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2 x AMD EPYC 7742 vs. 2 x AMD EPYC 7763 Preliminary Test

2 x AMD EPYC 7742 testing with a AMD DAYTONA_X (RDY1001C BIOS) Ubuntu 19.04 vs. 2 x AMD EPYC 7763 64-Core testing with a AMD DAYTONA_X (RYM1001D BIOS) Ubuntu 20.04. Details: https://servernews.ru/1034705/

Automated Executive Summary

2 x AMD EPYC 7763 had the most wins, coming in first place for 83% of the tests.

Based on the geometric mean of all complete results, the fastest (2 x AMD EPYC 7763) was 1.132x the speed of the slowest (2 x AMD EPYC 7742).

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

Sysbench (Test: CPU) at 2.386x
Sysbench (Test: Memory) at 1.55x
MKL-DNN (Harness: IP Batch All - Data Type: u8s8u8s32) at 1.399x
OSBench (Test: Create Threads) at 1.398x
MKL-DNN (Harness: Deconvolution Batch deconv_all - Data Type: u8s8u8s32) at 1.373x
MKL-DNN (Harness: Deconvolution Batch deconv_all - Data Type: f32) at 1.372x
OSBench (Test: Memory Allocations) at 1.33x
Redis (Test: SET) at 1.329x
Blender (Blend File: Barbershop - Compute: CPU-Only) at 1.312x

MKL-DNN (Harness: Convolution Batch conv_all - Data Type: u8s8u8s32) at 1.278x.

Test Systems:

2 x AMD EPYC 7742

Processor: 2 x AMD EPYC 7742 64-Core @ 2.25GHz (128 Cores / 256 Threads), Motherboard: AMD DAYTONA_X (RDY1001C BIOS), Chipset: AMD Device 1480, Memory: 516096MB, Disk: 6 x 3841GB Micron_9300_MTFDHAL3T8TDP + 256GB Micron_1100_MTFD, Graphics: ASPEED, Network: 2 x Mellanox MT27710

OS: Ubuntu 19.04, Kernel: 5.0.0-21-generic (x86_64), Compiler: GCC 8.3.0, File-System: xfs, Screen Resolution: 1024x768

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq performance
Security Notes: l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling

2 x AMD EPYC 7763

Processor: 2 x AMD EPYC 7763 64-Core @ 2.45GHz (128 Cores / 256 Threads), Motherboard: AMD DAYTONA_X (RYM1001D BIOS), Chipset: AMD Starship/Matisse, Memory: 1008GB, Disk: 3201GB HUSMR7632BDP3M1 + 256GB Micron_1100_MTFD, Graphics: ASPEED, Network: 2 x Mellanox MT27710

OS: Ubuntu 20.04, Kernel: 5.4.0-66-generic (x86_64), Compiler: GCC 9.3.0, File-System: xfs, Screen Resolution: 1024x768

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
Disk Notes: NONE / attr2,inode64,logbsize=32k,logbufs=8,noquota,relatime,rw / Block Size: 4096
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa001119
Java Notes: OpenJDK Runtime Environment (build 11.0.10+9-Ubuntu-0ubuntu1.20.04)
Python Notes: Python 3.8.5
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	2 x AMD EPYC 7742	2 x AMD EPYC 7763
Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)	**3700180**	**3967329**
Normalized	93.27%	100%
Standard Deviation	0.4%	0.8%

GNU MPC - M.P.B (Global Score)	**7163**	**8270**
Normalized	86.61%	100%
Standard Deviation	0.1%	
Y-Cruncher - C.5.P.D (sec)	**11.57**	**9.728**
Normalized	84.08%	100%
Standard Deviation	0.5%	0.6%
FFTW - Stock - 2D FFT Size 4096 (Mflops)	**5240**	**6111**
Normalized	85.75%	100%
Standard Deviation	0.3%	0.8%
FFTW - Float + SSE - 2D FFT Size 4096 (Mflops)	**18186**	**22138**
Normalized	82.15%	100%
Standard Deviation	2%	5.8%
Rodinia - OpenMP CFD Solver (sec)	**8.90**	**7.608**
Normalized	85.48%	100%
Standard Deviation	1.9%	4.3%
NAMD - ATPase Simulation - 327,506 Atoms (days/ns)	**0.26476**	**0.22082**
Normalized	83.4%	100%
Standard Deviation	2.9%	1.4%
Stockfish - Total Time (Nodes/s)	**236474655**	**272295348**
Normalized	86.84%	100%
Standard Deviation	0.3%	0.8%
asmFish - 1.H.M.2.D (Nodes/s)	**237632499**	**278124948**
Normalized	85.44%	100%
Standard Deviation	1.9%	0.2%
MBW - Memory Copy - 1024 MiB (MiB/s)	**15479**	**19489**
Normalized	79.42%	100%
Standard Deviation	0%	0.6%
MBW - M.C.F.B.S - 1024 MiB (MiB/s)	**9026**	**10386**
Normalized	86.91%	100%
Standard Deviation	0.2%	10%
CacheBench - Read Cache (MB/s)	**2349**	**2162**
Normalized	100%	92.03%
Standard Deviation	0.1%	0%
CacheBench - Write Cache (MB/s)	**24575**	**24864**
Normalized	98.84%	100%
Standard Deviation	0.7%	0%
Timed LLVM Compilation - Time To Compile (sec)	**79.41**	**86.213**
Normalized	100%	92.11%
Blender - Barbershop - CPU-Only (sec)	**146**	**111.27**
Normalized	76.21%	100%
C-Ray - Total Time - 4.1.R.P.P (sec)	**6.30**	**5.815**
Normalized	92.3%	100%
Standard Deviation	2.9%	0.8%
Sunflow Rendering System - G.I.I.S (sec)	**0.70**	**0.654**
Normalized	93.43%	100%
Standard Deviation	5.7%	5.9%
Tachyon - Total Time (sec)	**0.87**	**0.9971**
Normalized	100%	87.25%
Standard Deviation	2.3%	6.4%
Radiance Benchmark - Serial (sec)	**699**	**601.72**
Normalized	86.08%	100%
Radiance Benchmark - SMP Parallel (sec)	**211**	**181.691**
Normalized	86.11%	100%
Sysbench - CPU (Events/sec)	**204344**	**487640**
Normalized	41.9%	100%

Standard Deviation	0.4%	2.5%
Sysbench - Memory (Events/sec)	**4889449**	**7576888**
Normalized	64.53%	100%
Standard Deviation	0.2%	2.4%
OSBench - Create Files (us/Event)	**32.48**	**25.969949**
Normalized	79.96%	100%
Standard Deviation	2.9%	0.8%
OSBench - Create Threads (us/Event)	**32.27**	**23.085276**
Normalized	71.54%	100%
Standard Deviation	2.3%	3.2%
OSBench - Launch Programs (us/Event)	**76.65**	**61.883131**
Normalized	80.73%	100%
Standard Deviation	0.9%	1.2%
OSBench - Create Processes (us/Event)	**42.31**	**47.624452**
Normalized	100%	88.84%
Standard Deviation	2.9%	7%
OSBench - Memory Allocations (Ns/Event)	**95.66**	**71.930965**
Normalized	75.19%	100%
Standard Deviation	0.5%	0.7%
ctx_clock - C.S.T (Clocks)	**135**	**122**
Normalized	90.37%	100%
Loopback TCP Network Performance - T.T.T.1.V.L	**11.54**	**10.499**
Normalized	90.98%	100%
Standard Deviation	14.4%	16%
x264 - H.2.V.E (FPS)	**193**	**216.81**
Normalized	89.02%	100%
Standard Deviation	2%	2.2%
x265 - H.2.1.V.E (FPS)	**58.85**	**63.99**
Normalized	91.97%	100%
Standard Deviation	0.9%	1.2%
VP9 libvpx Encoding - v.V.1.V.E (FPS)	**243**	**284.89**
Normalized	85.3%	100%
Standard Deviation	0.7%	5.6%
dav1d - Summer Nature 4K (sec)	**9.82**	**9.624**
Normalized	98%	100%
Standard Deviation	0.4%	2%
dav1d - S.N.1 (sec)	**3.73**	**3.447**
Normalized	92.41%	100%
Standard Deviation	0.7%	1.7%
FLAC Audio Encoding - WAV To FLAC (sec)	**9.83**	**8.979**
Normalized	91.34%	100%
Standard Deviation	0.2%	0.2%
LAME MP3 Encoding - WAV To MP3 (sec)	**32.71**	**28.376**
Normalized	86.75%	100%
Standard Deviation	0%	0%
Mencoder - AVI To LAVC (sec)	**19.87**	**17.073**
Normalized	85.92%	100%
Standard Deviation	0%	0.2%
SQLite - T.S.I (sec)	**2.85**	**2.455**
Normalized	86.14%	100%
Standard Deviation	0.7%	0.9%
Redis - LPOP (Reqs/sec)	**2732619**	**3115420**
Normalized	87.71%	100%
Standard Deviation	1.4%	14.6%
Redis - SADD (Reqs/sec)	**2028047**	**2546781**

Normalized	79.63%	100%
Standard Deviation	2.7%	0.7%
Redis - LPUSH (Reqs/sec)	**1467339**	**1966048**
Normalized	74.63%	100%
Standard Deviation	7%	1%
Redis - GET (Reqs/sec)	**2535665**	**3102666**
Normalized	81.73%	100%
Standard Deviation	6.1%	1.2%
Redis - SET (Reqs/sec)	**1661321**	**2207556**
Normalized	75.26%	100%
Standard Deviation	4.1%	0.6%
Memcached mcperf - Add (Operations/sec)	**46011**	**45359**
Normalized	100%	98.58%
Standard Deviation	3.8%	2.4%
Memcached mcperf - Get (Operations/sec)	**70379**	**63771**
Normalized	100%	90.61%
Standard Deviation	6.9%	2.2%
Memcached mcperf - Set (Operations/sec)	**46023**	**59497**
Normalized	77.35%	100%
Standard Deviation	2.8%	39.8%
Memcached mcperf - Append (Operations/sec)	**51565**	**48534**
Normalized	100%	94.12%
Standard Deviation	17.1%	5.8%
Memcached mcperf - Delete (Operations/sec)	**65308**	**64685**
Normalized	100%	99.05%
Standard Deviation	1.6%	2.4%
Memcached mcperf - Prepend (Operations/sec)	**48485**	**47837**
Normalized	100%	98.66%
Standard Deviation	3.6%	1.7%
Memcached mcperf - Replace (Operations/sec)	**48684**	**47065**
Normalized	100%	96.67%
Standard Deviation	2.8%	0.8%
NGINX Benchmark - S.W.P.S (Reqs/sec)	**25638**	**23418**
Normalized	100%	91.34%
Standard Deviation	2.8%	4.5%
Apache Benchmark - S.W.P.S (Reqs/sec)	**27564**	**26636**
Normalized	100%	96.63%
Standard Deviation	4.3%	13.5%
Node.js Octane Benchmark (Score)	**38833**	**45423**
Normalized	85.49%	100%
Standard Deviation	0.2%	0.5%
PHPBench - P.B.S (Score)	**501755**	**601432**
Normalized	83.43%	100%
Standard Deviation	0.2%	0.6%
OpenSSL - R.4.b.P (Signs/sec)	**24724**	**24928**
Normalized	99.18%	100%
Standard Deviation	0.5%	1.2%
RAR Compression - L.S.T.A.T.R (sec)	**70.85**	**70.411**
Normalized	99.38%	100%
Standard Deviation	1.5%	4.5%
Gzip Compression - L.S.T.A.T.t.g (sec)	**41.06**	**39.818**
Normalized	96.98%	100%
Standard Deviation	0.6%	0.4%
XZ Compression - C.u.1.0.3.s.i.i.C.L.9 (sec)	**28.84**	**29.080**
Normalized	100%	99.17%

Standard Deviation	1.5%	6.3%
Zstd Compression - C.u.1.0.3.s.i.i.C.L.1 (sec)	**10.84**	**8.824**
Normalized	81.4%	100%
Standard Deviation	2.8%	5.9%
Java SciMark - FFT Performance (Mflops)	**1637**	**1969**
Normalized	83.15%	100%
Standard Deviation	1.1%	1.2%
Java SciMark - SOR Performance (Mflops)	**1529**	**1612**
Normalized	94.83%	100%
Standard Deviation	0%	0.1%
Java SciMark - C.P (Mflops)	**2460**	**2606**
Normalized	94.39%	100%
Standard Deviation	0.2%	0.7%
Java SciMark - M.C.P (Mflops)	**1354**	**1383**
Normalized	97.9%	100%
Standard Deviation	0.3%	0.4%
DaCapo Benchmark - H2 (msec)	**5462**	**4466**
Normalized	81.76%	100%
Standard Deviation	3%	9.6%
DaCapo Benchmark - Jython (msec)	**4993**	**4351**
Normalized	87.14%	100%
Standard Deviation	1.3%	0.8%
DaCapo Benchmark - Tradebeans (msec)	**5007**	**4871**
Normalized	97.28%	100%
Standard Deviation	3.3%	
Botan - KASUMI - Encrypt (MiB/s)	**79.13**	**80.307**
Normalized	98.53%	100%
Standard Deviation	0%	0%
Botan - KASUMI - Decrypt (MiB/s)	**76.41**	**78.295**
Normalized	97.59%	100%
Standard Deviation	0%	0.1%
Botan - AES-256 - Encrypt (MiB/s)	**4717**	**5443**
Normalized	86.66%	100%
Standard Deviation	0.1%	0.1%
Botan - AES-256 - Decrypt (MiB/s)	**4742**	**5447**
Normalized	87.06%	100%
Standard Deviation	0.1%	0.2%
Botan - Twofish - Encrypt (MiB/s)	**304**	**335.041**
Normalized	90.74%	100%
Standard Deviation	0.1%	0.4%
Botan - Twofish - Decrypt (MiB/s)	**304**	**329.404**
Normalized	92.29%	100%
Standard Deviation	0%	0.3%
Botan - Blowfish - Encrypt (MiB/s)	**234**	**251.406**
Normalized	93.08%	100%
Standard Deviation	0.2%	0.1%
Botan - Blowfish - Decrypt (MiB/s)	**231**	**249.029**
Normalized	92.76%	100%
Standard Deviation	0.1%	0.1%
Botan - CAST-256 - Encrypt (MiB/s)	**122**	**124.454**
Normalized	98.03%	100%
Standard Deviation	0%	0%
Botan - CAST-256 - Decrypt (MiB/s)	**122**	**124.403**
Normalized	98.07%	100%
Standard Deviation	0%	0%

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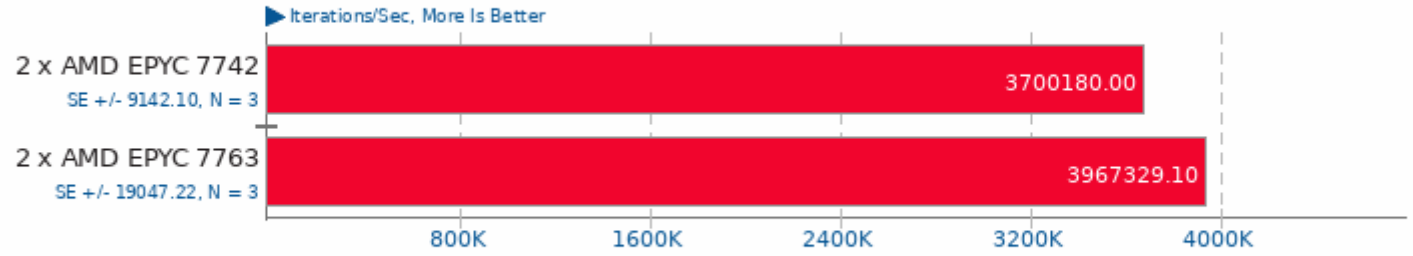
Bork File Encrypter - F.E.T (sec)	**9.98**	**8.399**
Normalized	84.16%	100%
Standard Deviation	0.5%	0.5%
John The Ripper - Blowfish (Real C/S)	**184099**	**176274**
Normalized	100%	95.75%
Standard Deviation	1.3%	1.4%
MKL-DNN - IP Batch All - f32 (ms)	**91.95**	**71.9639**
Normalized	78.26%	100%
Standard Deviation	3%	1.1%
MKL-DNN - C.B.c - f32 (ms)	**398**	**325.257**
Normalized	81.72%	100%
Standard Deviation	2.9%	0.6%
MKL-DNN - D.B.d - f32 (ms)	**2714**	**1979**
Normalized	72.91%	100%
Standard Deviation	2.1%	2%
MKL-DNN - IP Batch All - u8s8u8s32 (ms)	**681**	**486.935**
Normalized	71.5%	100%
Standard Deviation	1.4%	1.6%
MKL-DNN - C.B.c - u8s8u8s32 (ms)	**18067**	**14135**
Normalized	78.23%	100%
Standard Deviation	1.6%	1.8%
MKL-DNN - D.B.d - u8s8u8s32 (ms)	**13871**	**10100**
Normalized	72.81%	100%
Standard Deviation	1.8%	0.5%

Coremark 1.0

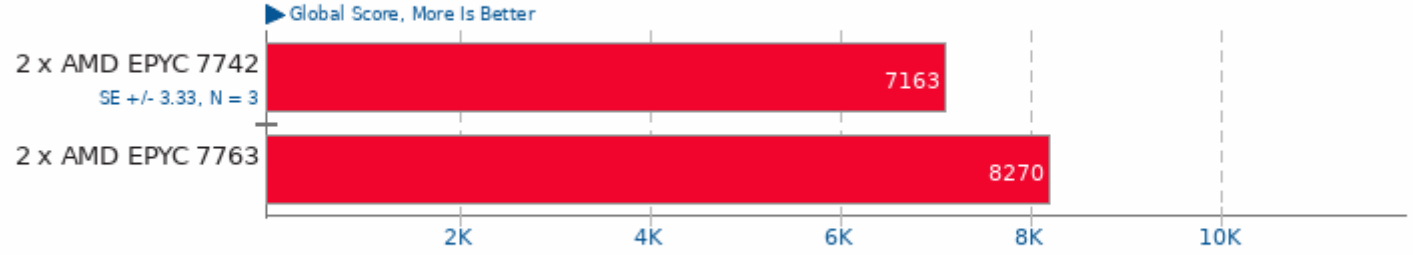
CoreMark Size 666 - Iterations Per Second



1. (CC) gcc options: -O2 -lrt" -lrt

GNU MPC 1.1.0

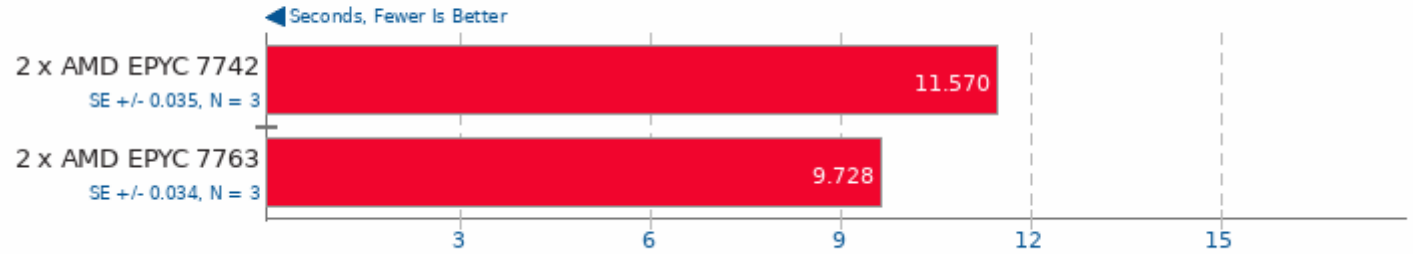
Multi-Precision Benchmark



1. (CC) gcc options: -lm -O2 -pedantic -fomit-frame-pointer -m64 -mtune=k8 -march=k8 -MT -MD -MP -MF

