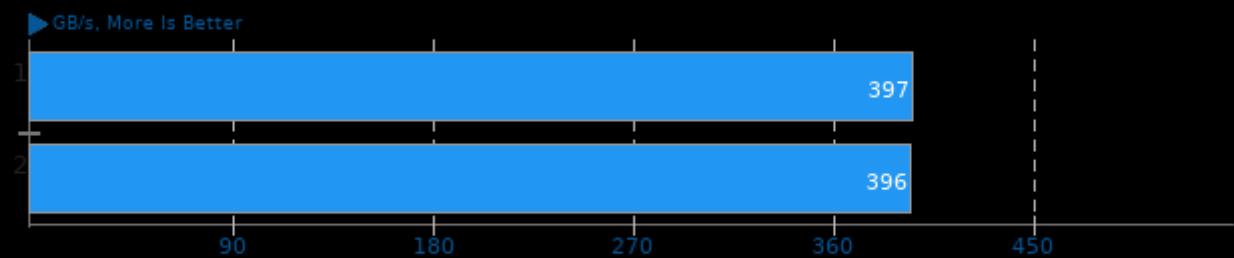
Test: OpenCL BLAS - dAXPY



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

ViennaCL 1.7.1

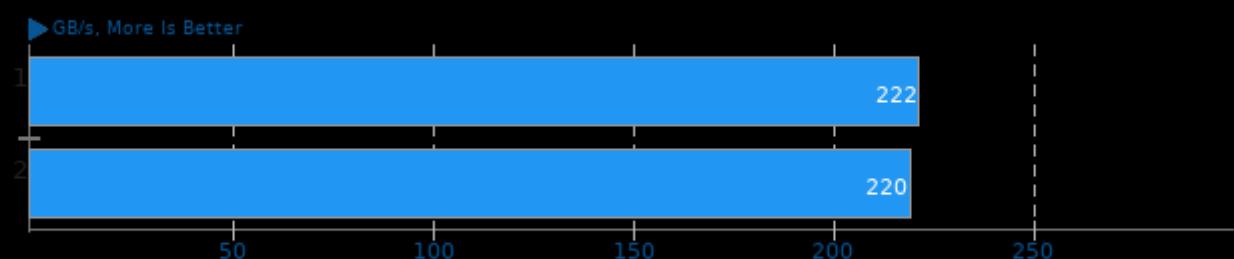
Test: OpenCL BLAS - dDOT



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

ViennaCL 1.7.1

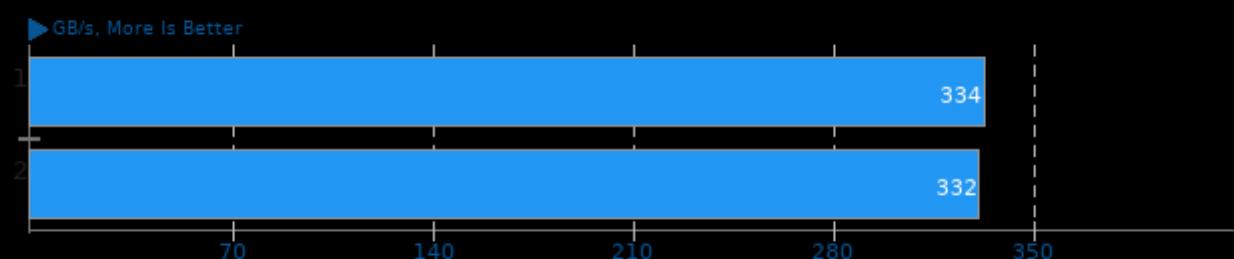
Test: OpenCL BLAS - dGEMV-N



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

ViennaCL 1.7.1

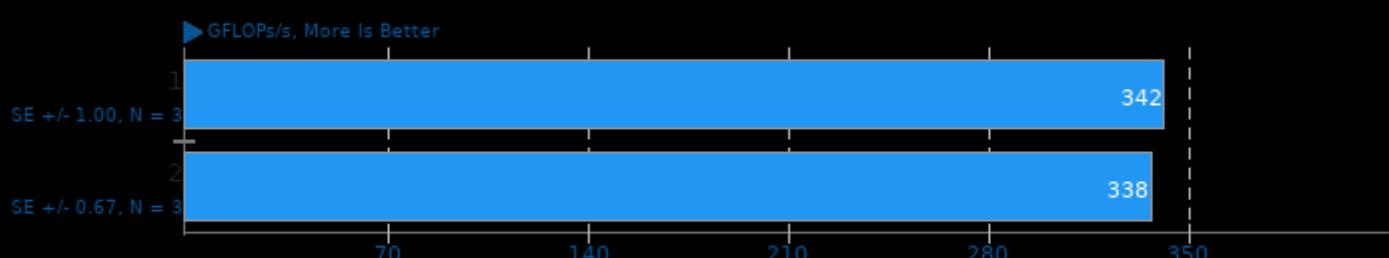
Test: OpenCL BLAS - dGEMV-T



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

ViennaCL 1.7.1

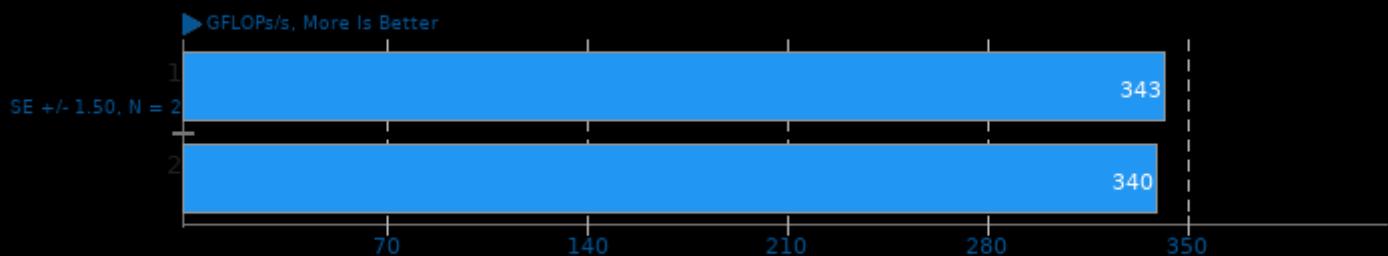
Test: OpenCL BLAS - dGEMM-NN



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

ViennaCL 1.7.1

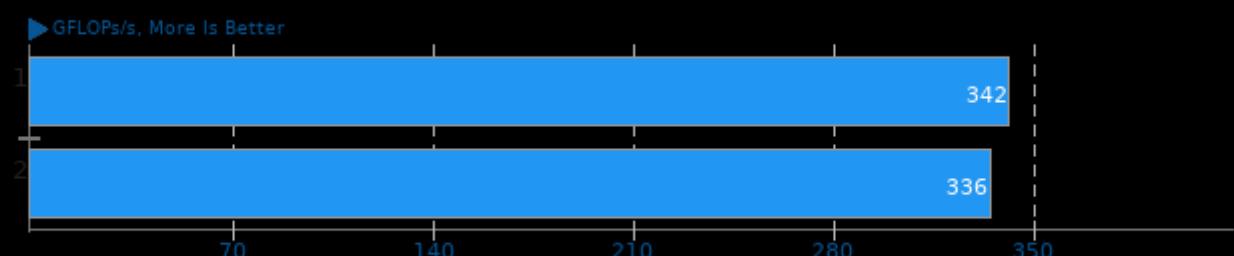
