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2020-01-27-1600

AMD EPYC 7542 32-Core testing with a Dell 04F3CJ (1.0.4 BIOS) and Matrox G200eW3 on CentOS 7.7.1908 via the Phoronix Test Suite.

Test Systems:

AMD EPYC 7542 - R6515

Processor: AMD EPYC 7542 32-Core (32 Cores / 64 Threads), Motherboard: Dell 04F3CJ (1.0.4 BIOS), Chipset: AMD Starship/Matisse, Memory: 8 x 32 GB DDR4-3200MT/s HMA84GR7CJR4N-XN, Disk: 2877GB PERC H740P Mini, Graphics: Matrox G200eW3, Network: 2 x Intel X710 for 10GbE SFP+ + 2 x Broadcom NetXtreme BCM5720 2-port PCIe

OS: CentOS 7.7.1908, Kernel: 3.10.0-1062.4.1.el7.x86_64 (x86_64), Compiler: GCC 4.8.5 20150623, File-System: ext4, Screen Resolution: 1024x768

Compiler Notes: --build=x86_64-redhat-linux --disable-libgcj --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,objc,obj-c++,java,fortran,ada,go,lto --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-linker-hash-style=gnu --with-tune=generic

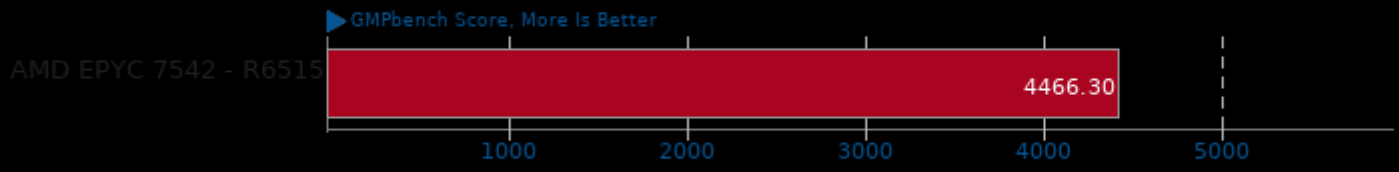
2020-01-27-1600

Disk Notes: DEADLINE / data=ordered,nobarrier,relatime,rw,stripe=256
Python Notes: Python 2.7.5
Security Notes: Load fences usercopy/swapgs barriers and __user pointer sanitization + Full retpoline IBPB + SSB disabled via prctl and seccomp

	AMD EPYC 7542 - R6515
GNU GMP GMPbench - Total Time (GMPbench Score)	4466
GraphicsMagick - HWB Color Space (Iterations/min)	1001
Standard Deviation	0.7%
GraphicsMagick - L.A.T (Iterations/min)	94
Standard Deviation	0.6%
Dbench - 12 Clients (MB/s)	3546
Standard Deviation	0.2%
Threaded I/O Tester - 64MB Read - 32 Threads (MB/s)	14711
Standard Deviation	1.3%
Threaded I/O Tester - 64MB Write - 32 Threads (MB/s)	239.57
Standard Deviation	2.5%
Crafty - Elapsed Time (Nodes/s)	7074549
Standard Deviation	0.1%
Apache Benchmark - S.W.P.S (Reqs/sec)	31646
Standard Deviation	2.3%
OpenSSL - R.4.b.P (Signs/sec)	7954
Standard Deviation	0.1%
PostMark - D.T.P (TPS)	5515
Standard Deviation	1.3%
Timed HMMer Search - P.D.S (sec)	5.22
Standard Deviation	0.5%
Timed MAFFT Alignment - M.S.A (sec)	2.42
Standard Deviation	1.4%
C-Ray - Total Time - 4.1.R.P.P (sec)	19.56
Standard Deviation	0.3%
POV-Ray - Trace Time (sec)	14.90
Standard Deviation	0.2%
LZMA Compression - 2.F.C (sec)	288.38
Standard Deviation	0.1%
dcraw - R.T.P.I.C (sec)	41.60
Standard Deviation	0.2%
LAME MP3 Encoding - WAV To MP3 (sec)	11.53
Standard Deviation	0.3%
FFmpeg - H.2.H.T.N.D (sec)	6.58
Standard Deviation	0.2%
GnuPG - 2.F.E (sec)	14.60
Standard Deviation	0.2%
Minion - Solitaire (sec)	76.17
Standard Deviation	1.7%
Sudokut - Total Time (sec)	20.80
Standard Deviation	0.1%
Sunflow Rendering System - G.I.I.S (sec)	0.69
Standard Deviation	0.9%