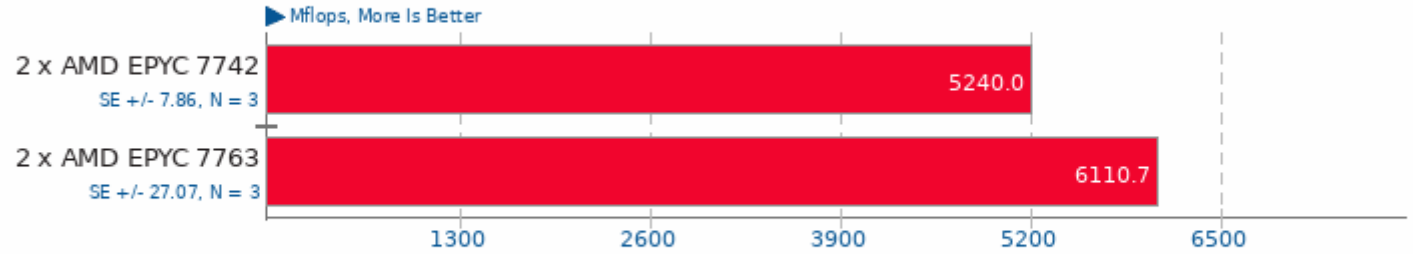
Y-Cruncher 0.7.7

Calculating 500M Pi Digits



FFTW 3.3.6

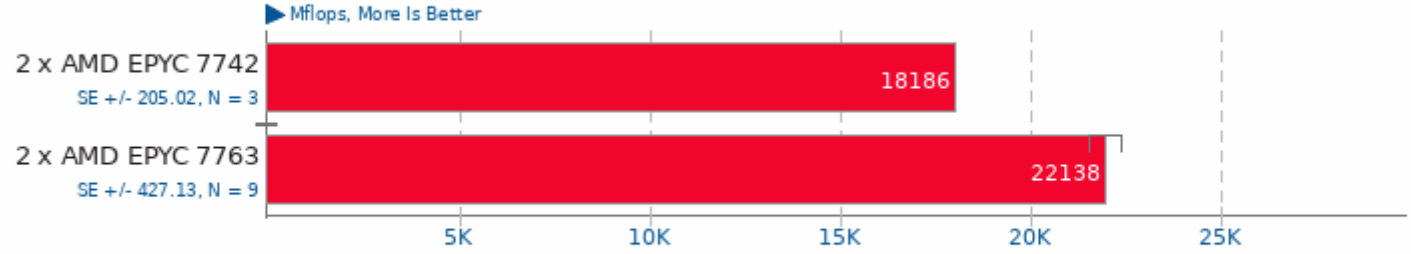
Build: Stock - Size: 2D FFT Size 4096



1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm

FFTW 3.3.6

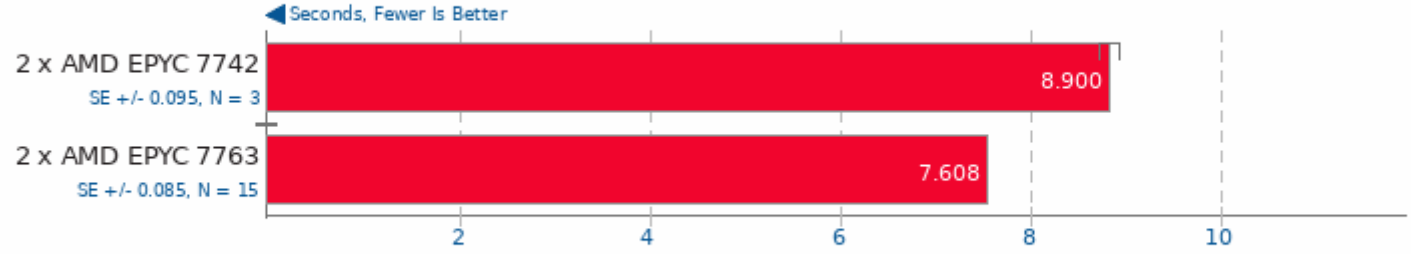
Build: Float + SSE - Size: 2D FFT Size 4096



1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm

Rodinia 2.4

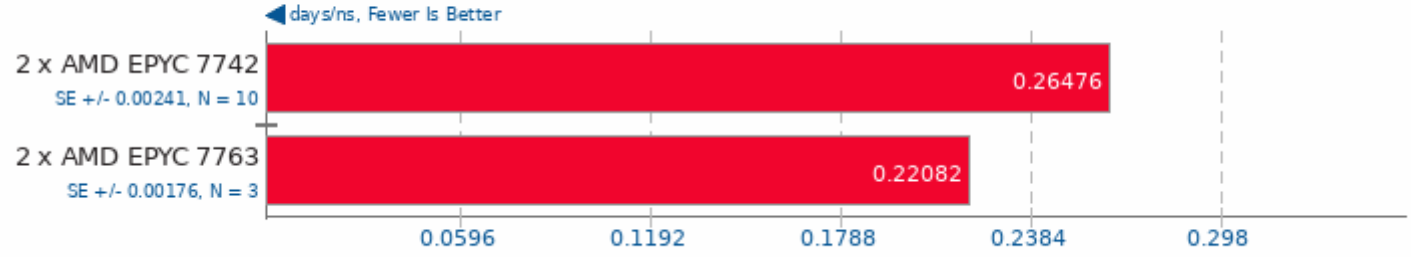
Test: OpenMP CFD Solver



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

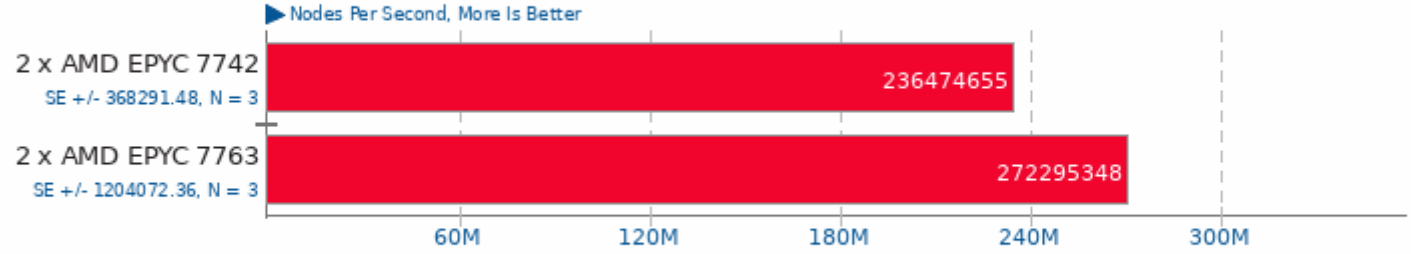
NAMD 2.13b1

ATPase Simulation - 327,506 Atoms



Stockfish 9

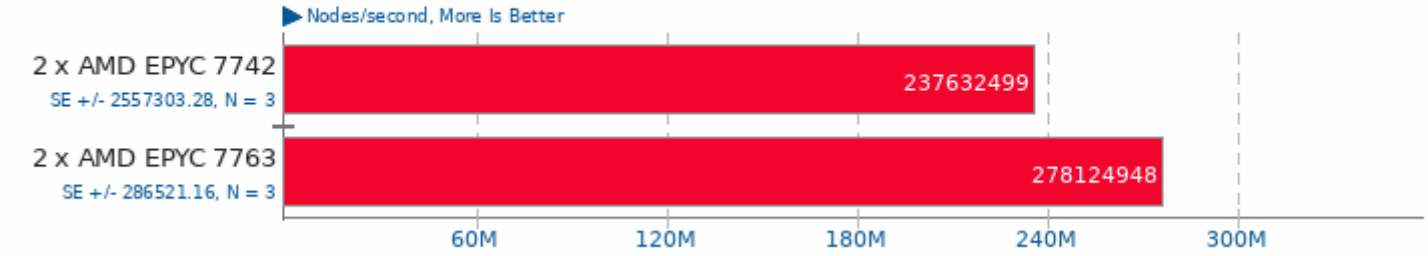
Total Time



1. (CXX) g++ options: -m64 -lpthread -fno-exceptions -std=c++11 -pedantic -O3 -msse -msse3 -mpopcnt -flto

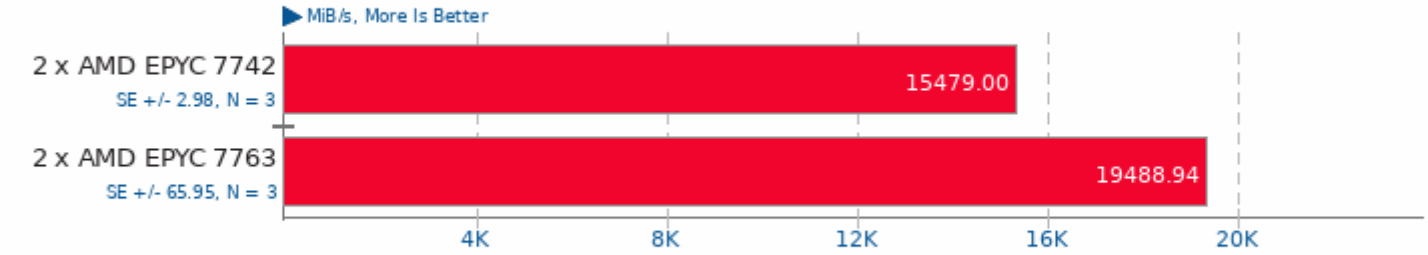
asmFish 2018-07-23

1024 Hash Memory, 26 Depth



MBW 2018-09-08

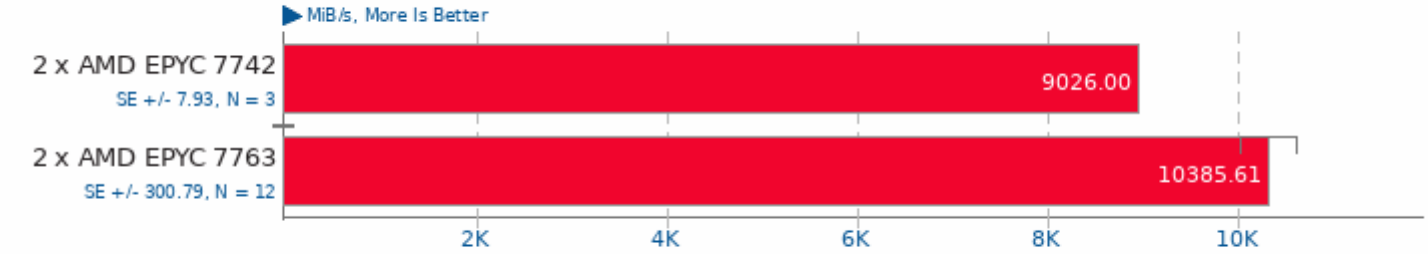
Test: Memory Copy - Array Size: 1024 MiB



1. (CC) gcc options: -O3 -march=native

MBW 2018-09-08

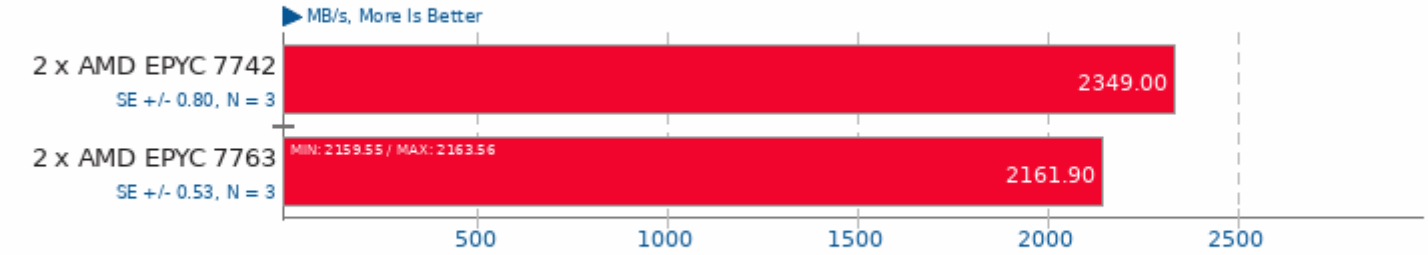
Test: Memory Copy, Fixed Block Size - Array Size: 1024 MiB



1. (CC) gcc options: -O3 -march=native

CacheBench

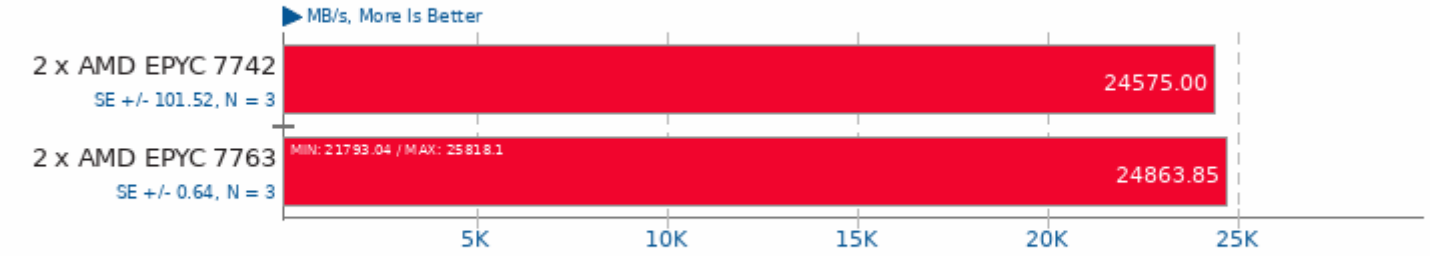
Read Cache



1. (CC) gcc options: -lrt

CacheBench

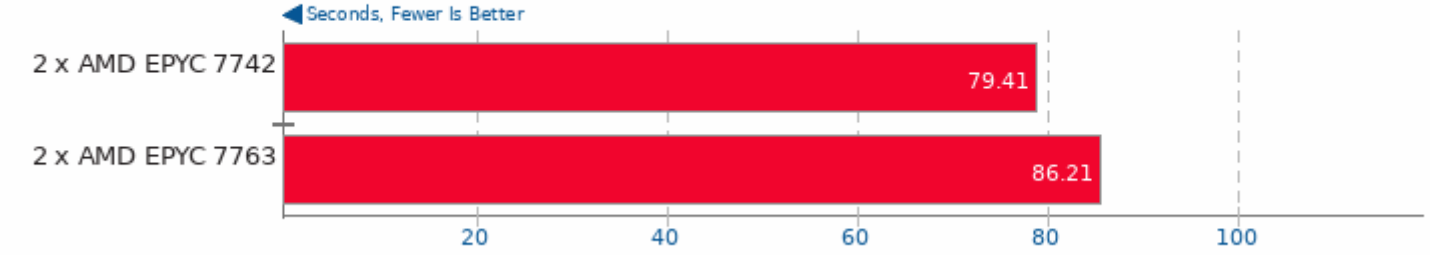
Write Cache



1. (CC) gcc options: -lrt

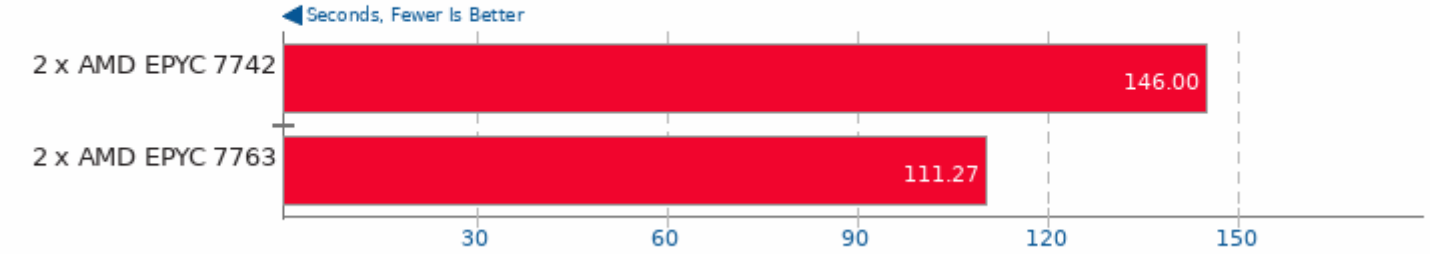
Timed LLVM Compilation 6.0.1

Time To Compile



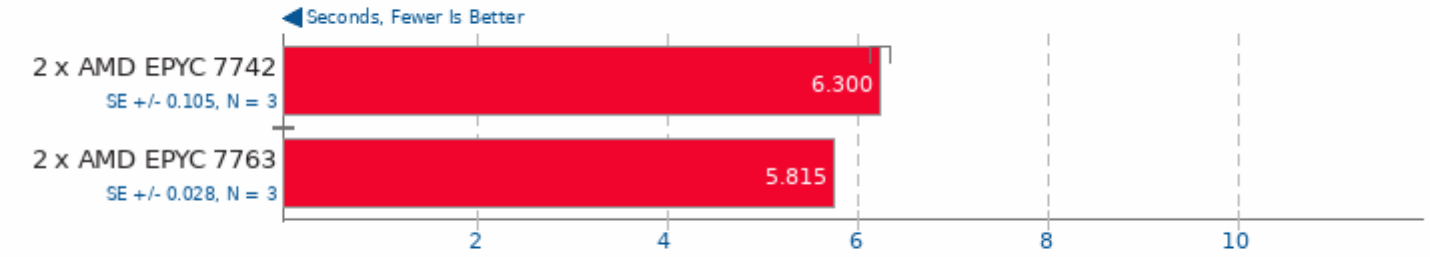
Blender 2.79a

Blend File: Barbershop - Compute: CPU-Only



C-Ray 1.1

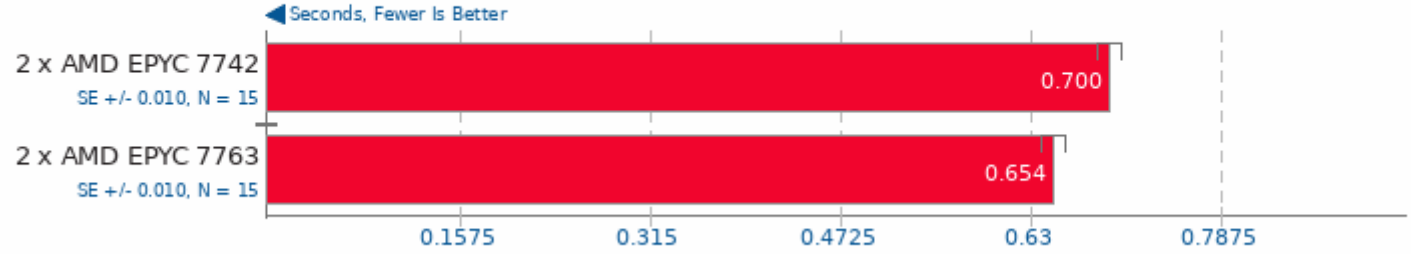
Total Time - 4K, 16 Rays Per Pixel



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

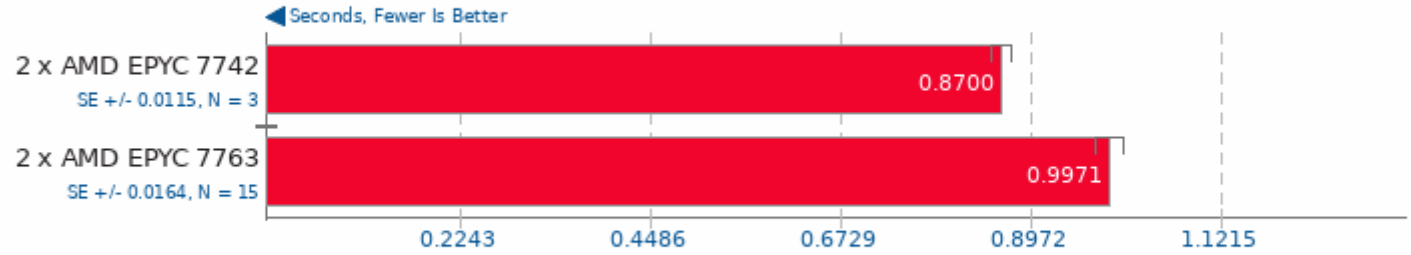
Sunflow Rendering System 0.07.2

Global Illumination + Image Synthesis



Tachyon 0.98.9

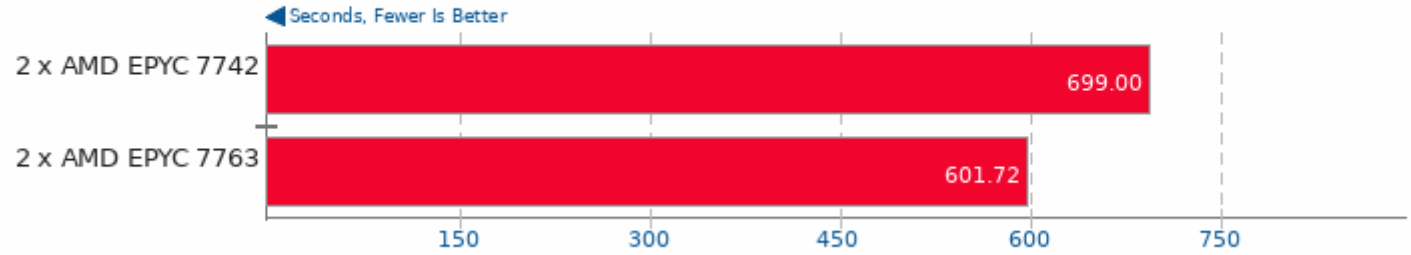
Total Time



1. (CC) gcc options: -m32 -O3 -fomit-frame-pointer -ffast-math -ltachyon -lm -lpthread