Test: OpenCL BLAS - dGEMM-NT



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

ViennaCL 1.7.1

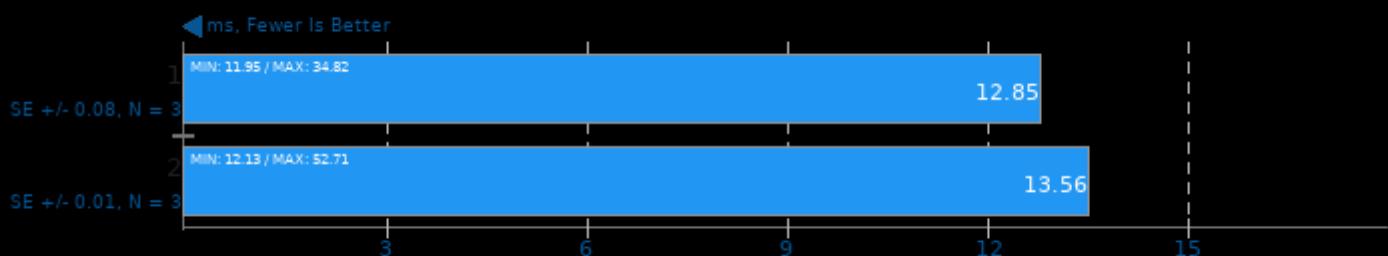
Test: OpenCL BLAS - dGEMM-TN



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

NCNN 20201218

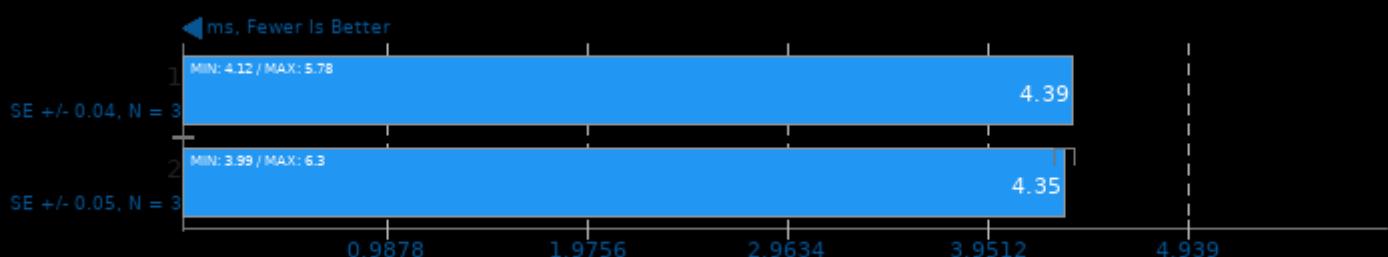
Target: Vulkan GPU - Model: mobilenet



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

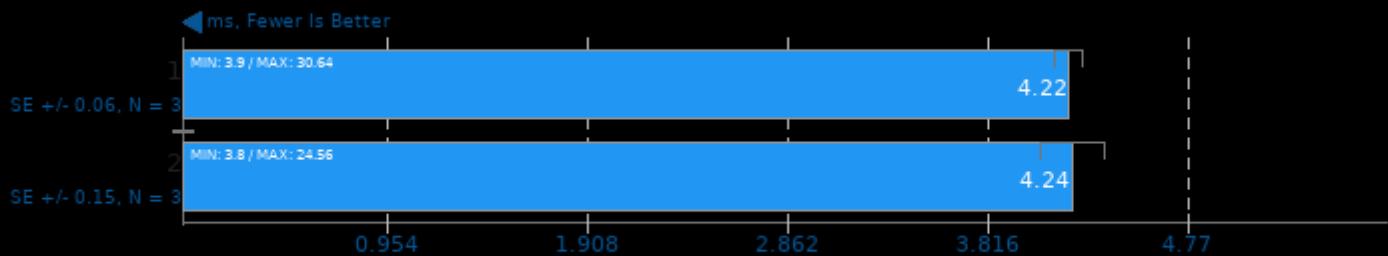
Target: Vulkan GPU-v2-v2 - Model: mobilenet-v2



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

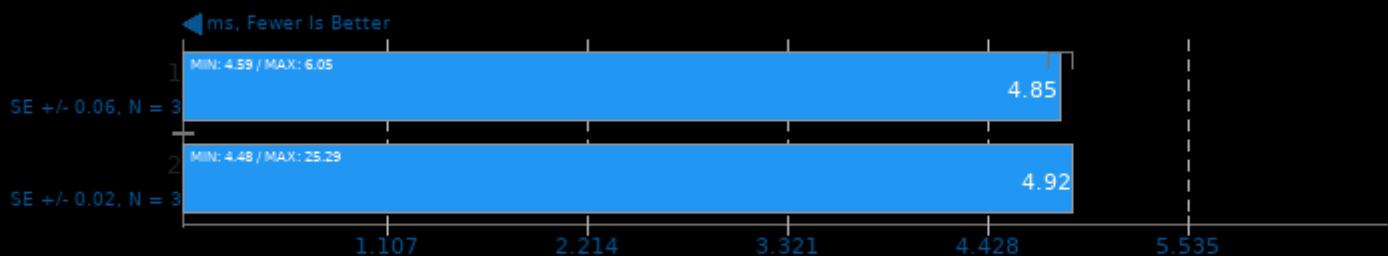
Target: Vulkan GPU-v3-v3 - Model: mobilenet-v3



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

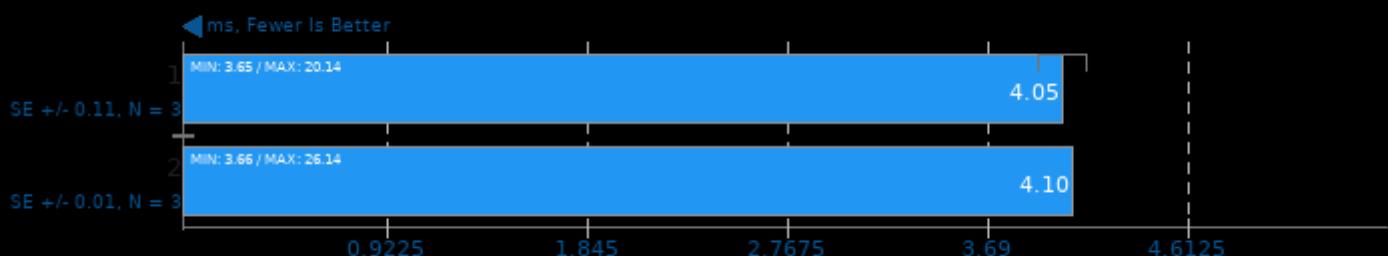
Target: Vulkan GPU - Model: shufflenet-v2



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

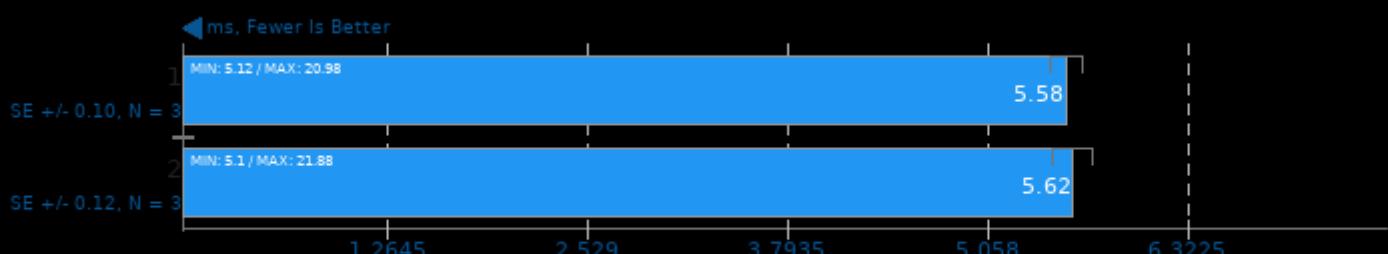
Target: Vulkan GPU - Model: mnasnet



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

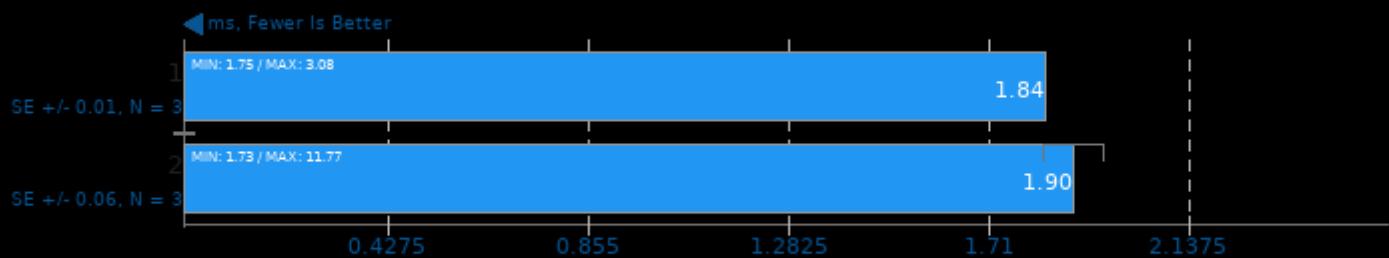
Target: Vulkan GPU - Model: efficientnet-b0