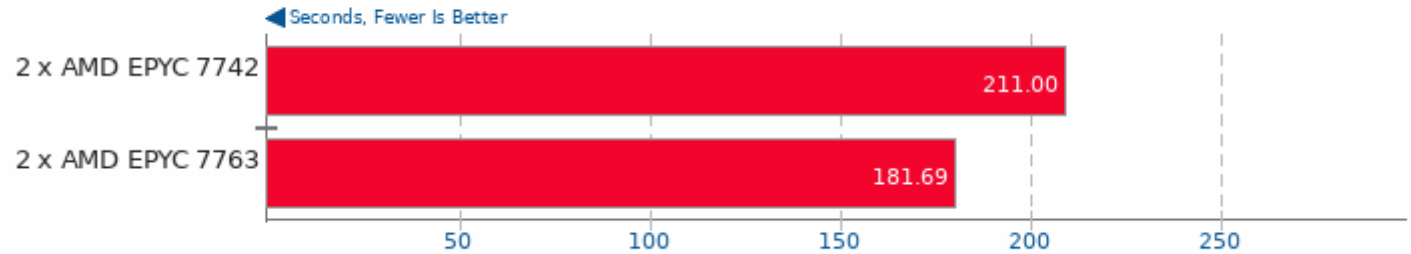
Radiance Benchmark 5.0

Test: Serial



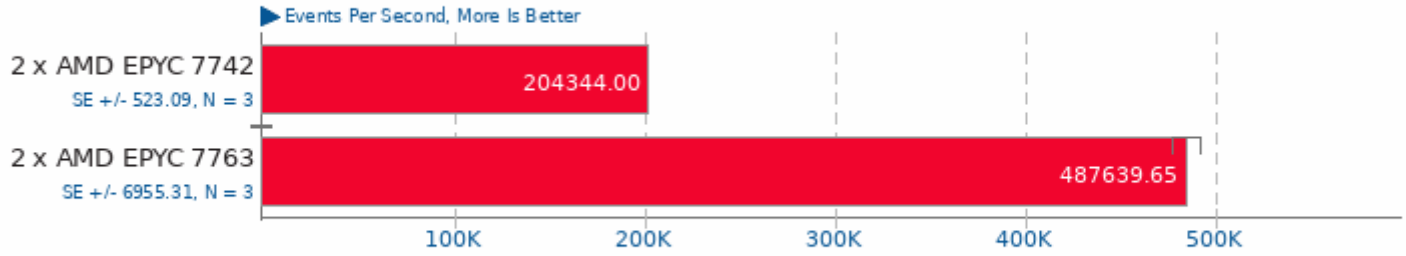
Radiance Benchmark 5.0

Test: SMP Parallel



Sysbench 2018-07-28

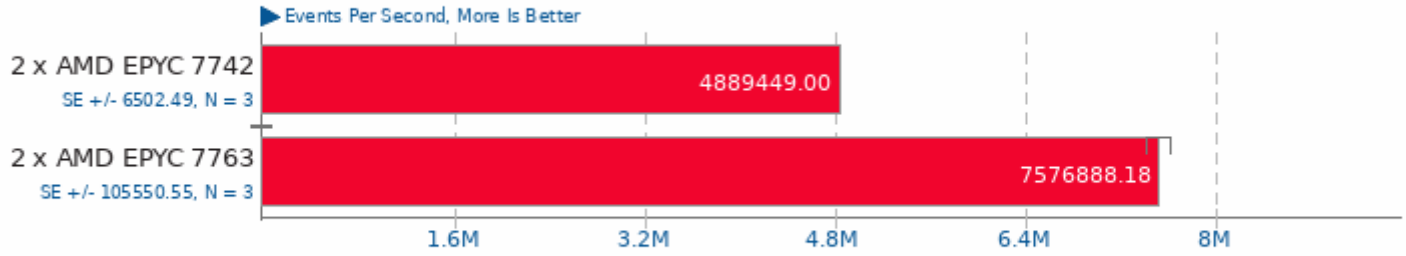
Test: CPU



1. (CC) gcc options: -pthread -O3 -funroll-loops -ggdb3 -march=amdfam10 -rdynamic -ldl -laio -lm

Sysbench 2018-07-28

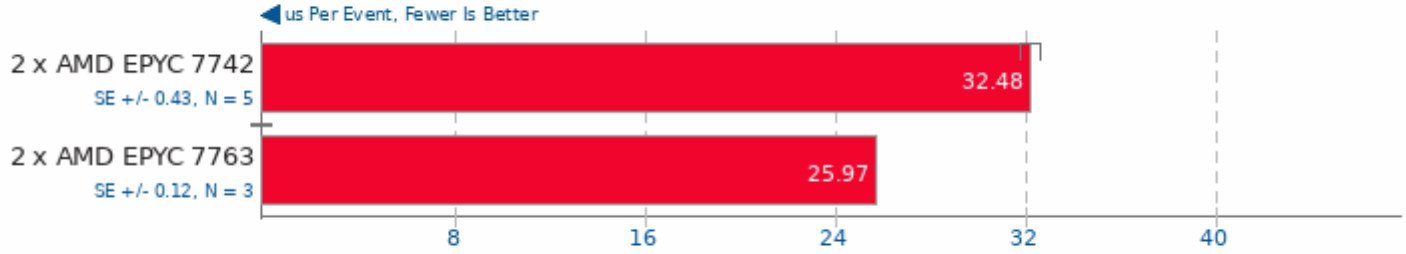
Test: Memory



1. (CC) gcc options: -pthread -O3 -funroll-loops -ggdb3 -march=amdfam10 -rdynamic -ldl -laio -lm

OSBench

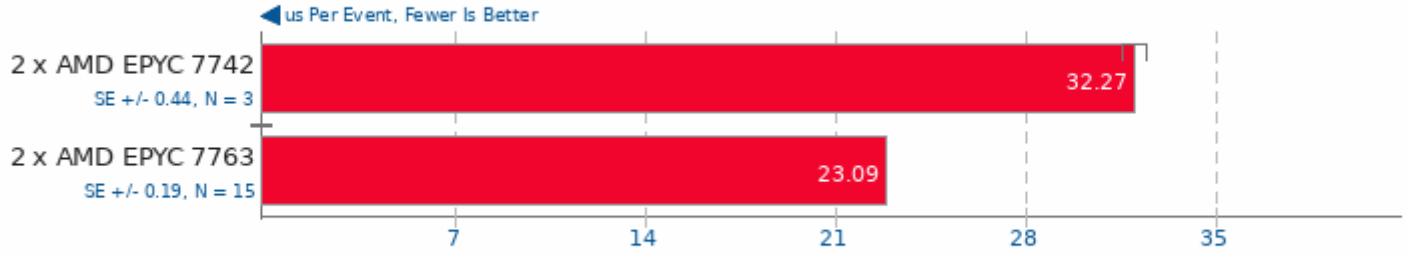
Test: Create Files



1. (CC) gcc options: -lm

OSBench

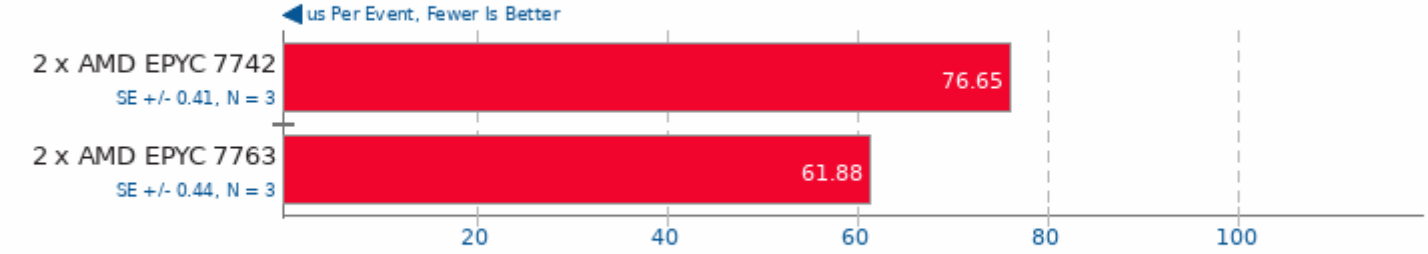
Test: Create Threads



1. (CC) gcc options: -lm

OSBench

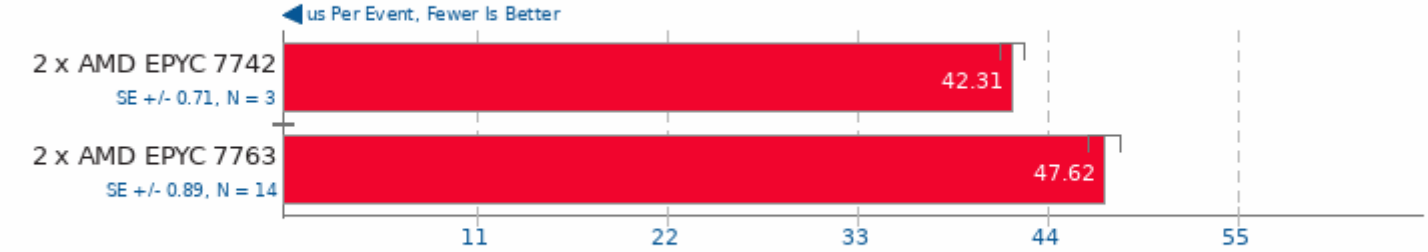
Test: Launch Programs



1. (CC) gcc options: -lm

OSBench

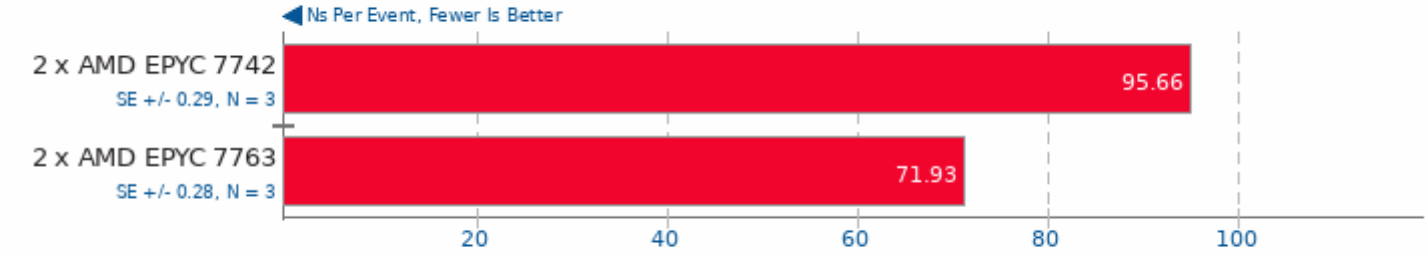
Test: Create Processes



1. (CC) gcc options: -lm

OSBench

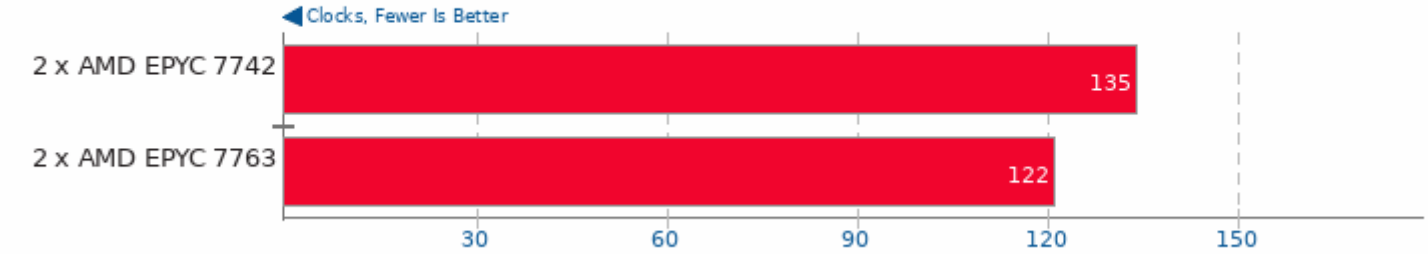
Test: Memory Allocations



1. (CC) gcc options: -lm

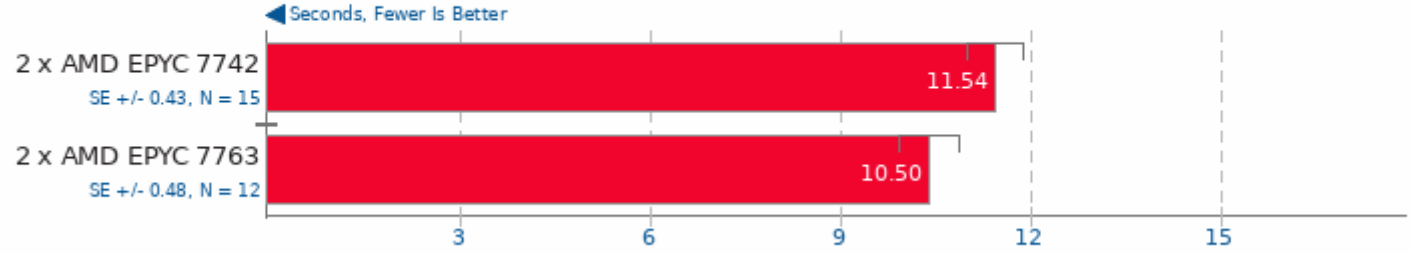
ctx_clock

Context Switch Time



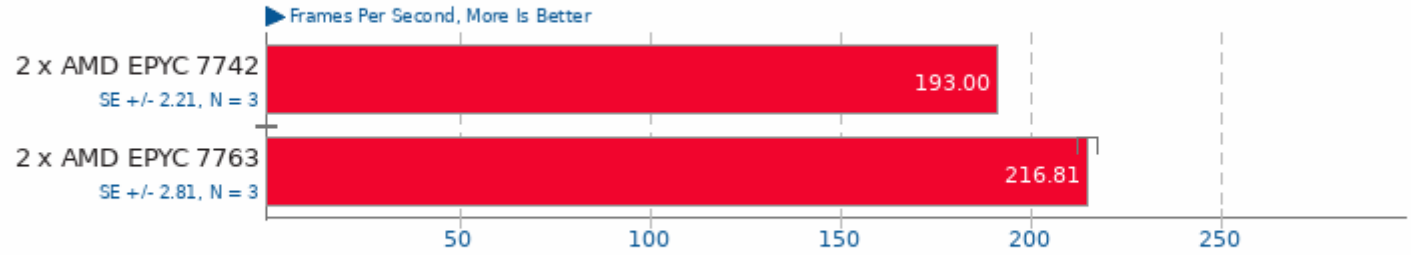
Loopback TCP Network Performance

Time To Transfer 10GB Via Loopback



x264 2018-09-25

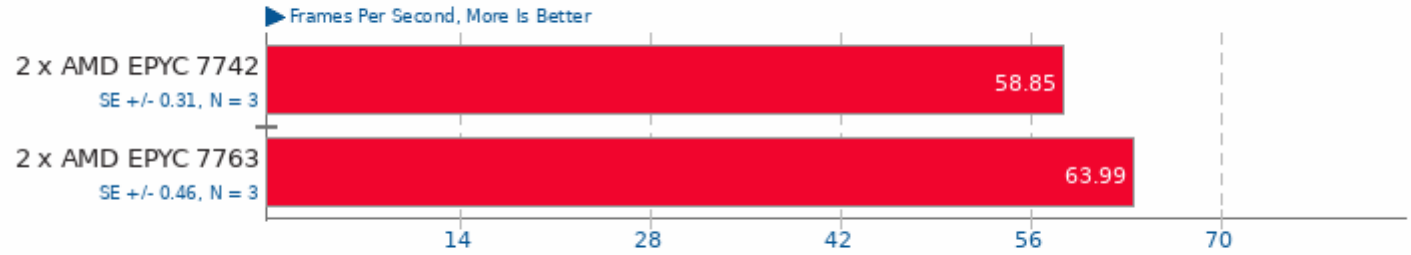
H.264 Video Encoding



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

x265 3.0

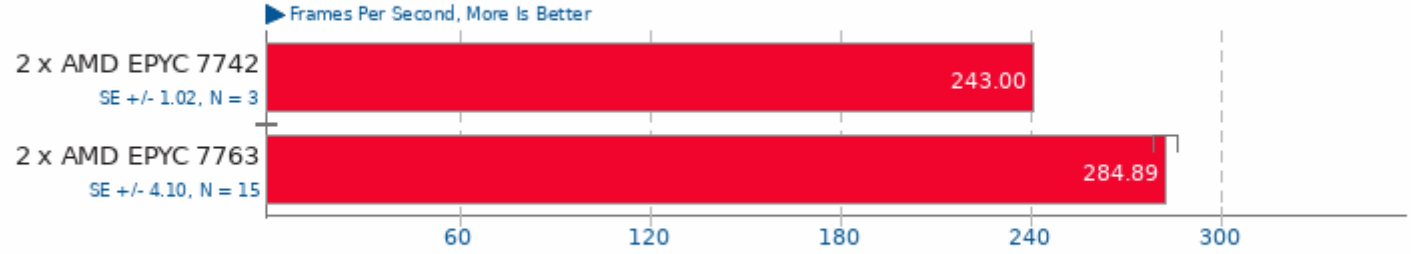
H.265 1080p Video Encoding



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

VP9 libvpx Encoding 1.8.0

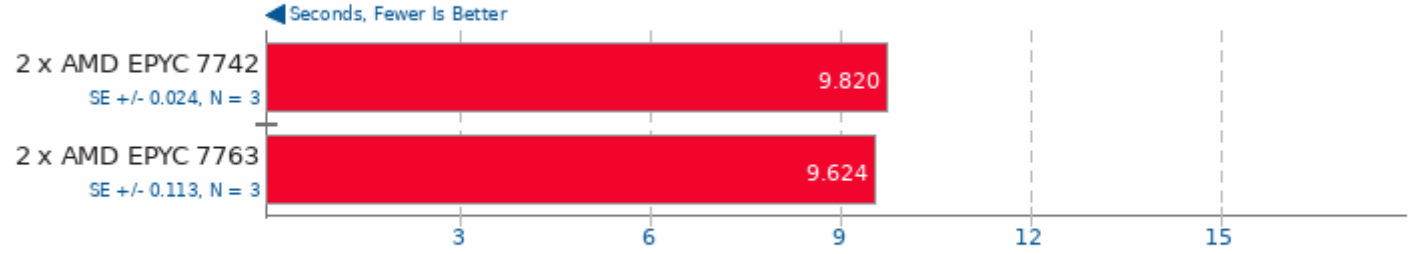
vpxenc VP9 1080p Video Encode



1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U_FORTIFY_SOURCE -std=c++11