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

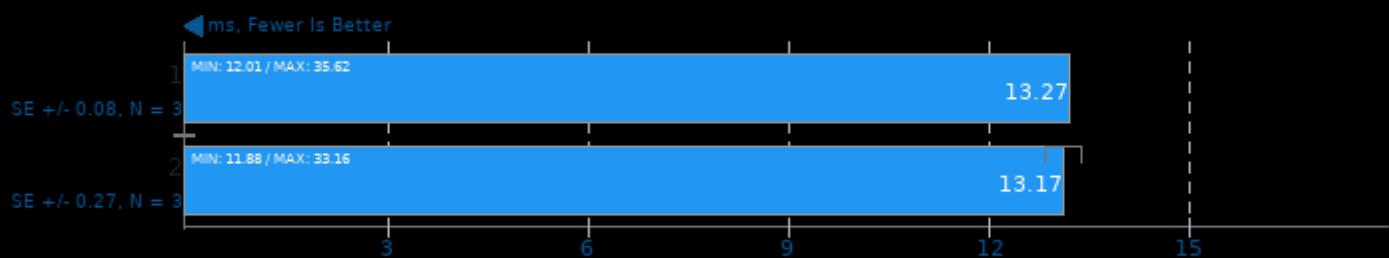
Target: Vulkan GPU - Model: blazeface



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

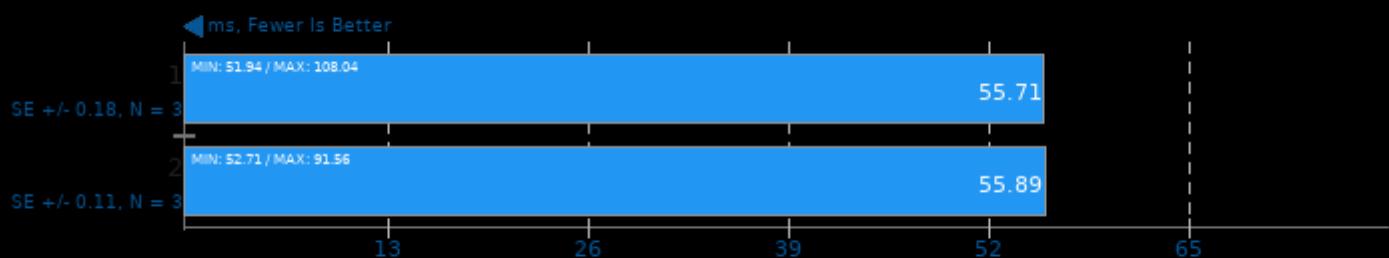
Target: Vulkan GPU - Model: googlenet



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

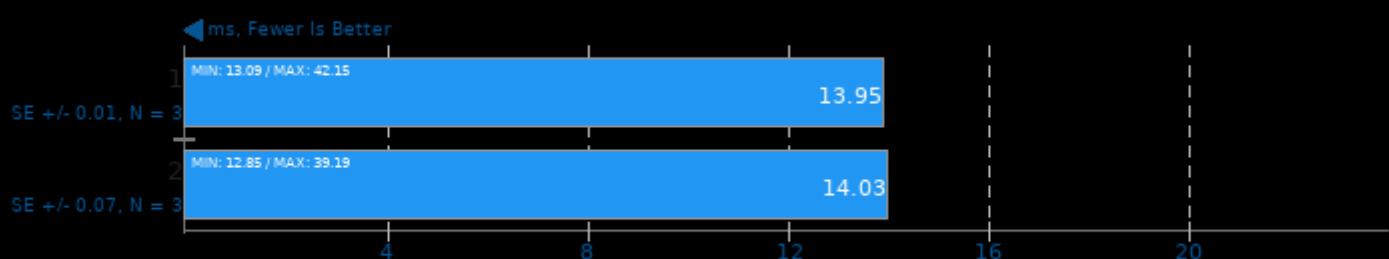
Target: Vulkan GPU - Model: vgg16



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

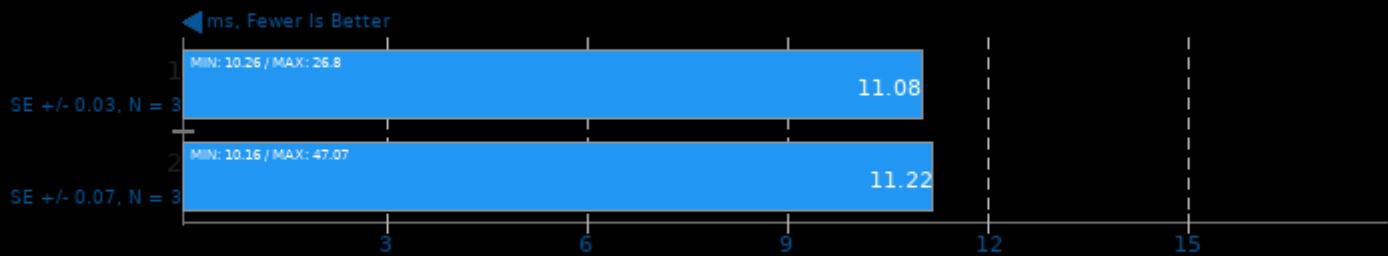
Target: Vulkan GPU - Model: resnet18



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

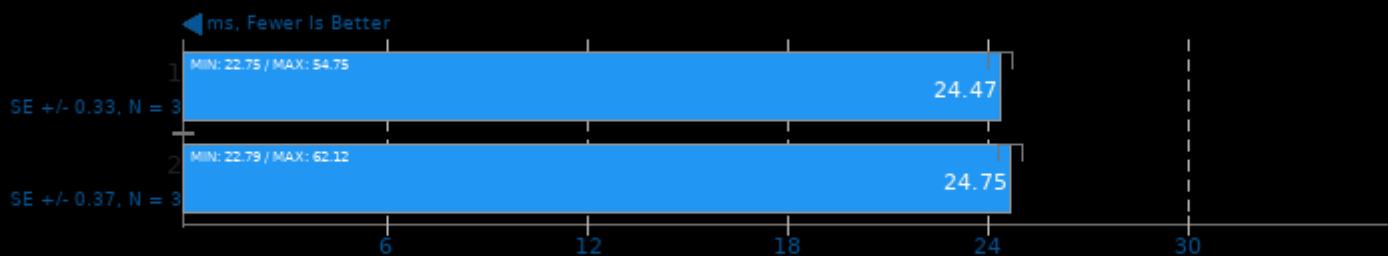
Target: Vulkan GPU - Model: alexnet



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

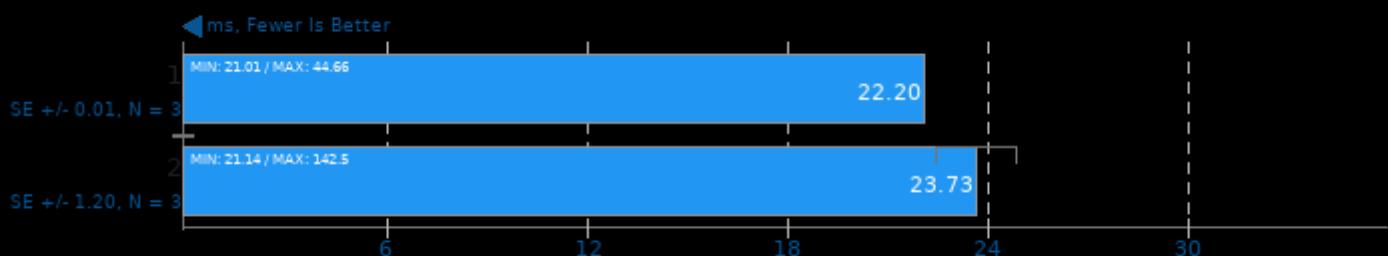
Target: Vulkan GPU - Model: resnet50



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

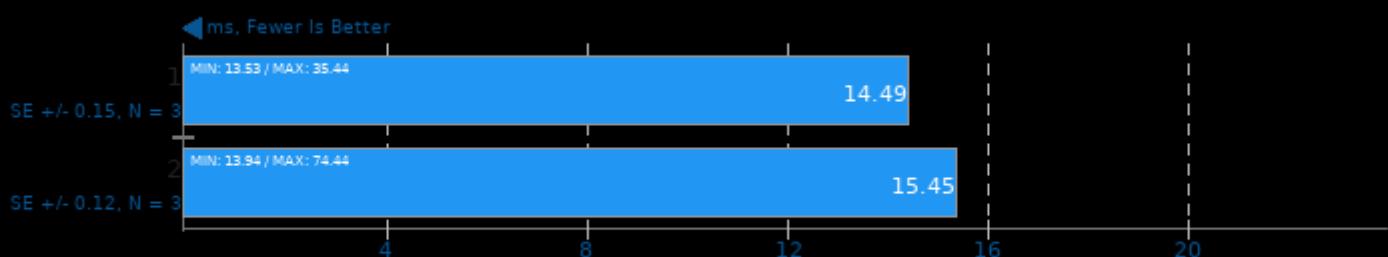
Target: Vulkan GPU - Model: yolov4-tiny



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

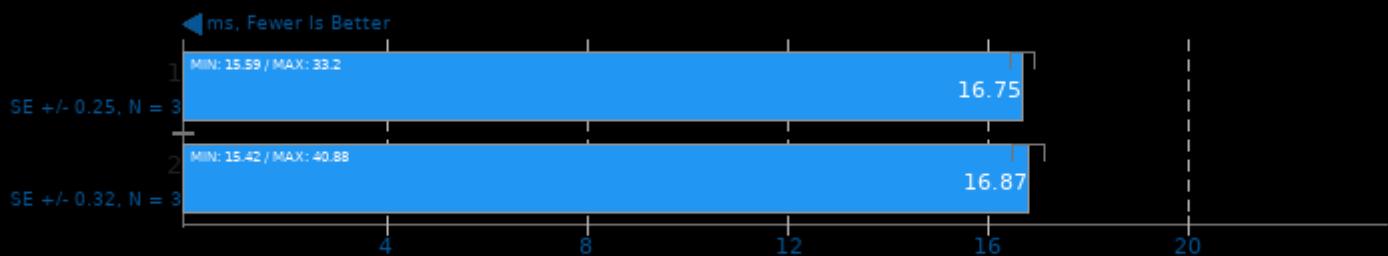
Target: Vulkan GPU - Model: squeezenet_ssd