dav1d 0.3

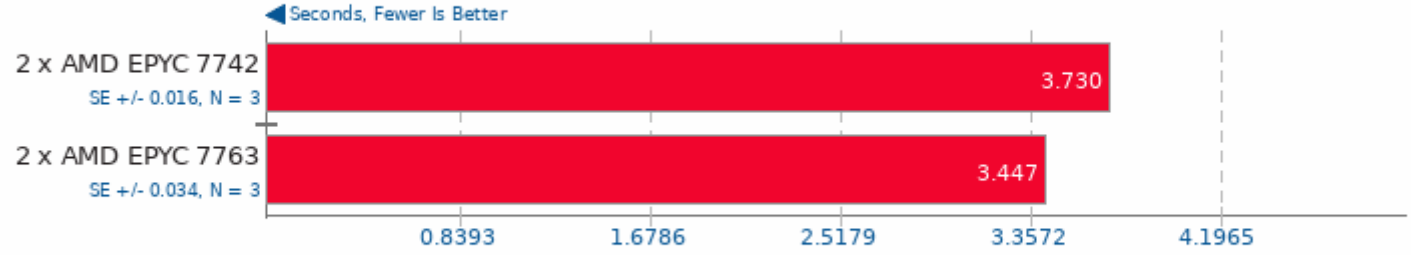
Video Input: Summer Nature 4K



1. (CC) gcc options: -pthread

dav1d 0.3

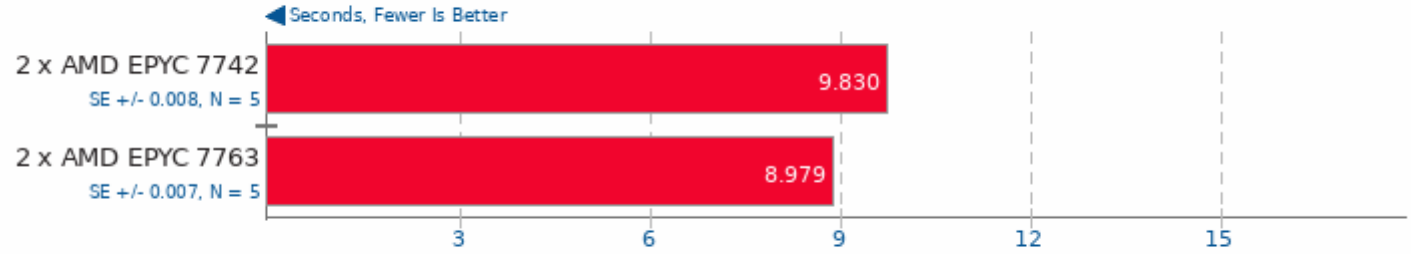
Video Input: Summer Nature 1080p



1. (CC) gcc options: -pthread

FLAC Audio Encoding 1.3.2

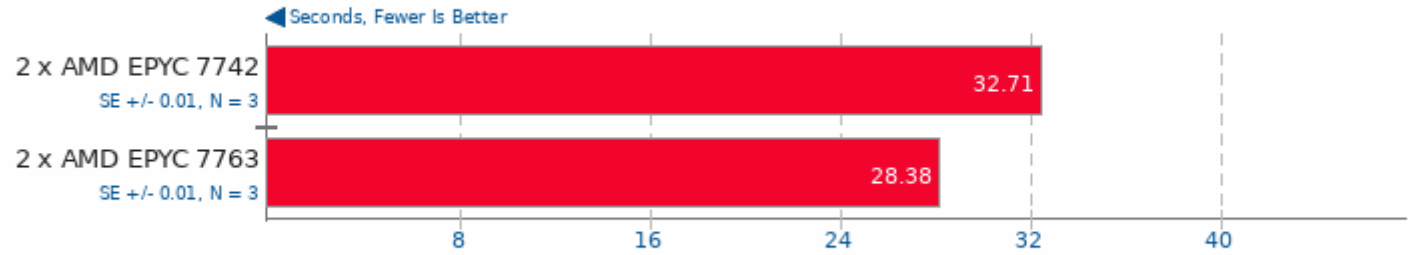
WAV To FLAC



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

LAME MP3 Encoding 3.100

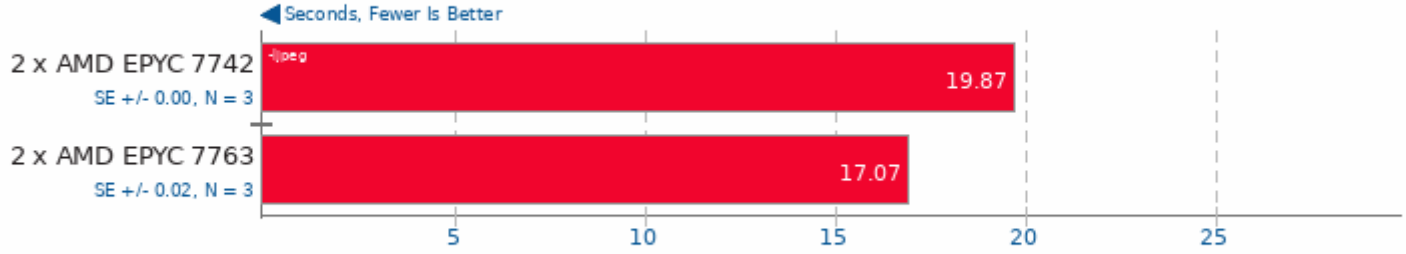
WAV To MP3



1. (CC) gcc options: -lm

Mencoder 1.3.0

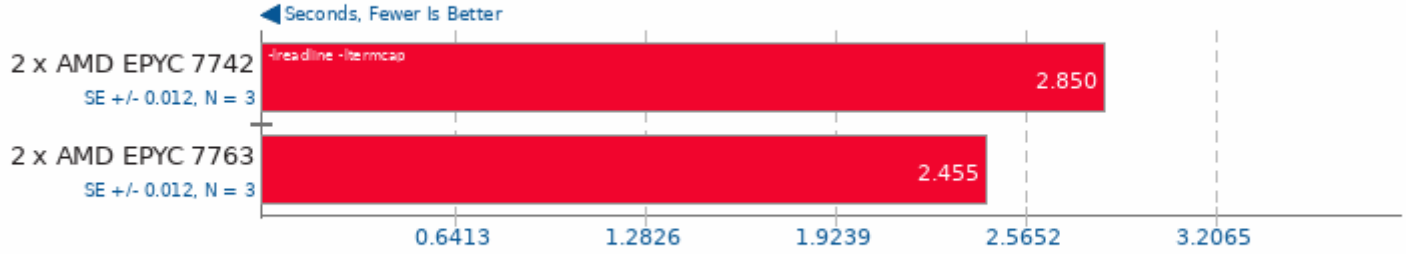
AVI To LAVC



1. (CC) gcc options: -ffast-math -fpie -pie -lrt -lpng -lz -lbz2 -lpthread -ldl -rdynamic -lm

SQLite 3.22

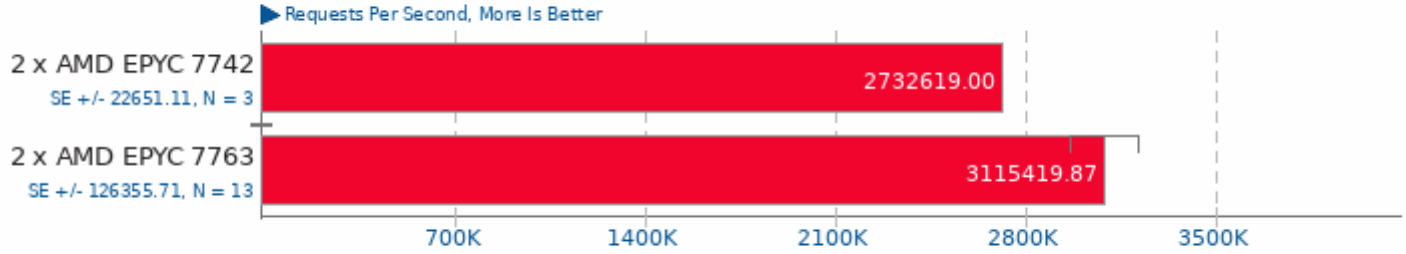
Timed SQLite Insertions



1. (CC) gcc options: -O2 -lz -ldl -lpthread

Redis 4.0.8

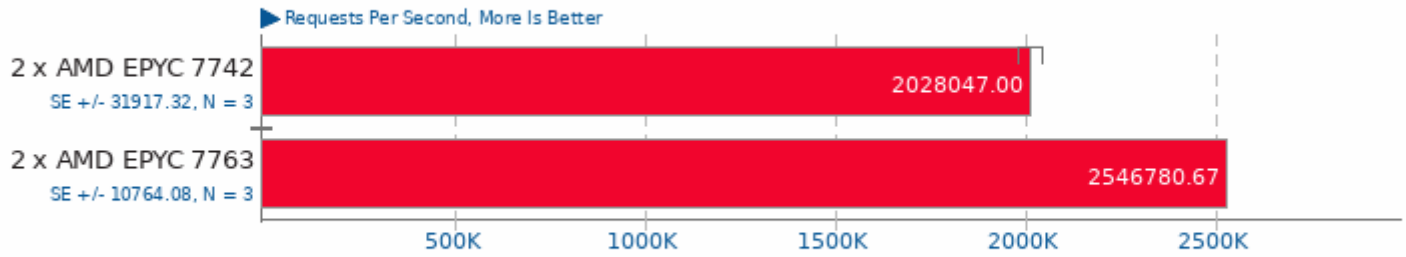
Test: LPOP



1. (CC) gcc options: -ggdb -rdynamic -lm -ldl -pthread

Redis 4.0.8

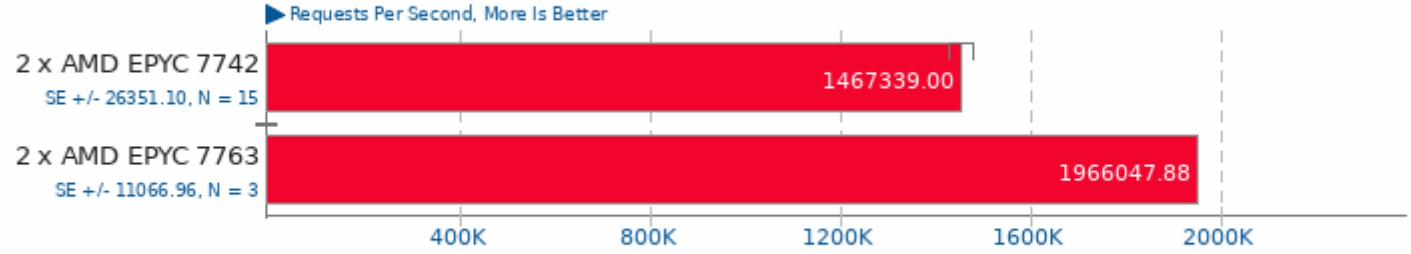
Test: SADD



1. (CC) gcc options: -ggdb -rdynamic -lm -ldl -pthread

Redis 4.0.8

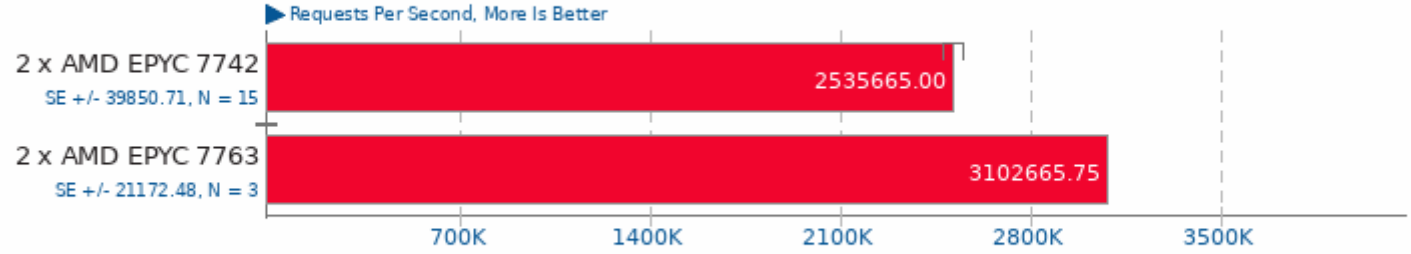
Test: LPUSH



1. (CC) gcc options: -ggdb -rdynamic -lm -ldl -pthread

Redis 4.0.8

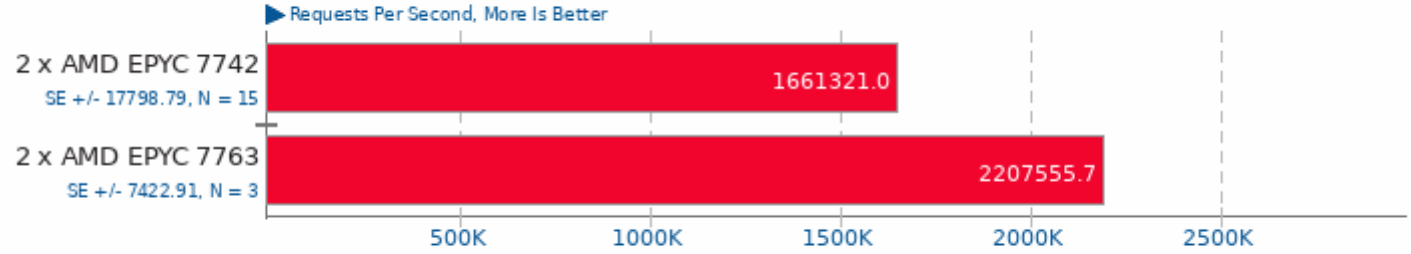
Test: GET



1. (CC) gcc options: -ggdb -rdynamic -lm -ldl -pthread

Redis 4.0.8

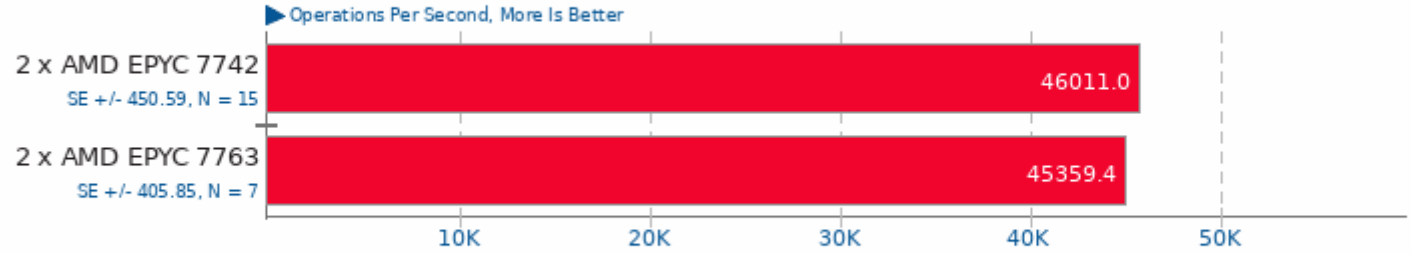
Test: SET



1. (CC) gcc options: -ggdb -rdynamic -lm -ldl -pthread

Memcached mcperf 1.5.10

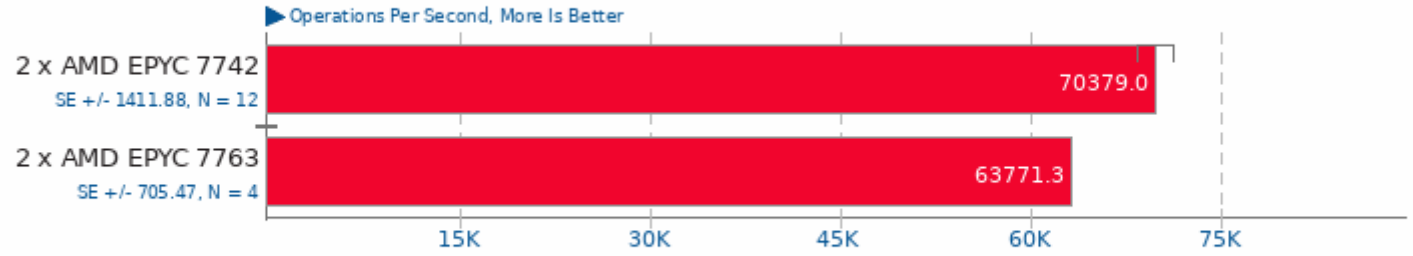
Method: Add



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

Memcached mcperf 1.5.10

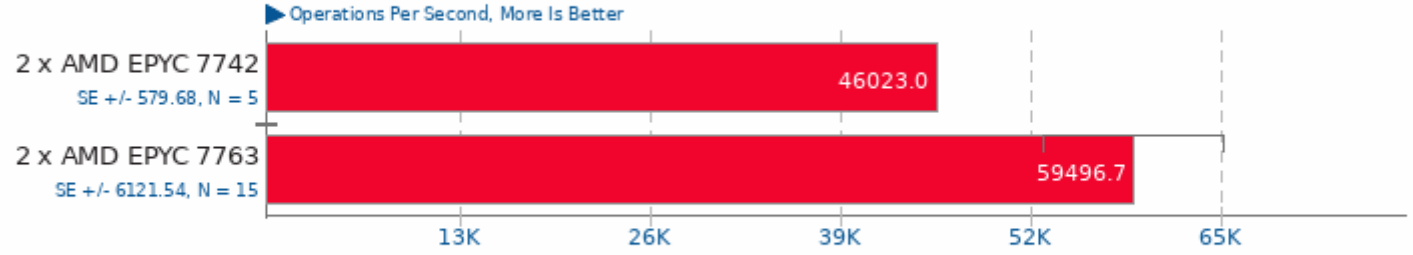
Method: Get



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

Memcached mcperf 1.5.10

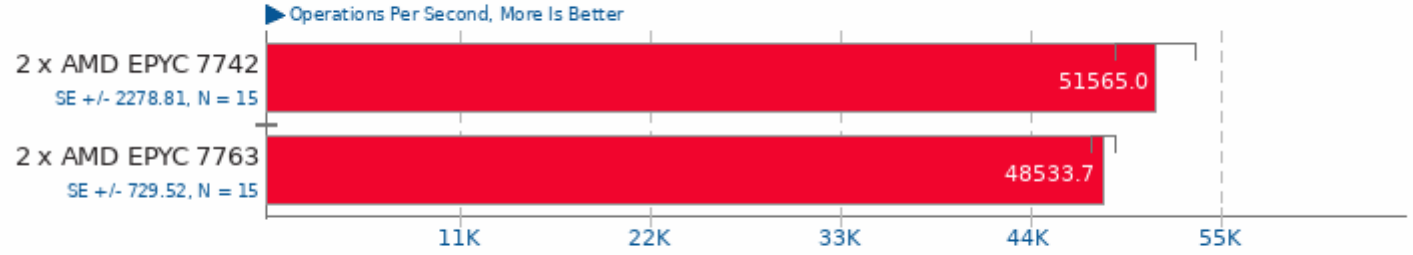
Method: Set



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

Memcached mcperf 1.5.10

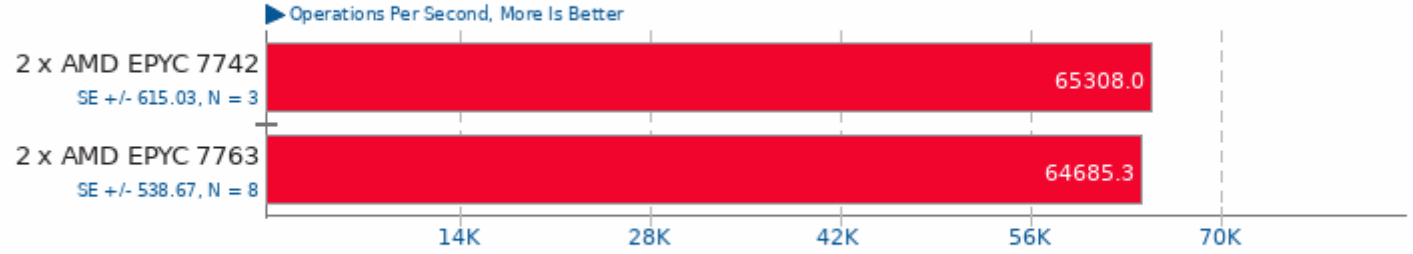
Method: Append



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

Memcached mcperf 1.5.10

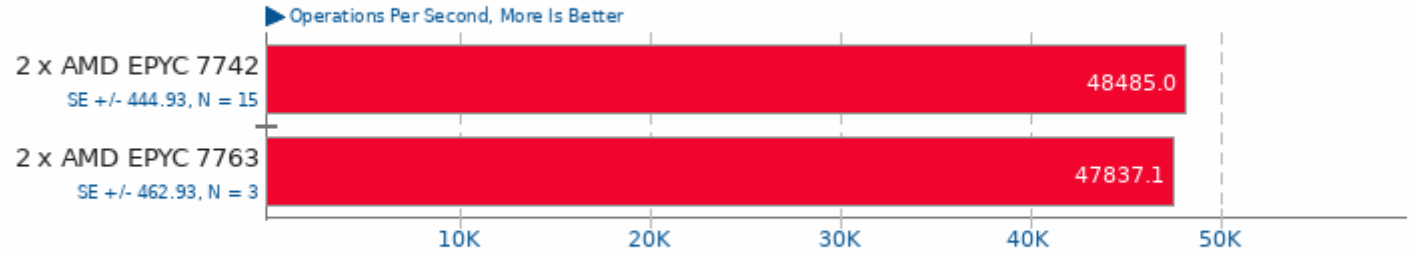
Method: Delete



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

Memcached mcperf 1.5.10

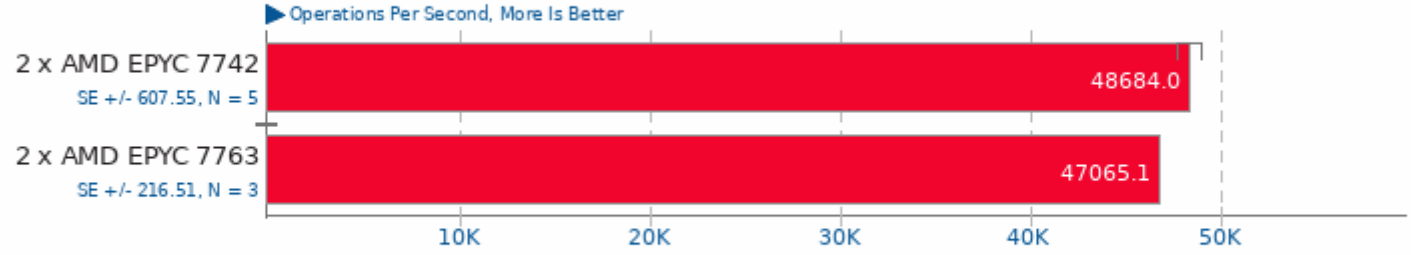
Method: Prepend



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

Memcached mcperf 1.5.10

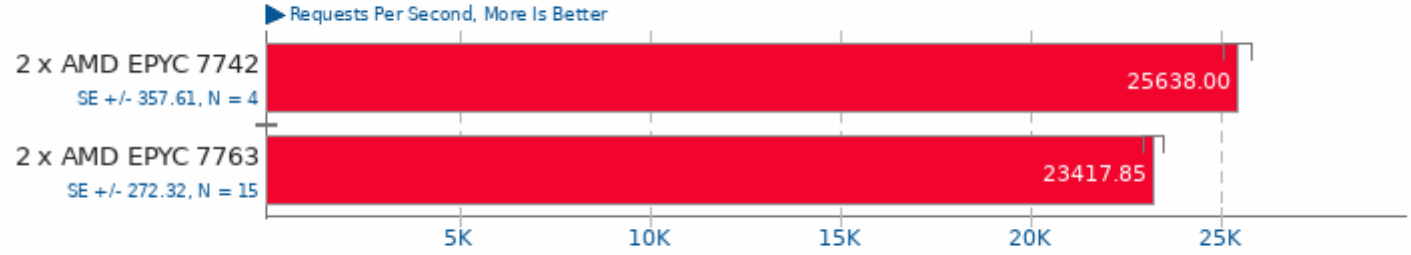
Method: Replace



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

NGINX Benchmark 1.9.9

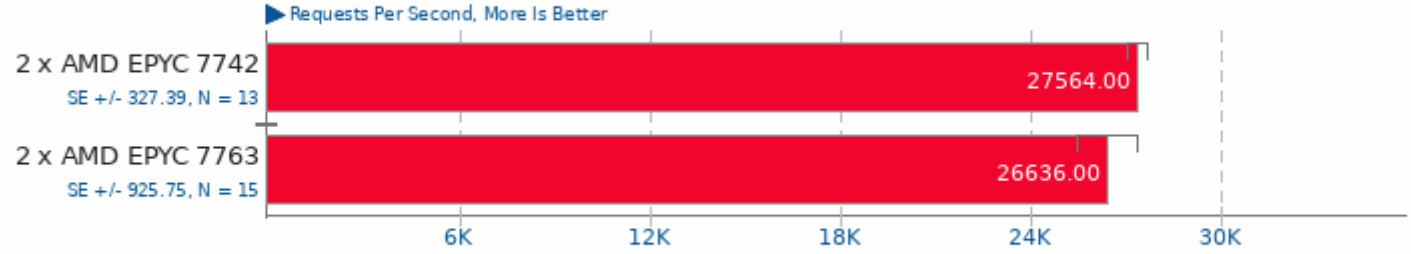
Static Web Page Serving



1. (CC) gcc options: -lpthread -lcrypt -lcrypto -lz -O3 -march=native

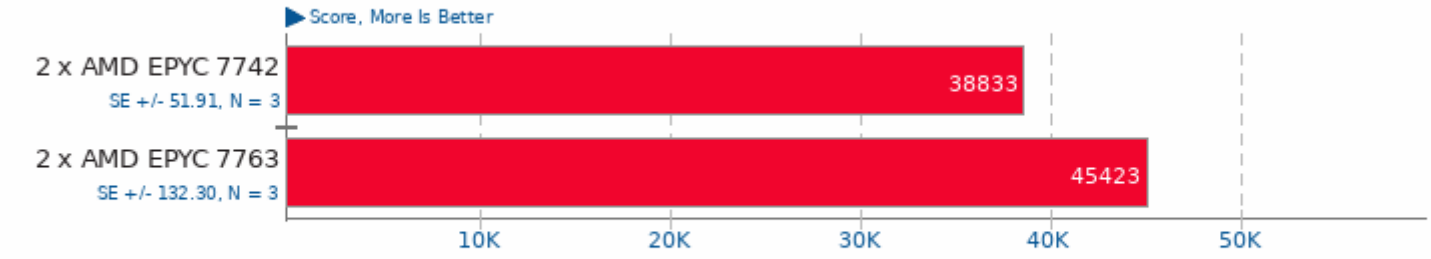
Apache Benchmark 2.4.29

Static Web Page Serving



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

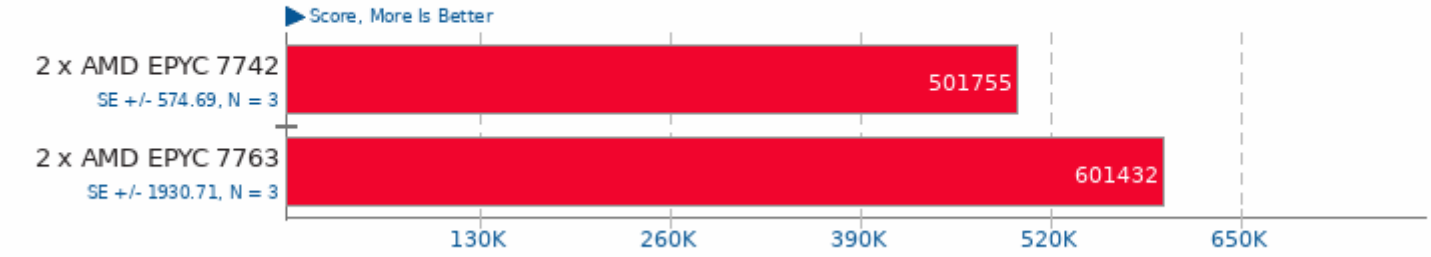
Node.js Octane Benchmark



1. 2 x AMD EPYC 7742: Nodejs v10.15.3
2. 2 x AMD EPYC 7763: Nodejs v10.19.0

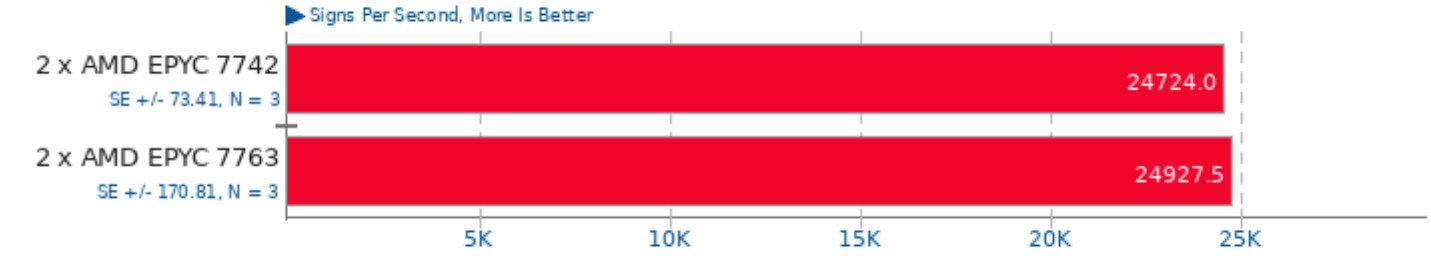
PHPBench 0.8.1

PHP Benchmark Suite



OpenSSL 1.1.1

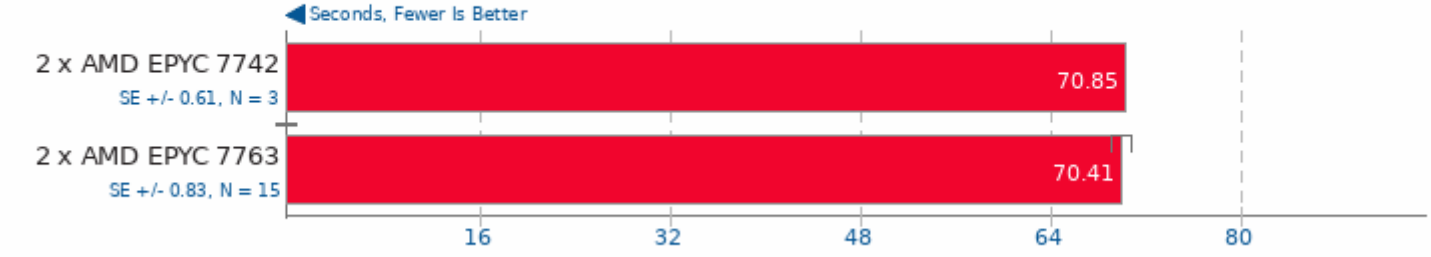
RSA 4096-bit Performance



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

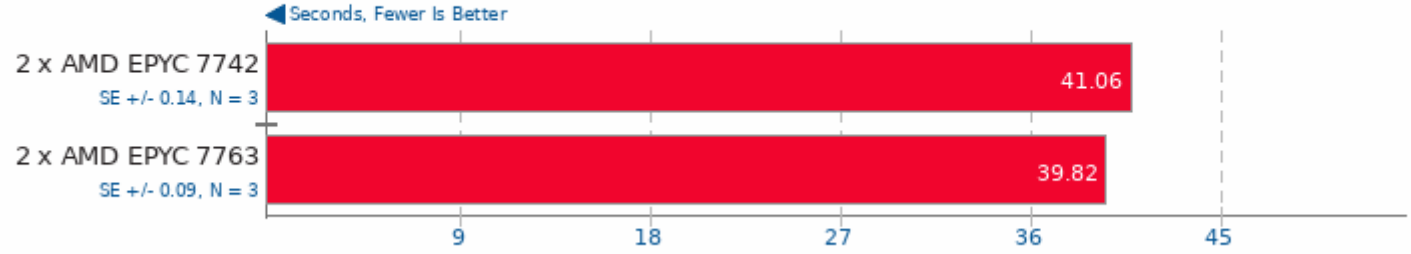
RAR Compression 5.6.1

Linux Source Tree Archiving To RAR



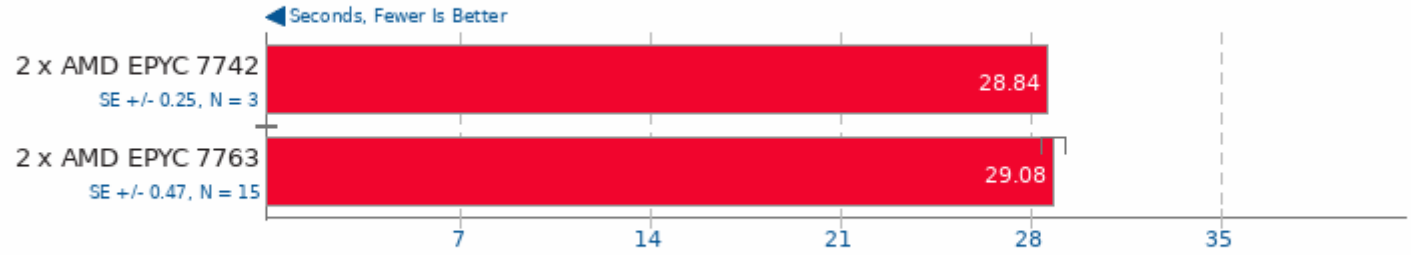
Gzip Compression

Linux Source Tree Archiving To .tar.gz



XZ Compression 5.2.4

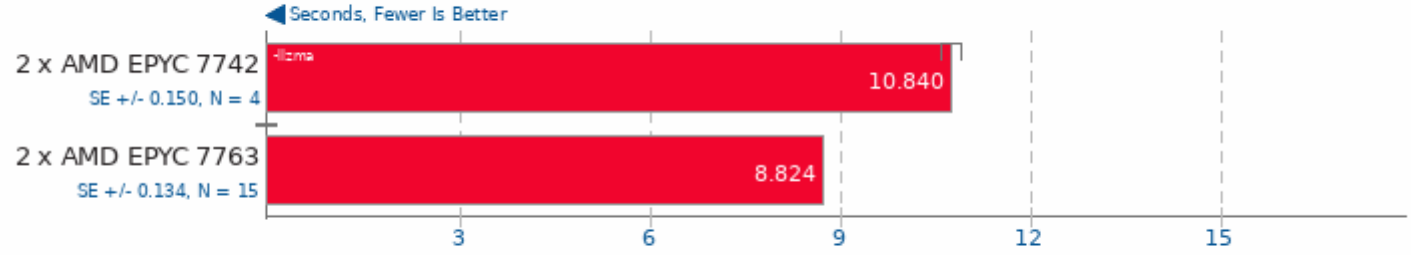
Compressing ubuntu-16.04.3-server-i386.img, Compression Level 9



1. (CC) gcc options: -pthread -fvisibility=hidden -O2

Zstd Compression 1.3.4

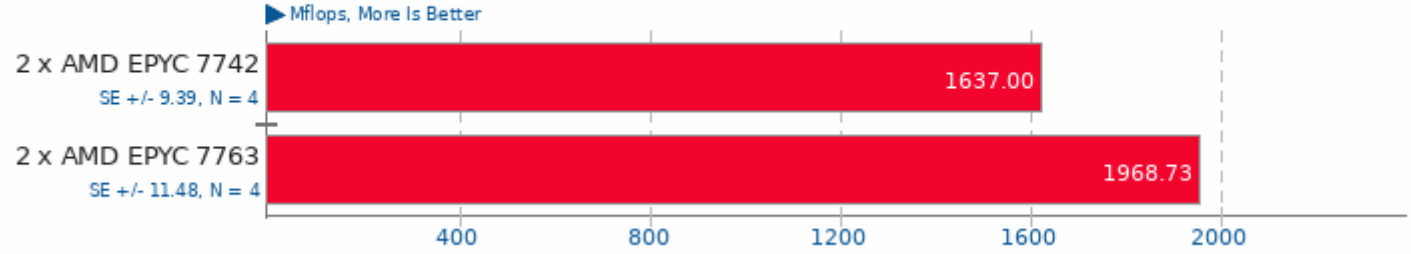
Compressing ubuntu-16.04.3-server-i386.img, Compression Level 19