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

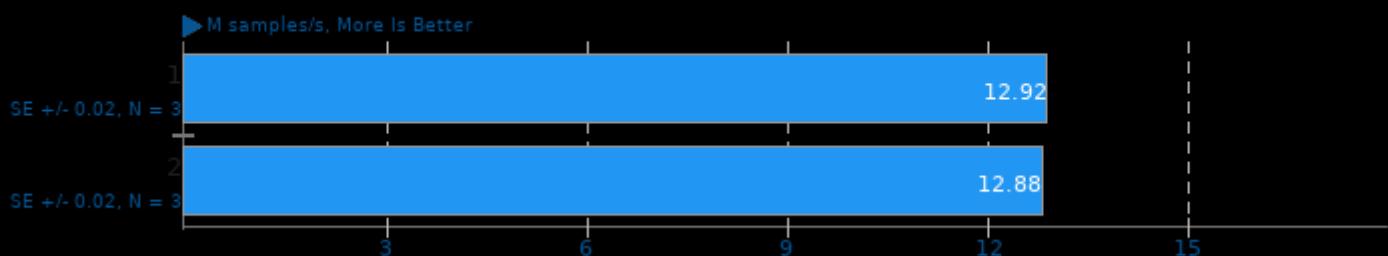
Target: Vulkan GPU - Model: regnety_400m