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

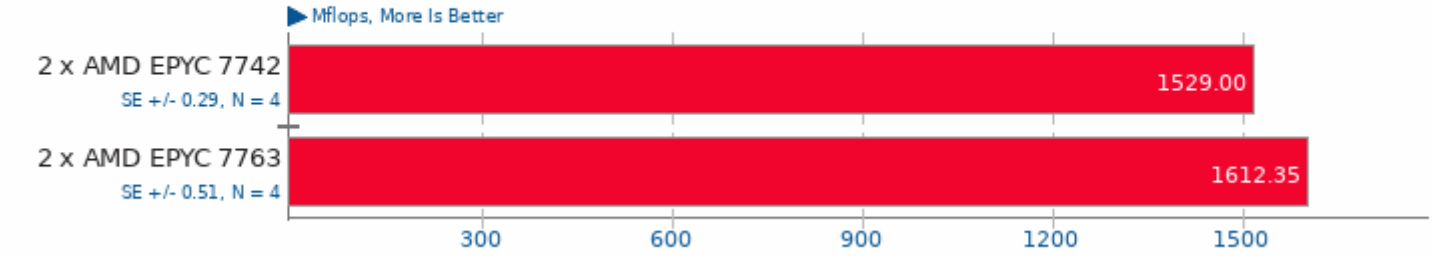
Java SciMark 2.0

FFT Performance



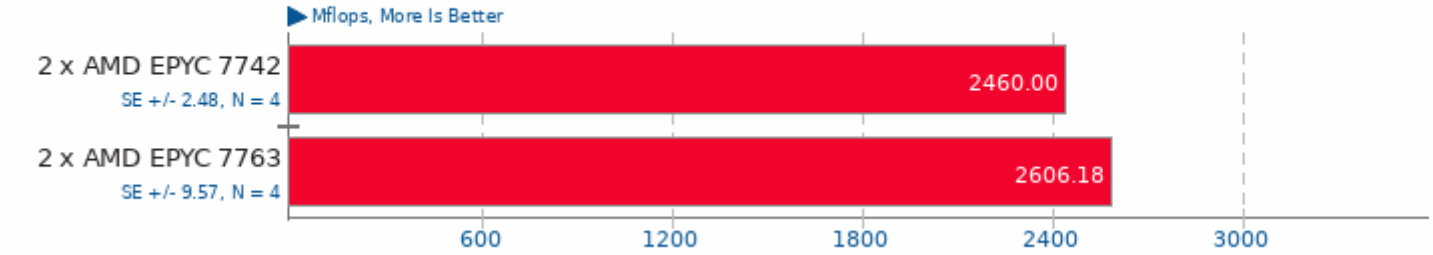
Java SciMark 2.0

SOR Performance



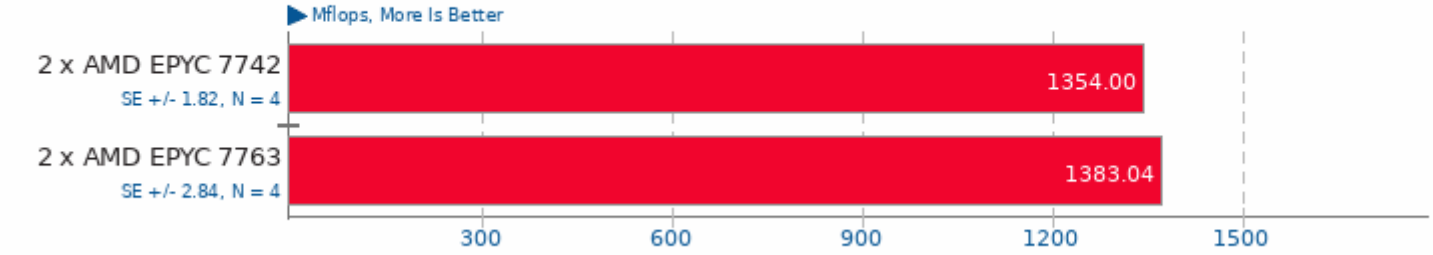
Java SciMark 2.0

Composite Performance



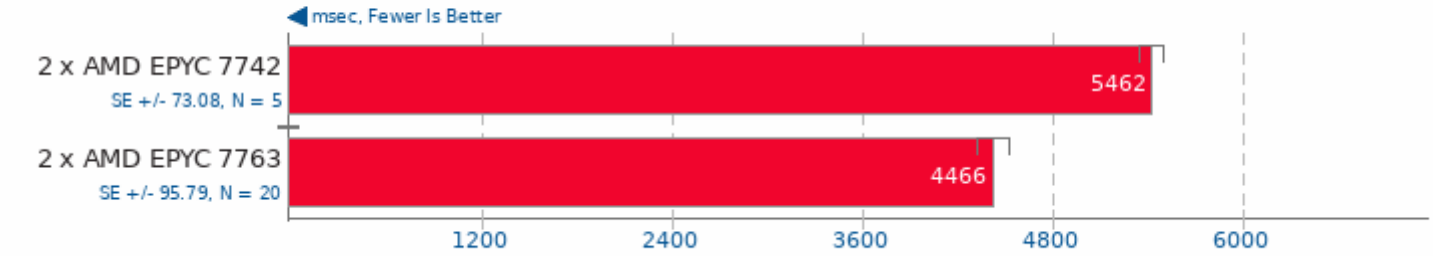
Java SciMark 2.0

Monte Carlo Performance



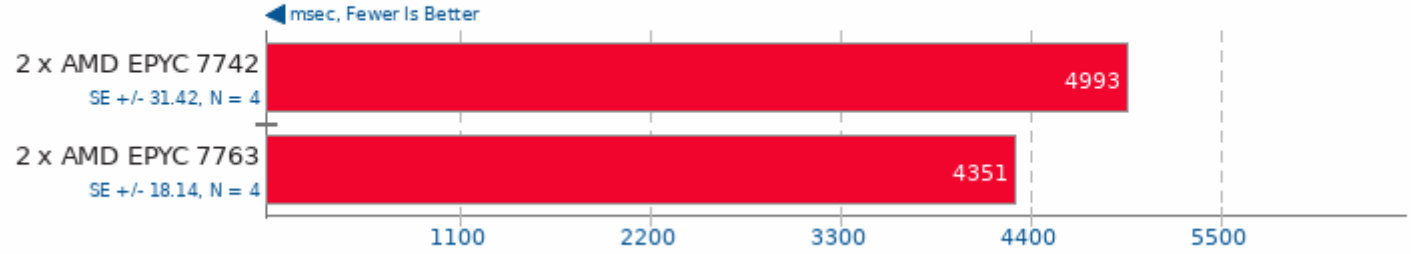
DaCapo Benchmark 9.12-MR1

Java Test: H2



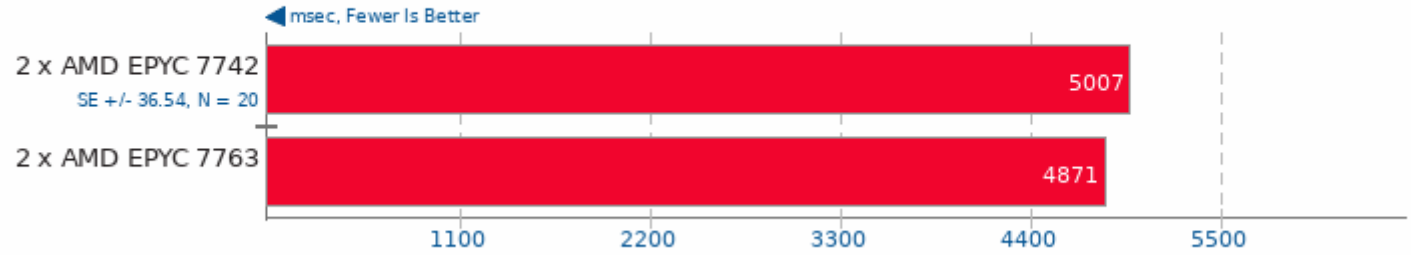
DaCapo Benchmark 9.12-MR1

Java Test: Jython



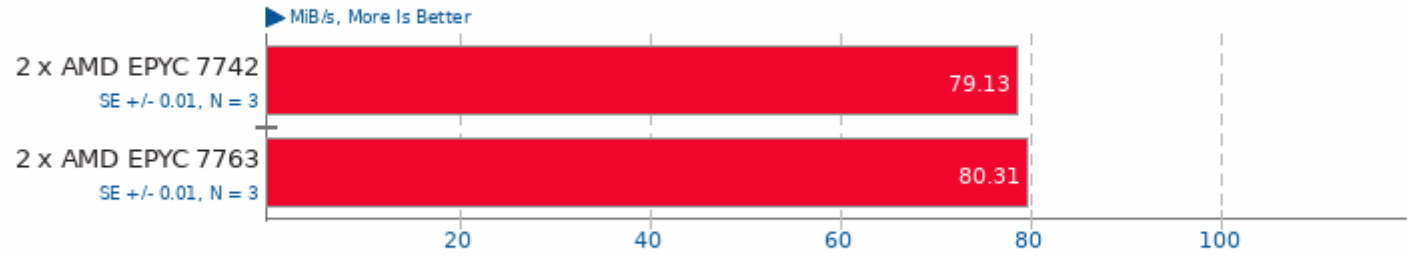
DaCapo Benchmark 9.12-MR1

Java Test: Tradebeans



Botan 2.8.0

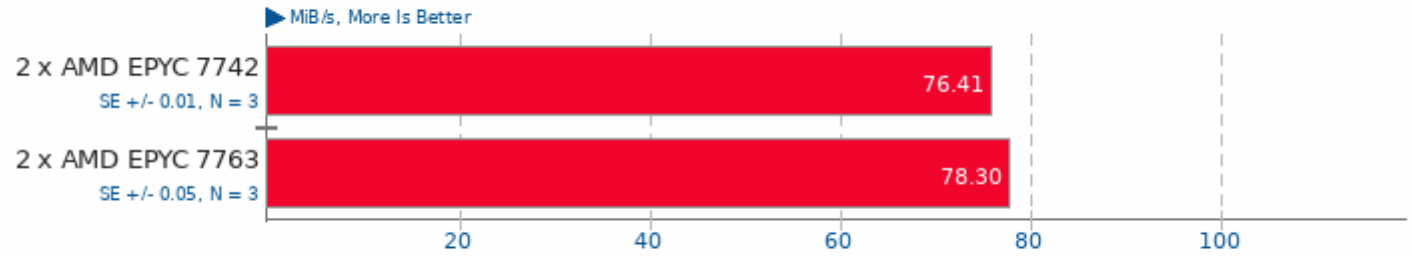
Test: KASUMI - Encrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.8.0

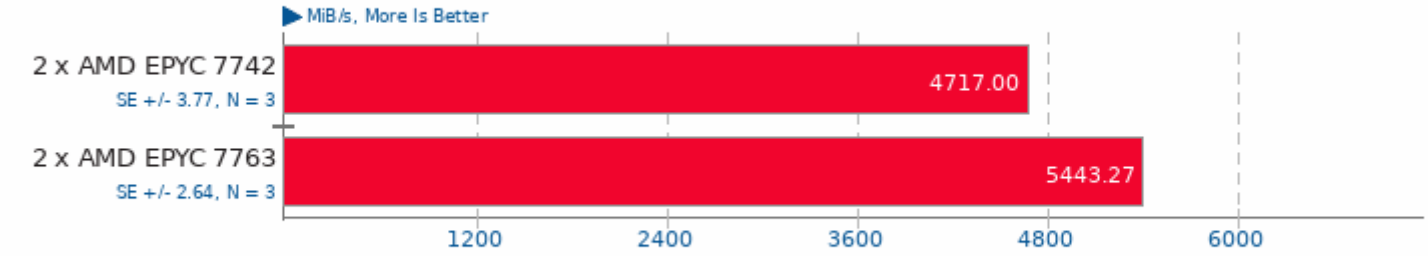
Test: KASUMI - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.8.0

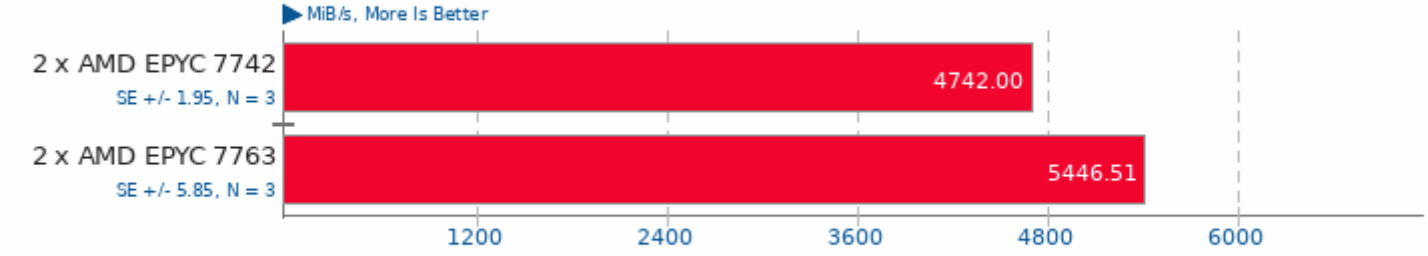
Test: AES-256 - Encrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.8.0

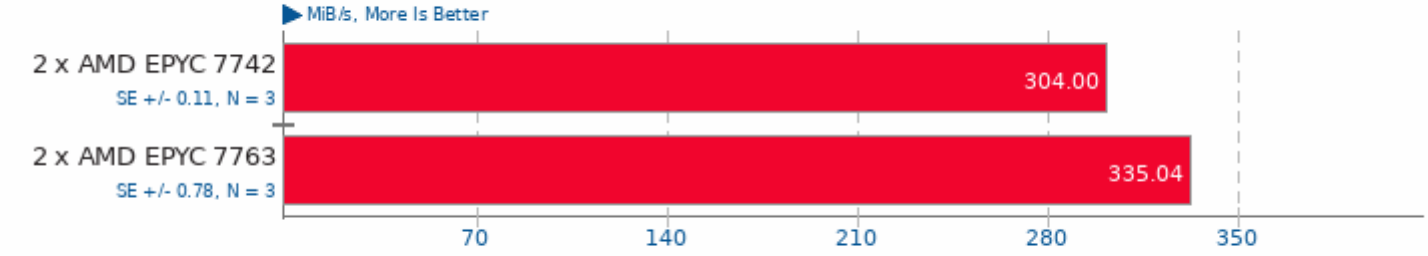
Test: AES-256 - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.8.0

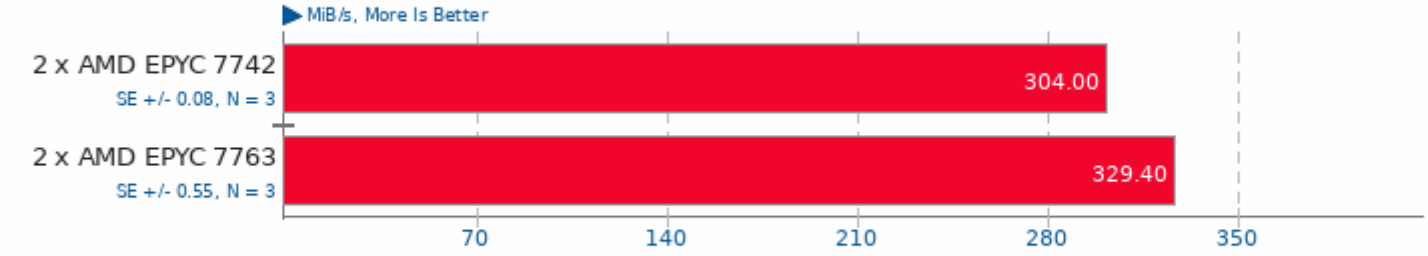
Test: Twofish - Encrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.8.0

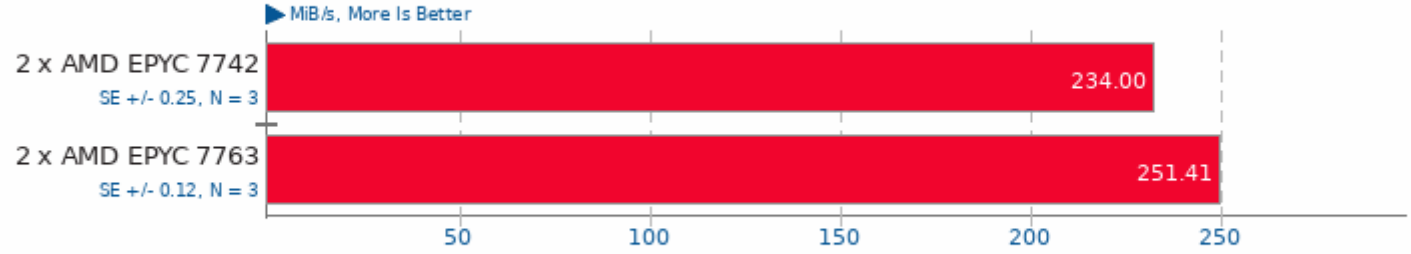
Test: Twofish - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.8.0

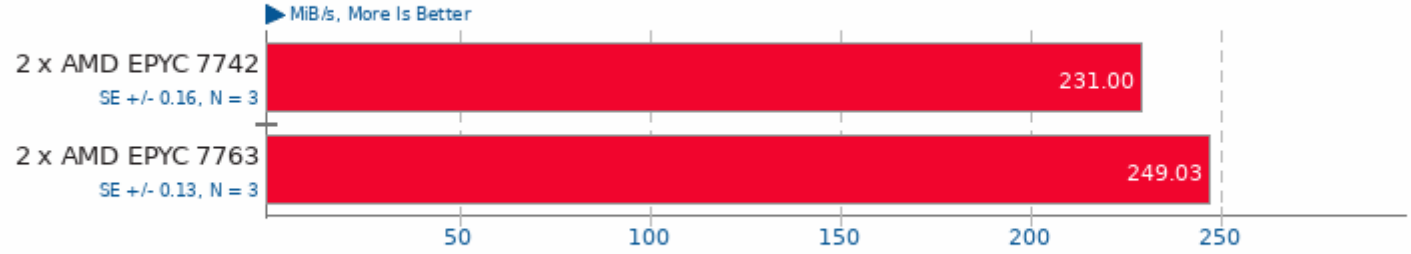
Test: Blowfish - Encrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.8.0

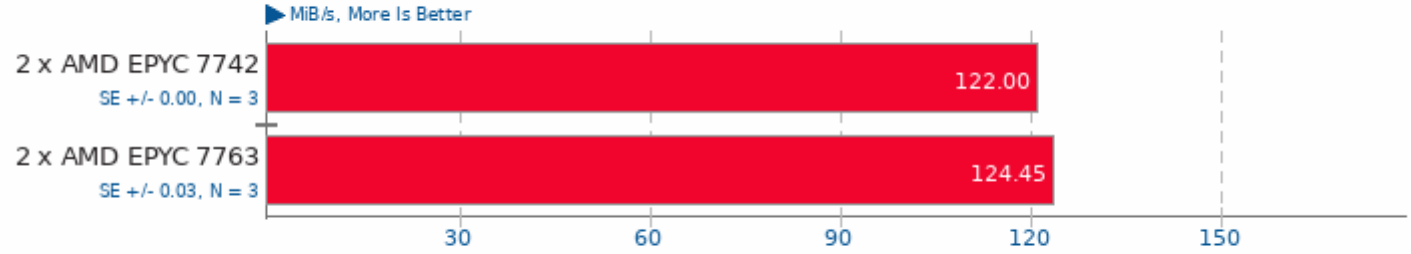
Test: Blowfish - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.8.0

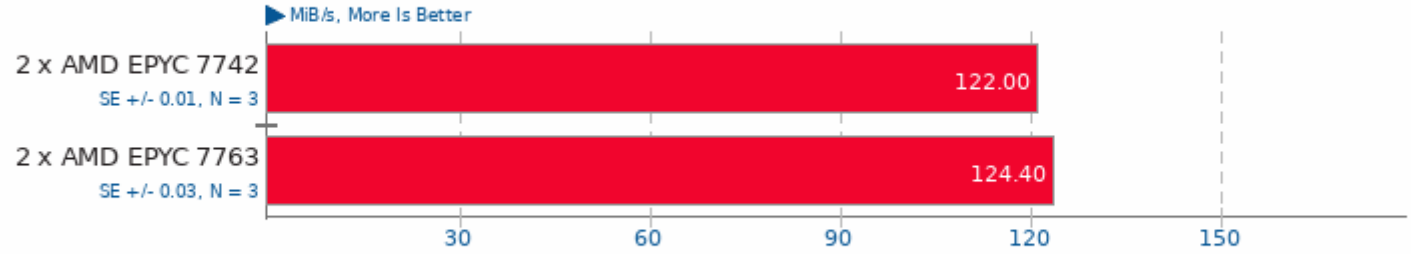
Test: CAST-256 - Encrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.8.0

Test: CAST-256 - Decrypt



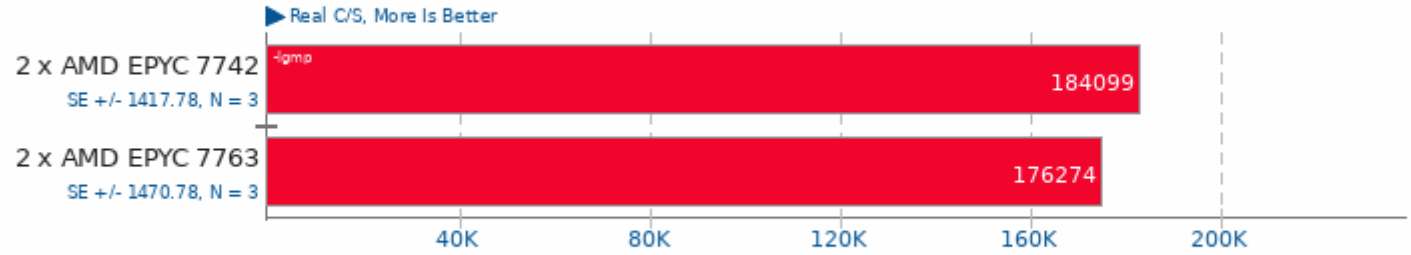
1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Bork File Encrypter 1.4

File Encryption Time

John The Ripper 1.9.0-jumbo-1

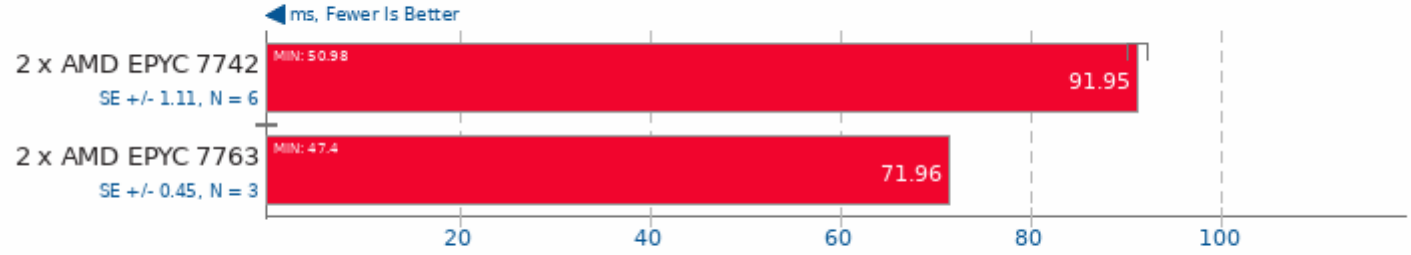
Test: Blowfish



1. (CC) gcc options: -m64 -lssl -lcrypto -fopenmp -pthread -lm -lz -ldl -lcrypt -lbz2

MKL-DNN 2019-04-16

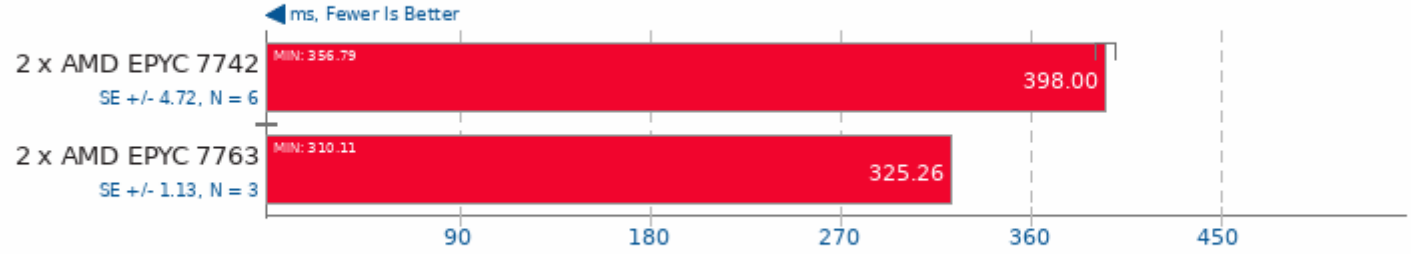
Harness: IP Batch All - Data Type: f32



1. (CXX) g++ options: -std=c++11 -march=native -mtune=native -fPIC -fopenmp -O3 -pie -lmklml_intel -ldl

MKL-DNN 2019-04-16

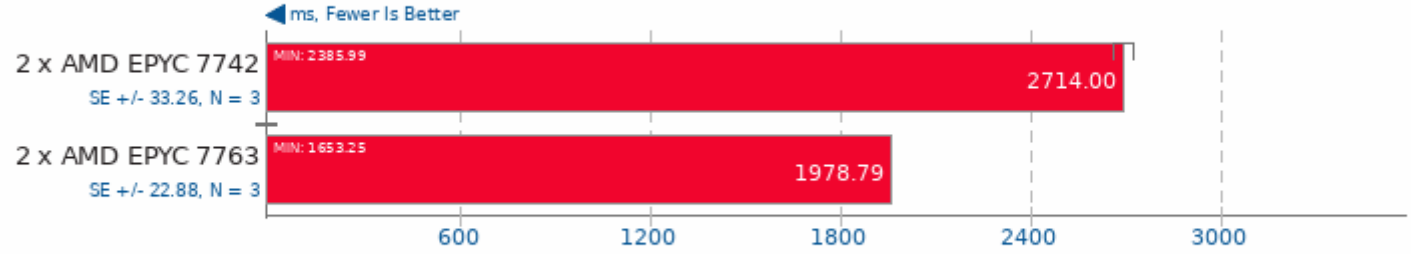
Harness: Convolution Batch conv_all - Data Type: f32



1. (CXX) g++ options: -std=c++11 -march=native -mtune=native -fPIC -fopenmp -O3 -pie -lmklml_intel -ldl