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

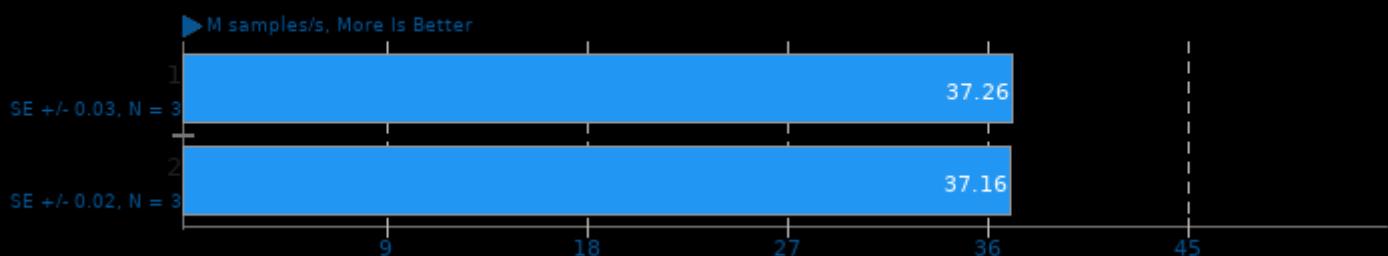
IndigoBench 4.4

Acceleration: OpenCL GPU - Scene: Bedroom



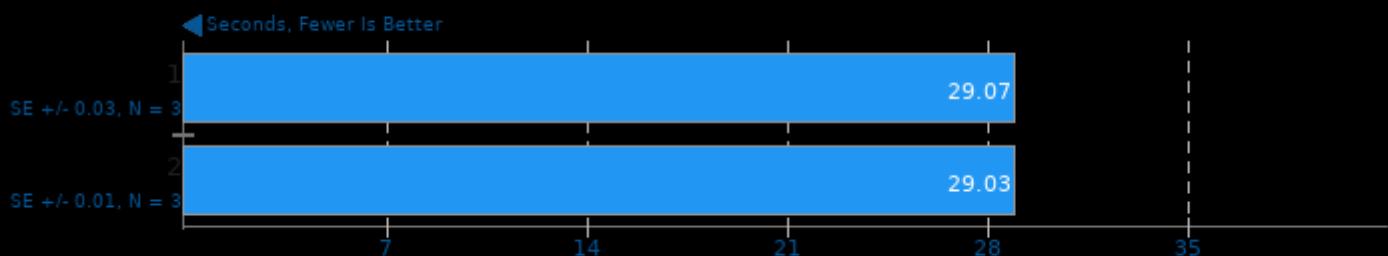
IndigoBench 4.4

Acceleration: OpenCL GPU - Scene: Supercar



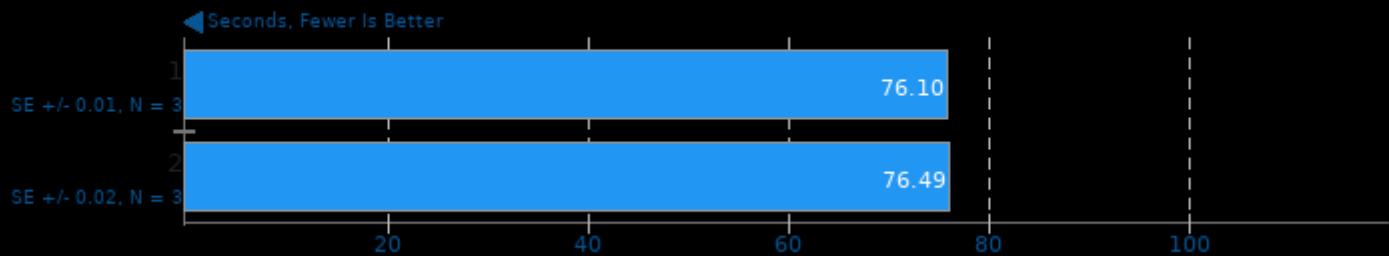
Blender 2.92

Blend File: BMW27 - Compute: CUDA



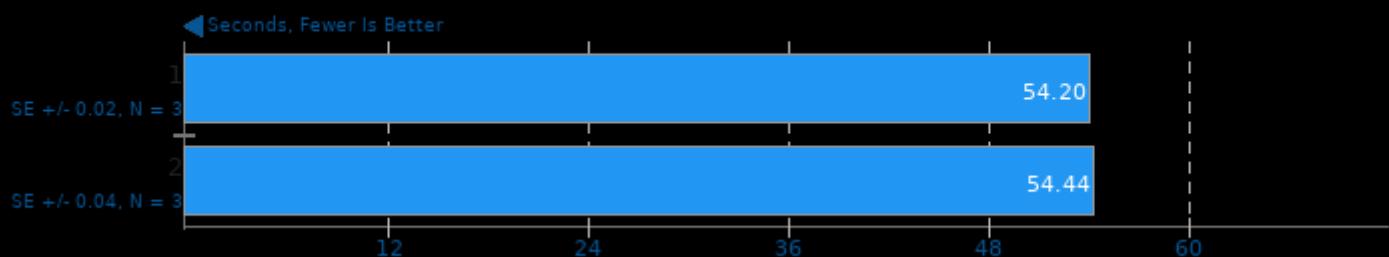
Blender 2.92

Blend File: Classroom - Compute: CUDA



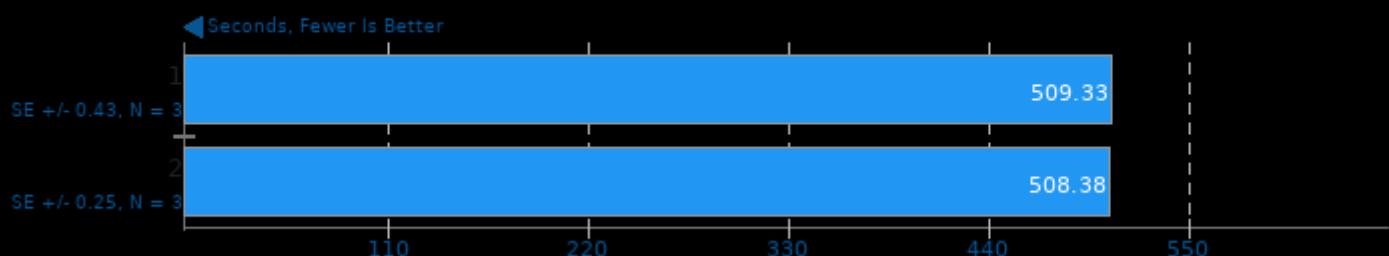
Blender 2.92

Blend File: Fishy Cat - Compute: CUDA



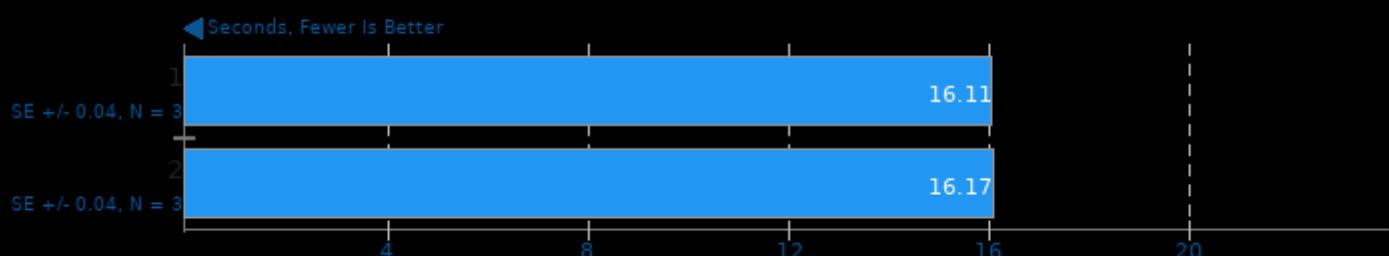
Blender 2.92

Blend File: Barbershop - Compute: CUDA



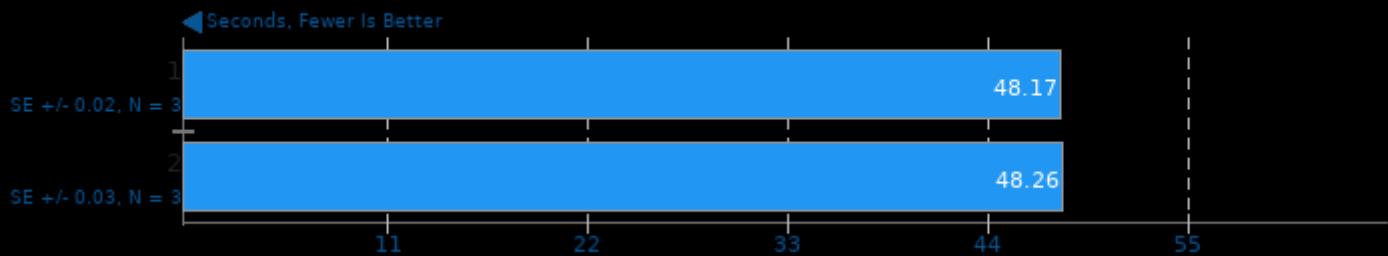
Blender 2.92

Blend File: BMW27 - Compute: NVIDIA OptiX



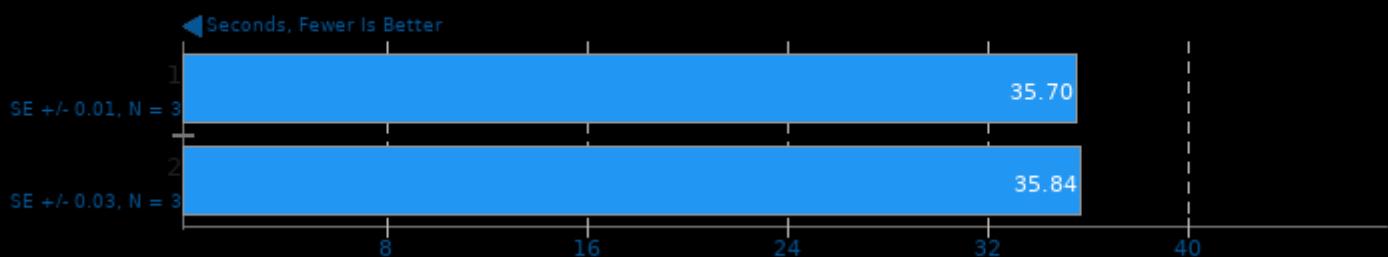
Blender 2.92

Blend File: Classroom - Compute: NVIDIA OptiX



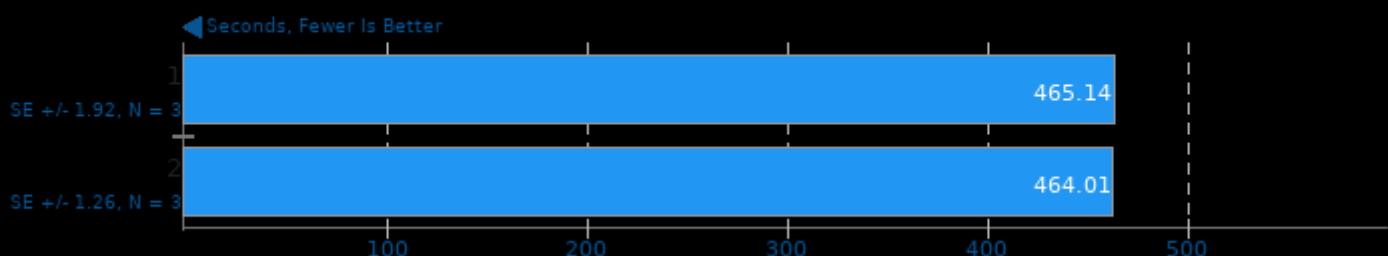
Blender 2.92

Blend File: Fishy Cat - Compute: NVIDIA OptiX



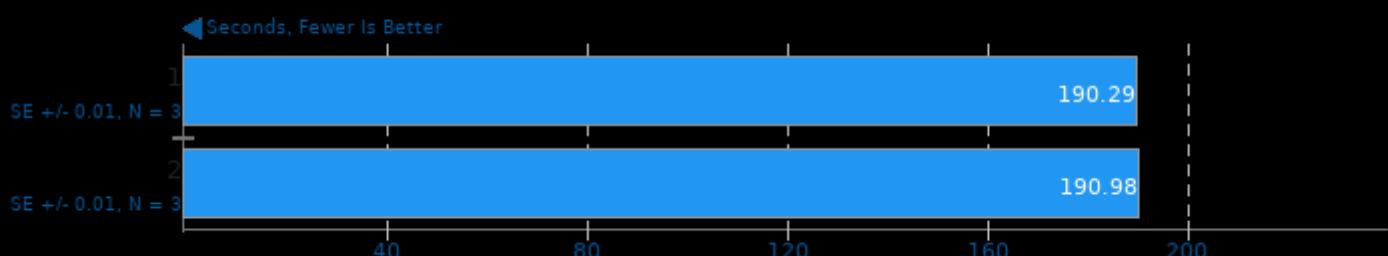
Blender 2.92

Blend File: Barbershop - Compute: NVIDIA OptiX



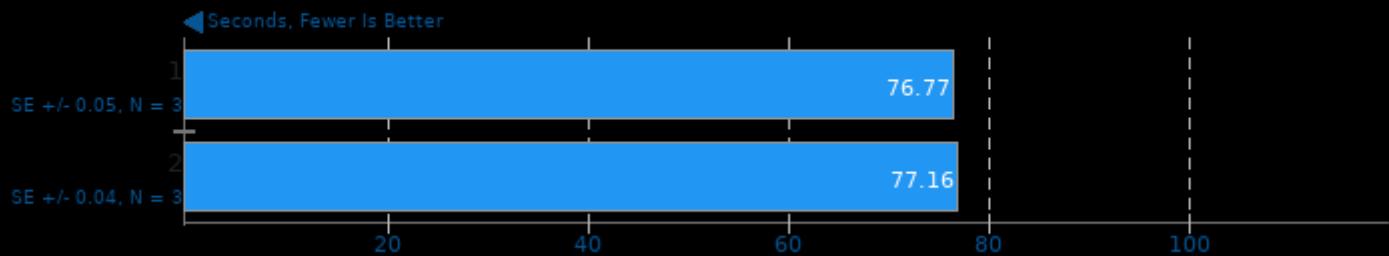
Blender 2.92

Blend File: Pabellon Barcelona - Compute: CUDA



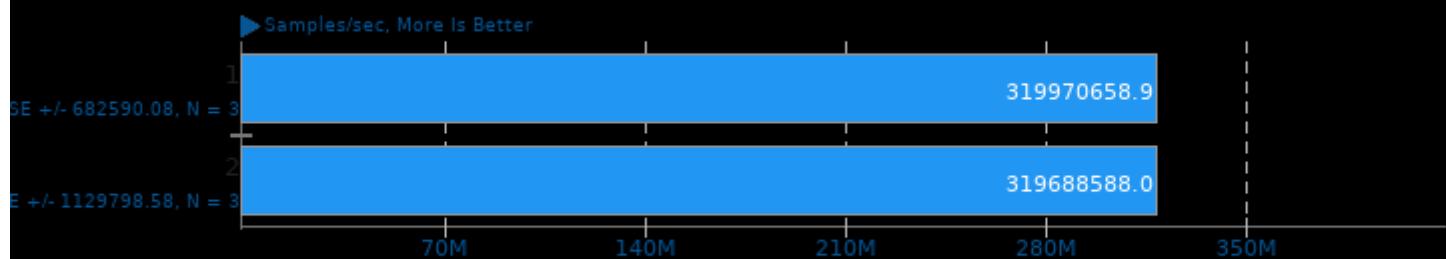
Blender 2.92

Blend File: Pabellon Barcelona - Compute: NVIDIA OptiX



MandelGPU 1.3pts1

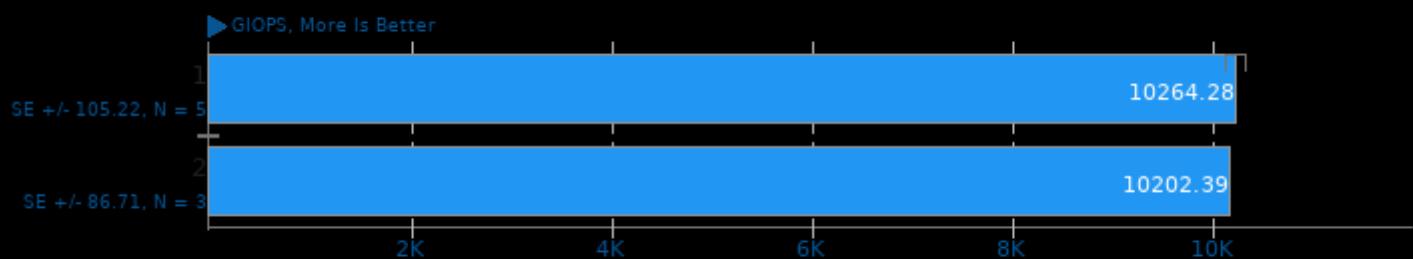
OpenCL Device: GPU



1. (CC) gcc options: -O3 -lm -ftracer -funroll-loops -lglut -IOpenCL -IGL

clpeak

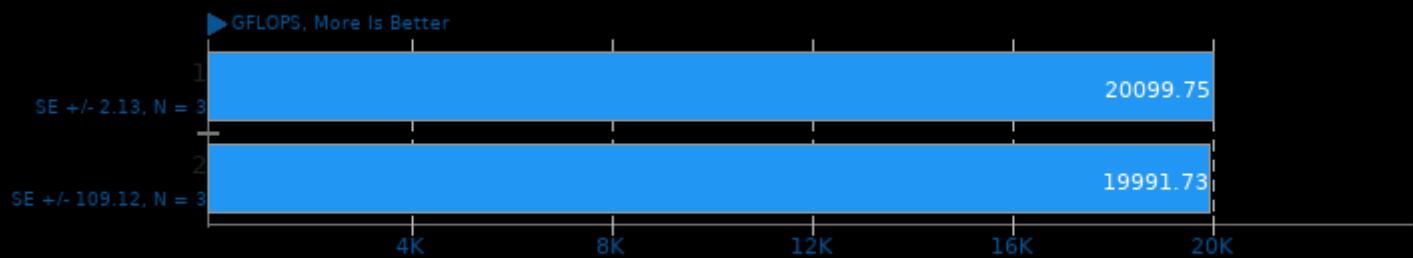
OpenCL Test: Integer Compute INT