MKL-DNN 2019-04-16

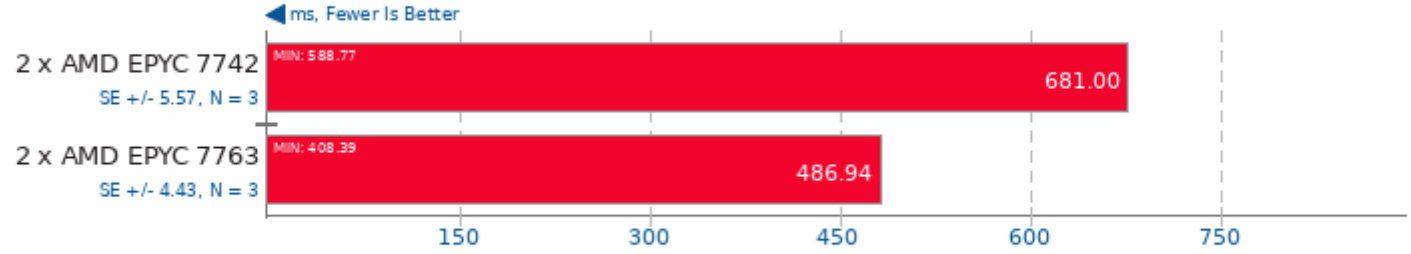
Harness: Deconvolution Batch deconv_all - Data Type: f32



1. (CXX) g++ options: -std=c++11 -march=native -mtune=native -fPIC -fopenmp -O3 -pie -lmklml_intel -ldl

MKL-DNN 2019-04-16

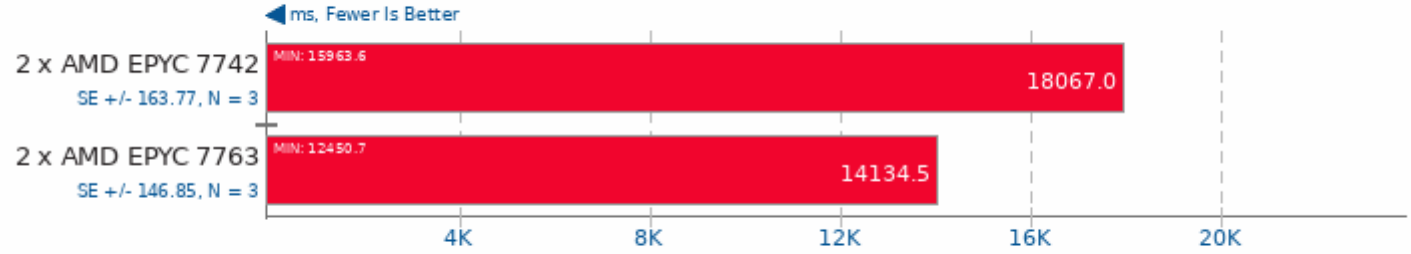
Harness: IP Batch All - Data Type: u8s8u8s32



1. (CXX) g++ options: -std=c++11 -march=native -mtune=native -fPIC -fopenmp -O3 -pie -lmklml_intel -ldl

MKL-DNN 2019-04-16

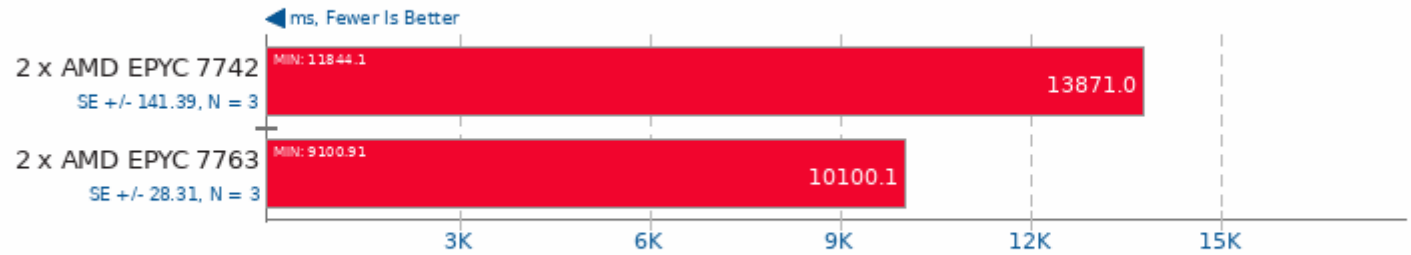
Harness: Convolution Batch conv_all - Data Type: u8s8u8s32



1. (CXX) g++ options: -std=c++11 -march=native -mtune=native -fPIC -fopenmp -O3 -pie -lmklml_intel -ldl

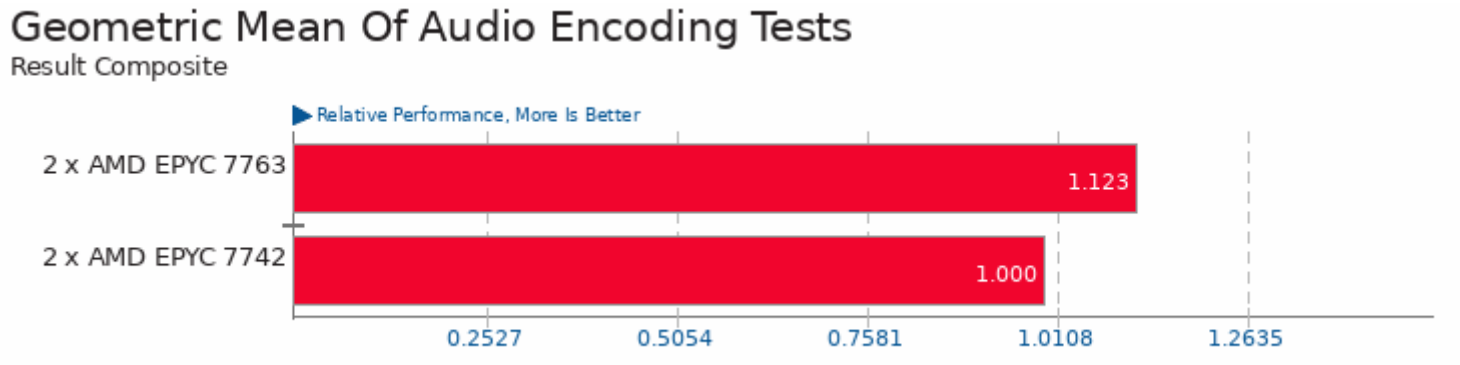
MKL-DNN 2019-04-16

Harness: Deconvolution Batch deconv_all - Data Type: u8s8u8s32

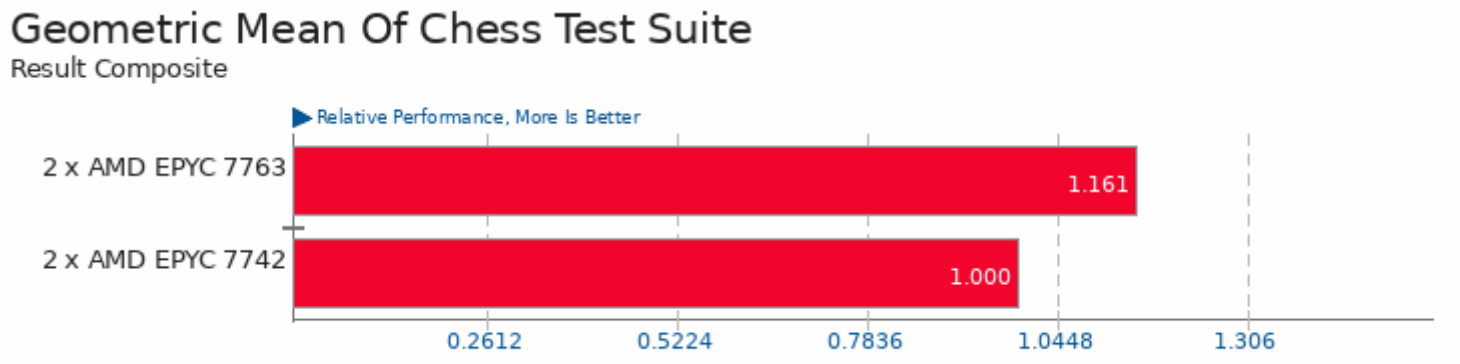


1. (CXX) g++ options: -std=c++11 -march=native -mtune=native -fPIC -fopenmp -O3 -pie -lmklml_intel -ldl

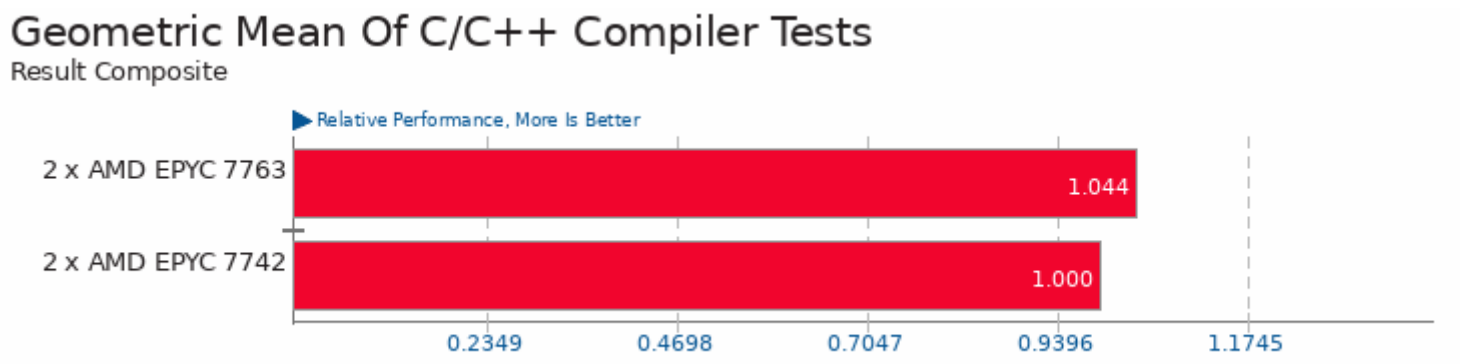
These geometric means are based upon test groupings / test suites for this result file.



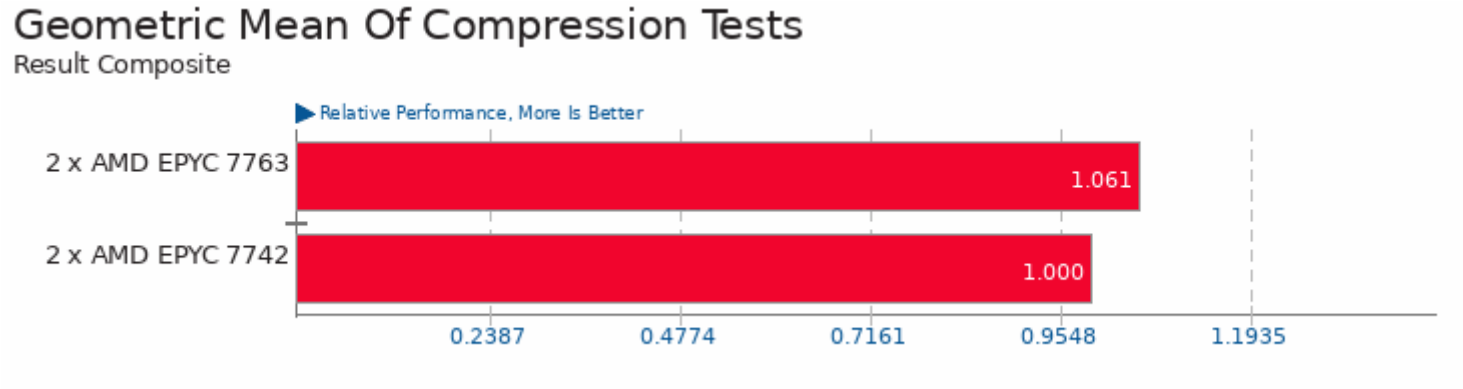
Geometric mean based upon tests: pts/encode-mp3 and pts/encode-flac



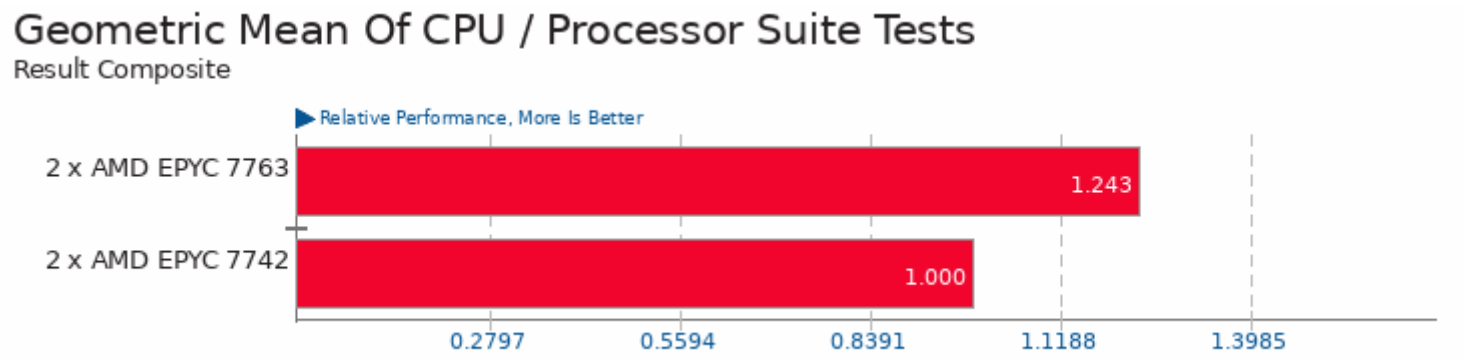
Geometric mean based upon tests: pts/stockfish and pts/asmfish



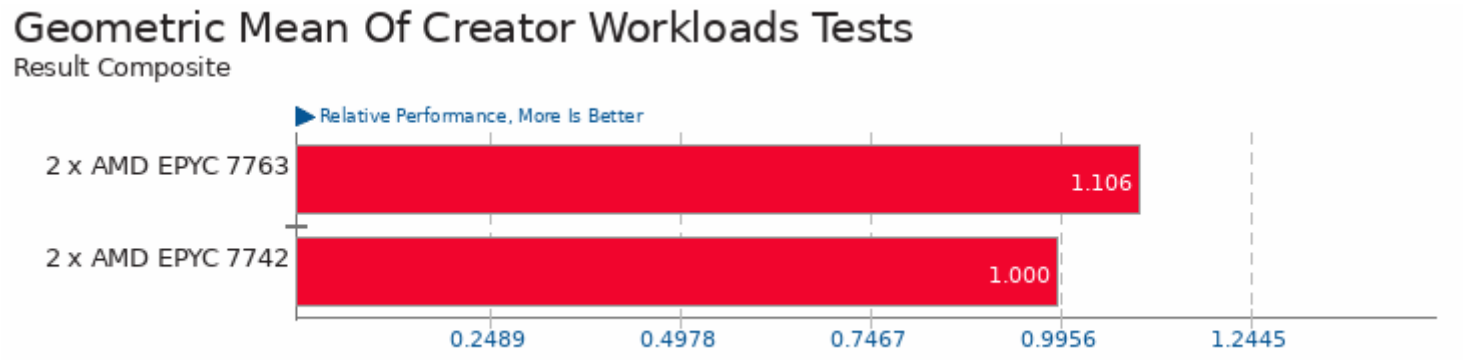
Geometric mean based upon tests: pts/fftw, pts/vpxenc, pts/stockfish, pts/build-llvm, pts/c-ray, pts/encode-mp3, pts/encode-flac, pts/apache, pts/john-the-ripper, pts/dav1d, pts/x264, pts/x265, pts/compress-xz, pts/compress-zstd, pts/openssl, pts/nginx, pts/tachyon and pts/mcperf



Geometric mean based upon tests: pts/compress-gzip, pts/compress-zstd, pts/compress-rar and pts/compress-xz



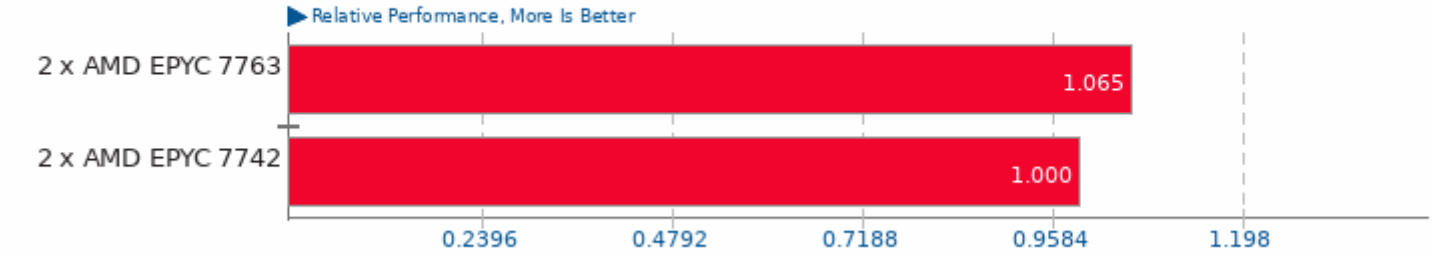
Geometric mean based upon tests: pts/rodinia, pts/namd, pts/stockfish, pts/x264, pts/x265, pts/blender, pts/asmfish, pts/radiance, pts/openssl, pts/ctx-clock and pts/sysbench



Geometric mean based upon tests: pts/c-ray, pts/tachyon, pts/blender, pts/radiance, pts/x264, pts/x265, pts/vpxenc, pts/dav1d, pts/encode-mp3 and pts/encode-flac

Geometric Mean Of Cryptography Tests

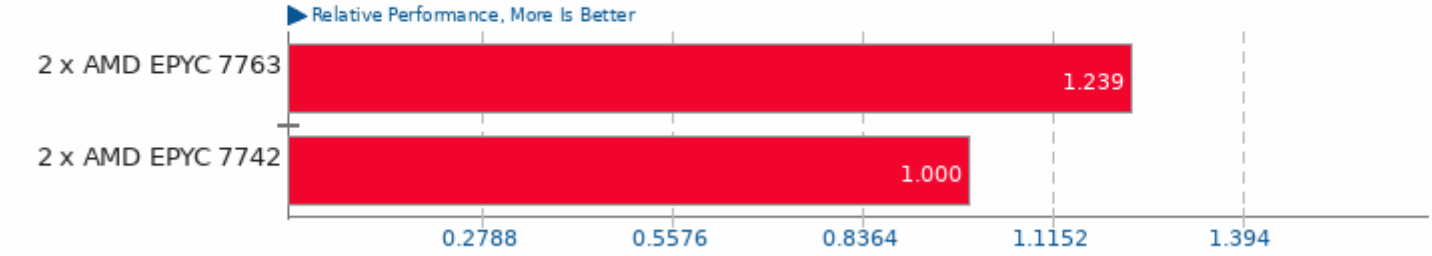
Result Composite



Geometric mean based upon tests: pts/openssl, pts/john-the-ripper, pts/botan and pts/bork