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

clpeak

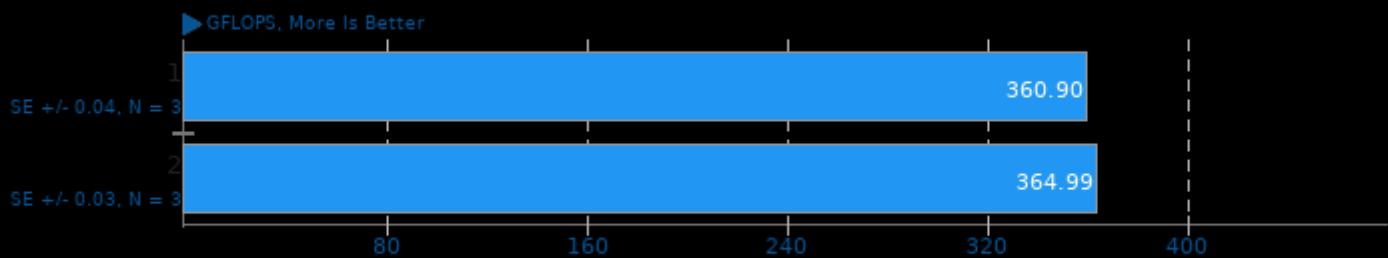
OpenCL Test: Single-Precision Float



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

clpeak

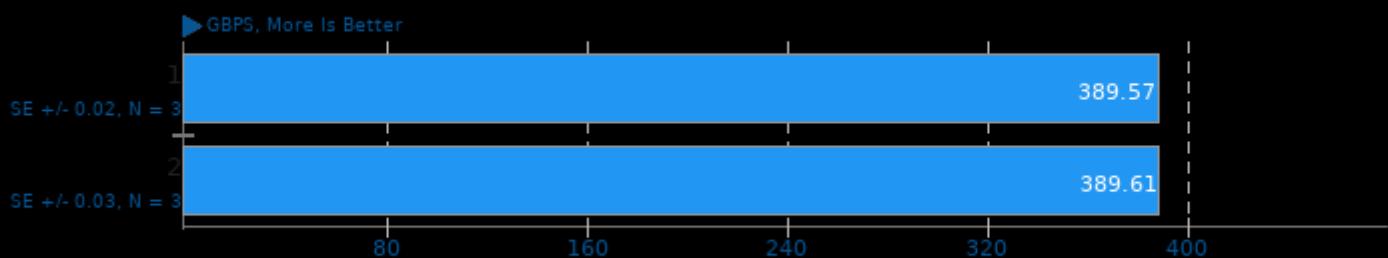
OpenCL Test: Double-Precision Double



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

clpeak

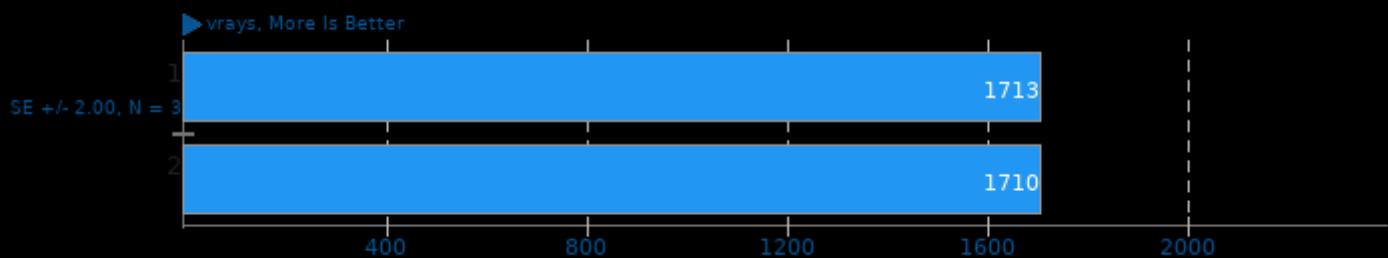
OpenCL Test: Global Memory Bandwidth



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

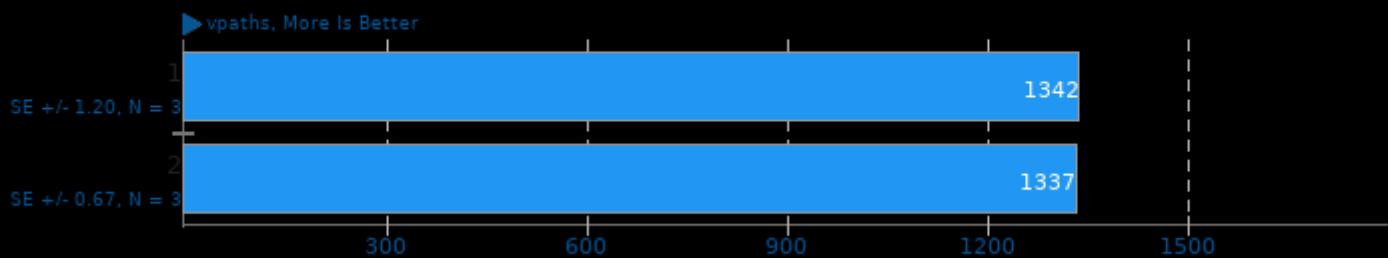
Chaos Group V-RAY 5

Mode: NVIDIA RTX GPU

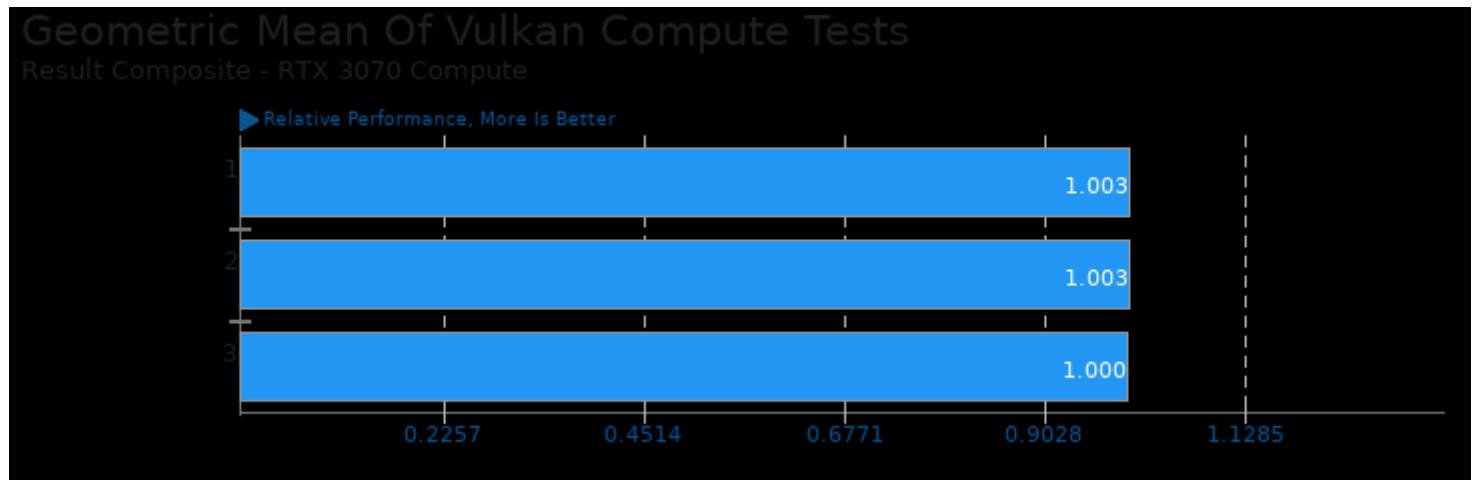


Chaos Group V-RAY 5

Mode: NVIDIA CUDA GPU



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



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 04:43.