Geometric Mean Of Database Test Suite

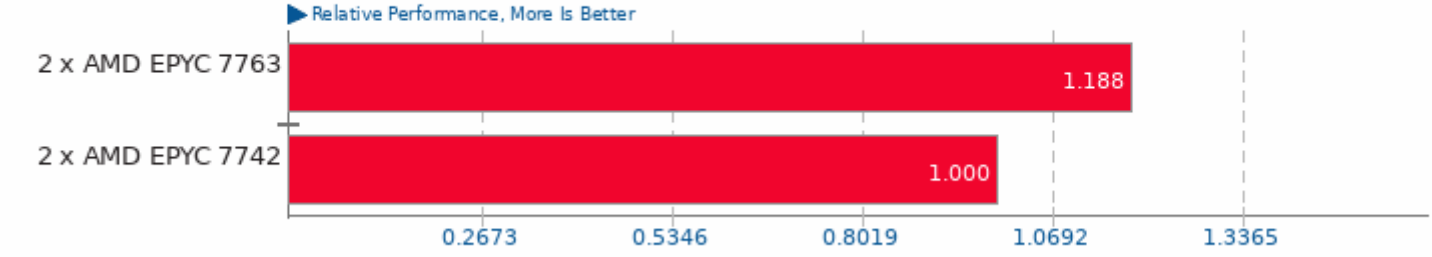
Result Composite



Geometric mean based upon tests: pts/sqlite and pts/redis

Geometric Mean Of HPC - High Performance Computing Tests

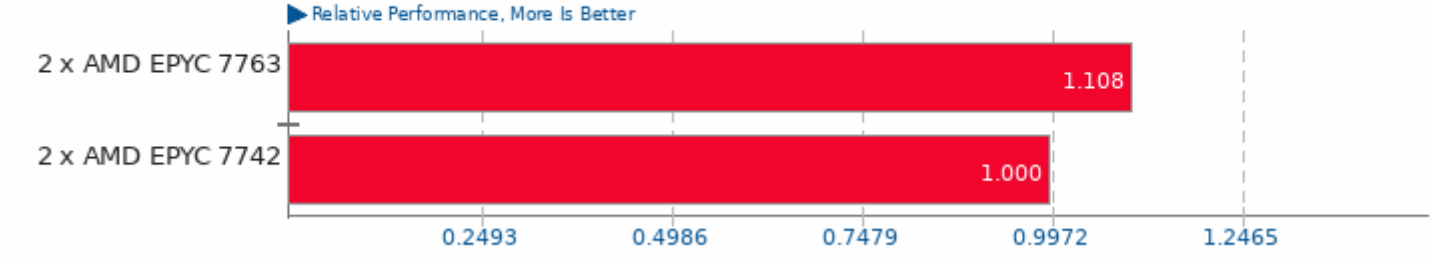
Result Composite



Geometric mean based upon tests: pts/rodinia, pts/fftw and pts/namd

Geometric Mean Of Java Tests

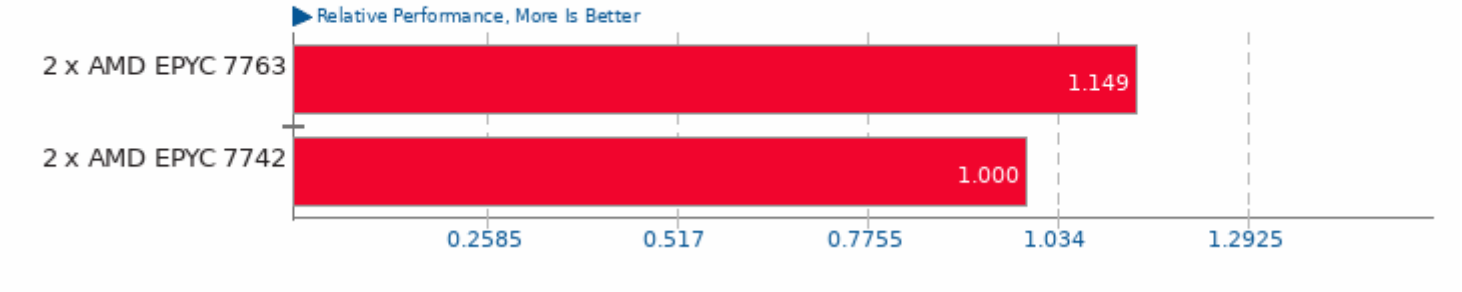
Result Composite



Geometric mean based upon tests: pts/sunflow, pts/bork, pts/java-scimark2 and pts/dacapobench

Geometric Mean Of Common Kernel Benchmarks Tests

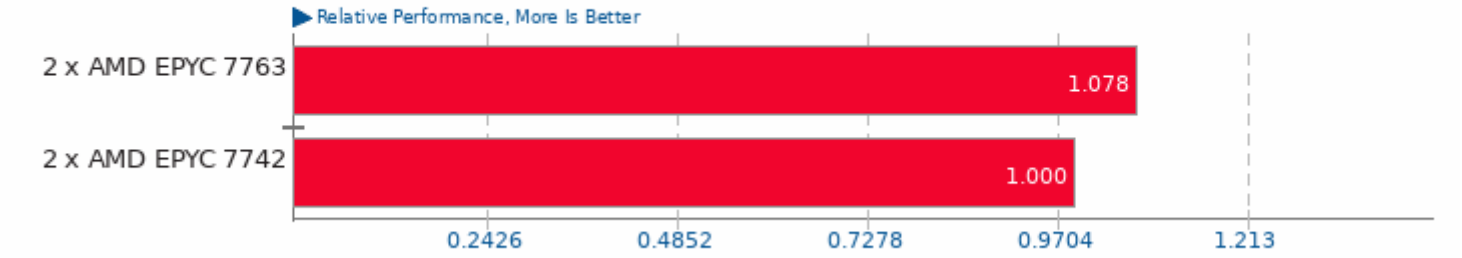
Result Composite



Geometric mean based upon tests: pts/apache, pts/mbw, pts/openssl, pts/ctx-clock and pts/osbench

Geometric Mean Of Memory Test Suite

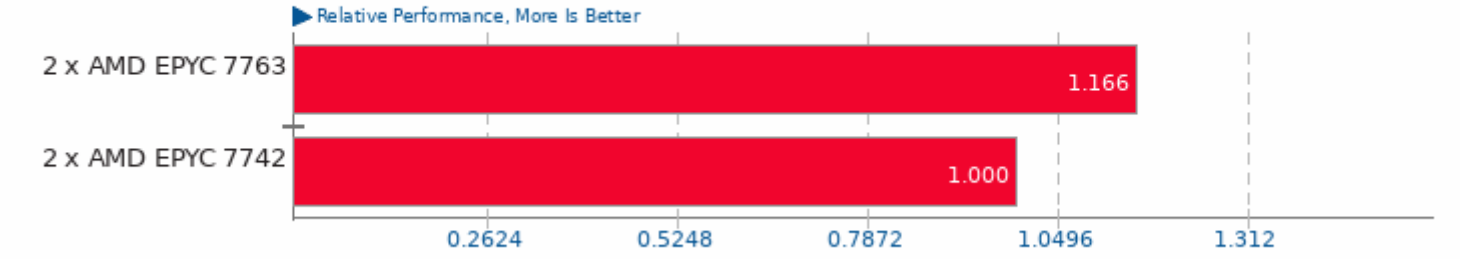
Result Composite



Geometric mean based upon tests: pts/cachebench and pts/mbw

Geometric Mean Of Multi-Core Tests

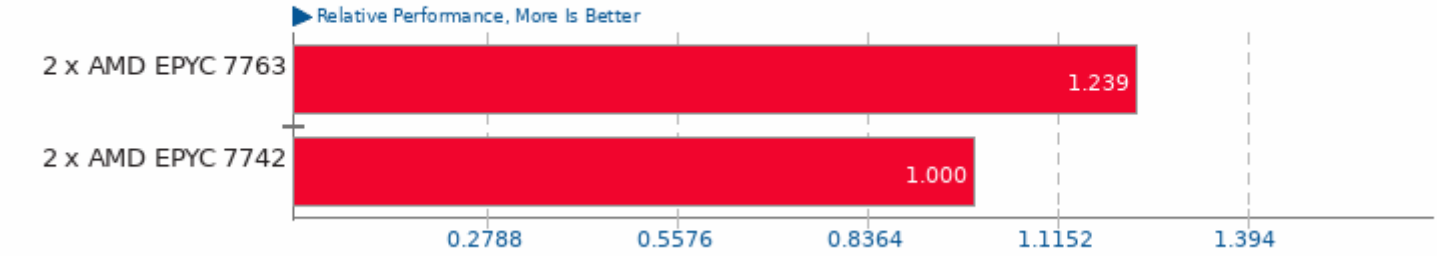
Result Composite



Geometric mean based upon tests: pts/blender, pts/sysbench, pts/c-ray, pts/tachyon, pts/stockfish, pts/coremark, pts/x264, pts/x265, pts/vpxenc, pts/dav1d, pts/rodinia, pts/john-the-ripper, pts/namd, pts/asmfish, pts/compress-zstd, pts/build-llvm and pts/radiance

Geometric Mean Of NVIDIA GPU Compute Tests

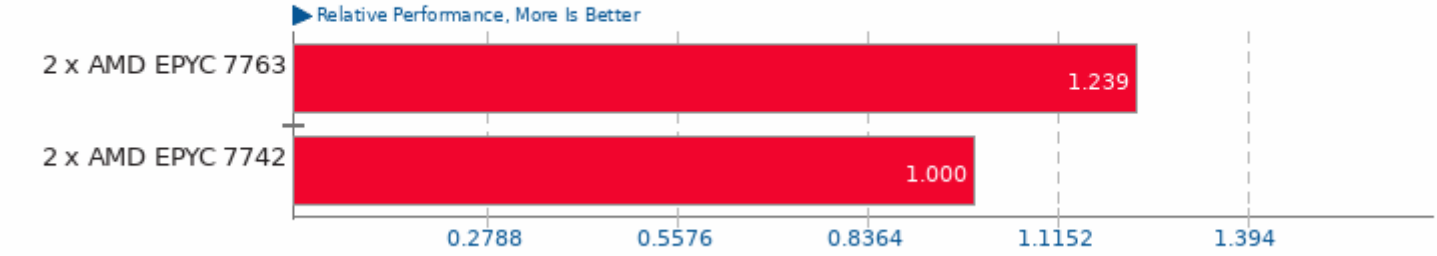
Result Composite



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

Geometric Mean Of OpenCL Tests

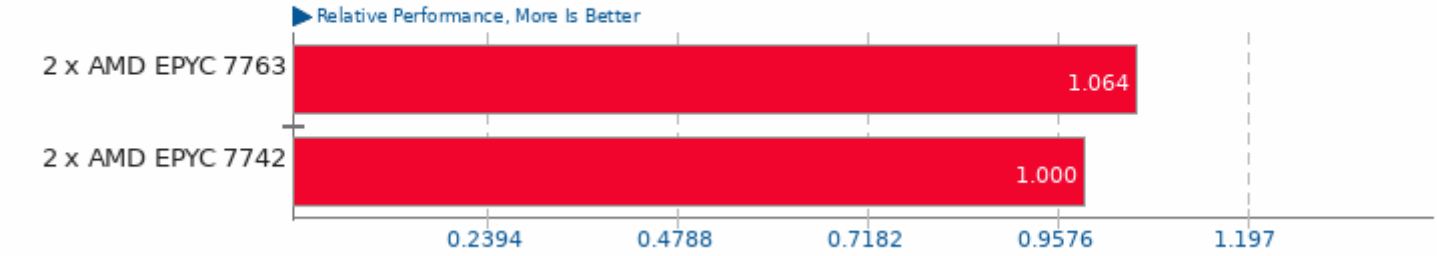
Result Composite



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

Geometric Mean Of Programmer / Developer System Benchmarks Tests

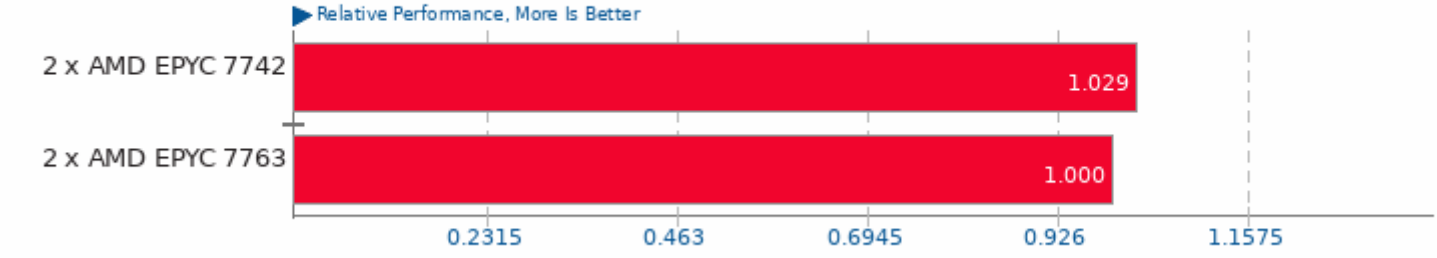
Result Composite



Geometric mean based upon tests: pts/compress-zstd and pts/build-llvm

Geometric Mean Of Raytracing Tests

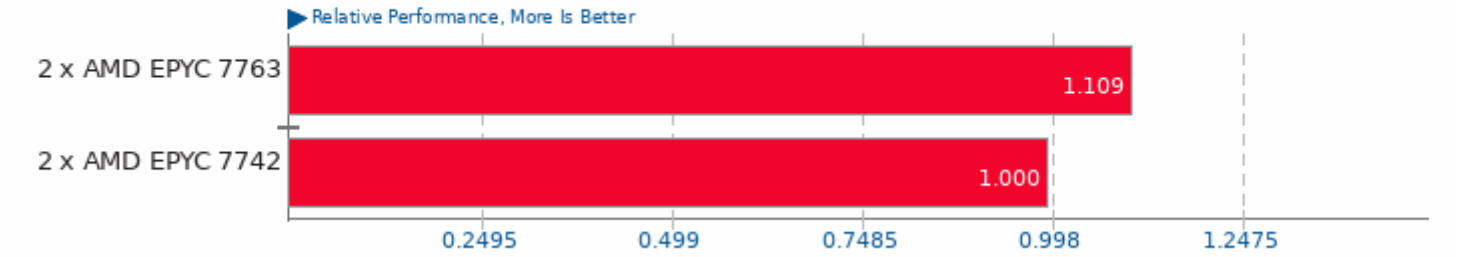
Result Composite



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

Geometric Mean Of Renderers Tests

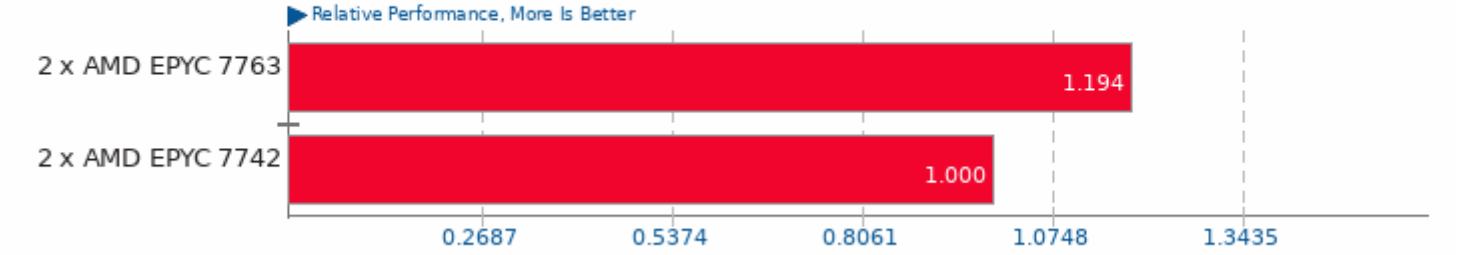
Result Composite



Geometric mean based upon tests: pts/c-ray, pts/tachyon, pts/blender and pts/radiance

Geometric Mean Of Scientific Computing Tests

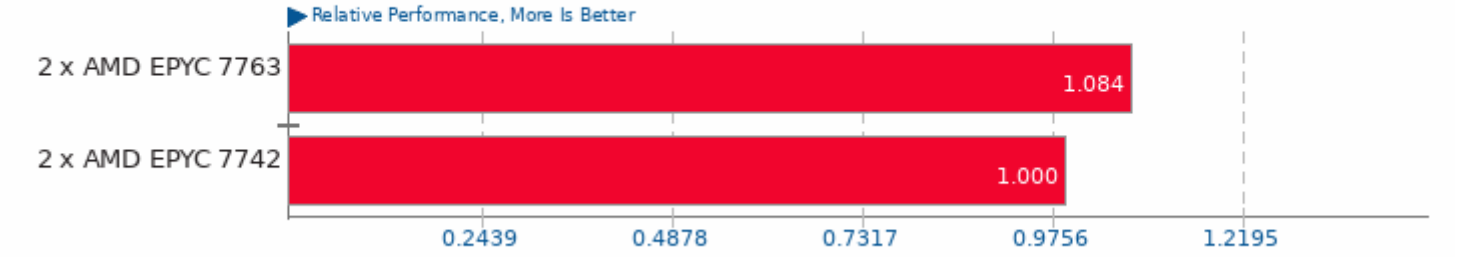
Result Composite



Geometric mean based upon tests: pts/fftw and pts/namd

Geometric Mean Of Server Tests

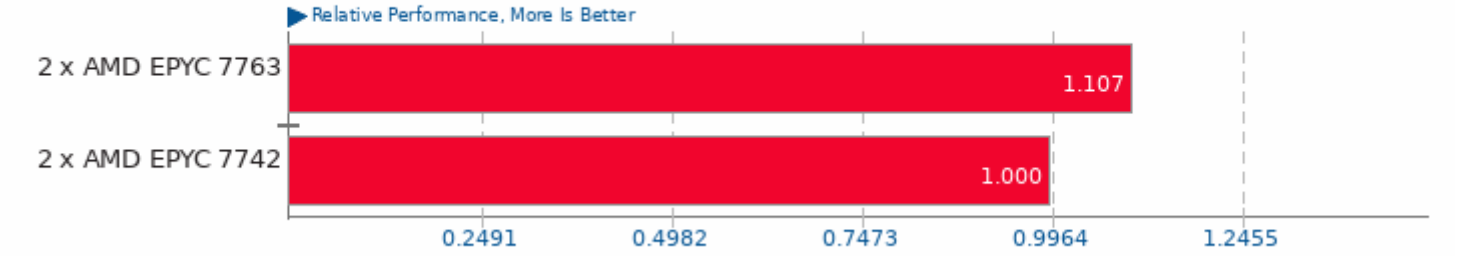
Result Composite



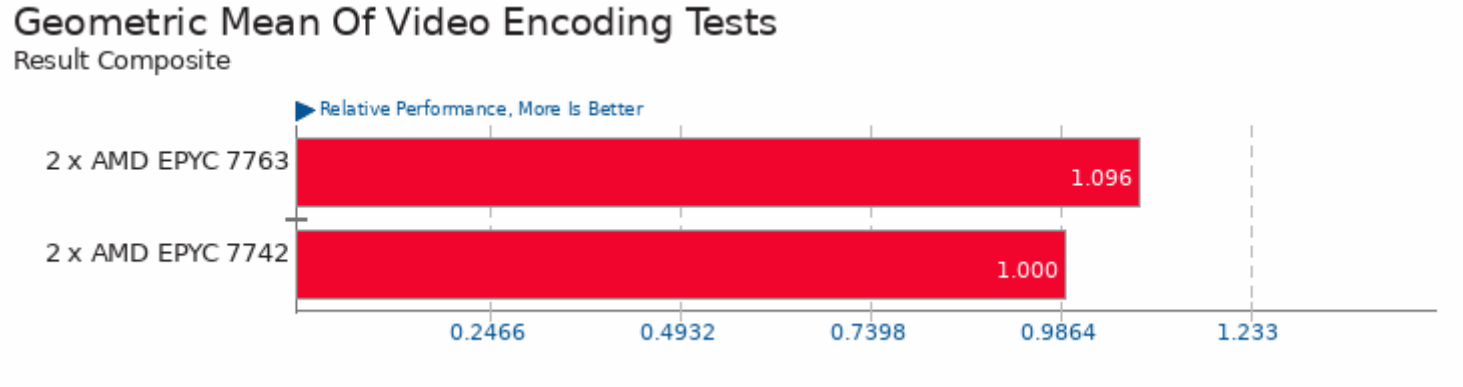
Geometric mean based upon tests: pts/apache, pts/nginx, pts/mcperf, pts/redis, pts/phpbench, pts/openssl and pts/sqlite

Geometric Mean Of Single-Threaded Tests

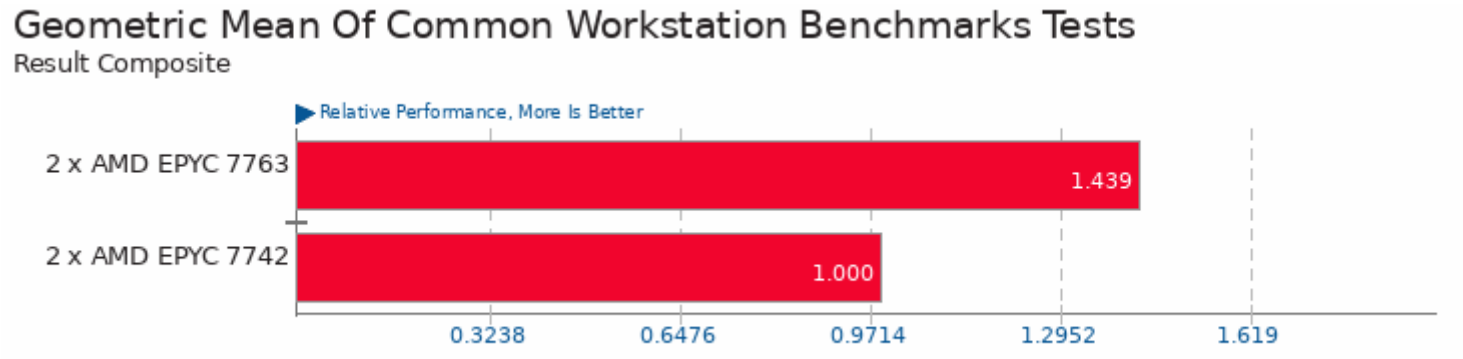
Result Composite



Geometric mean based upon tests: pts/java-scimark2, pts/bork, pts/cachebench, pts/botan, pts/node-octane, pts/compress-gzip, pts/encode-flac, pts/encode-mp3, pts/radiance, pts/redis, pts/phpbench and pts/nginx



Geometric mean based upon tests: pts/x264, pts/x265, pts/vpxenc and pts/dav1d



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

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