GNU GMP GMPbench 6.1.2

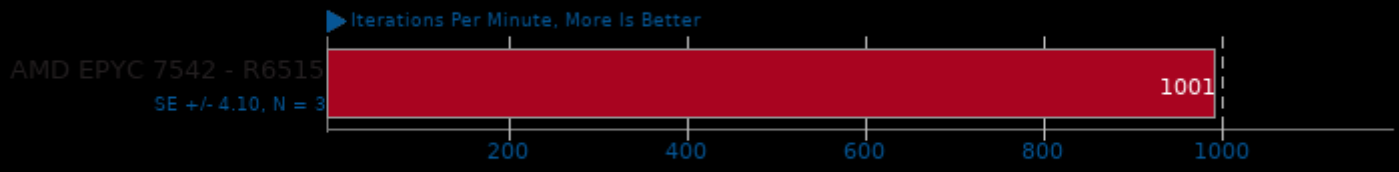
Total Time



1. (CC) gcc options: -O3 -fomit-frame-pointer -lm

GraphicsMagick 1.3.33

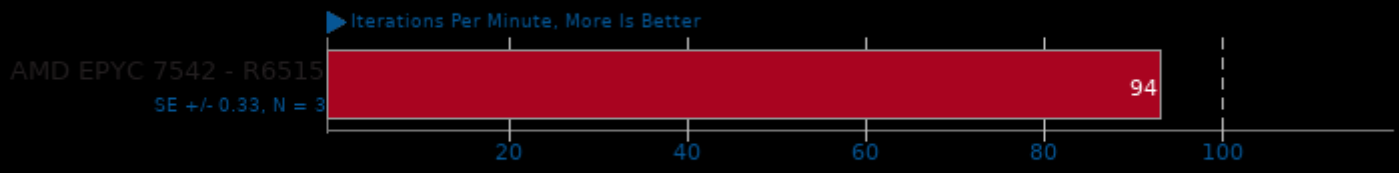
HWB Color Space



1. (CC) gcc options: -std=gnu99 -fopenmp -O2 -pthread -ltiff -ljpeg -lbz2 -lz -lm -lpthread

GraphicsMagick 1.3.33

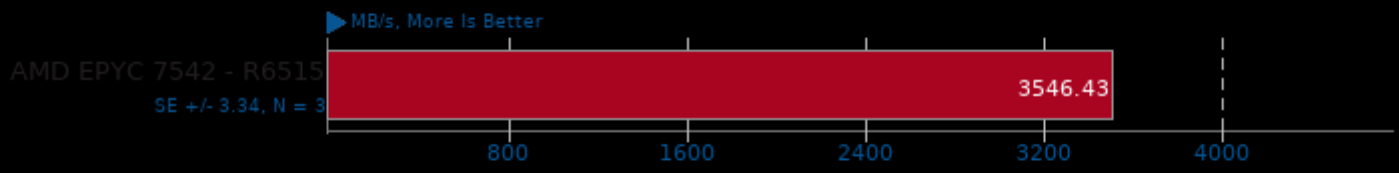
Local Adaptive Thresholding



1. (CC) gcc options: -std=gnu99 -fopenmp -O2 -pthread -ltiff -ljpeg -lbz2 -lz -lm -lpthread

Dbench 4.0

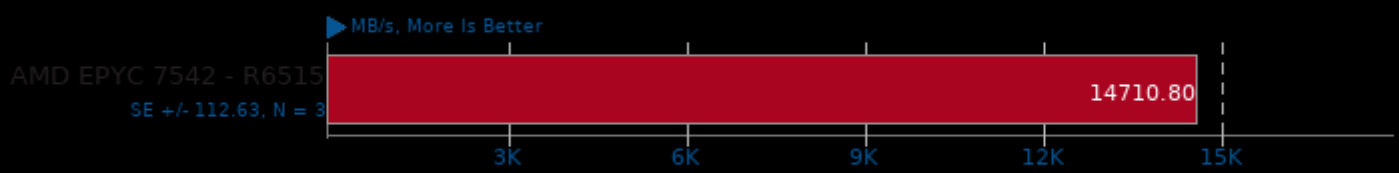
12 Clients



1. (CC) gcc options: -lpopt -O2

Threaded I/O Tester 20170503

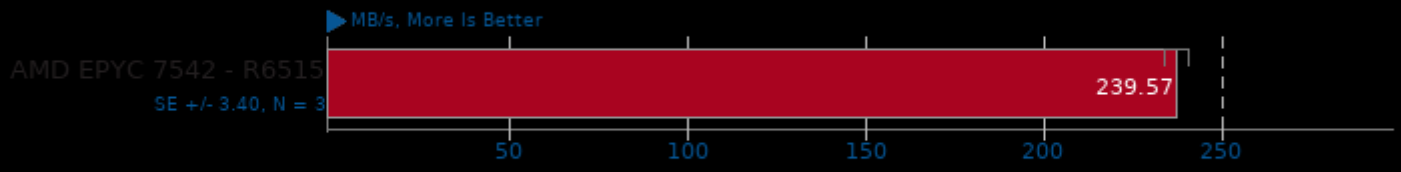
64MB Read - 32 Threads



1. (CC) gcc options: -O2

Threaded I/O Tester 20170503

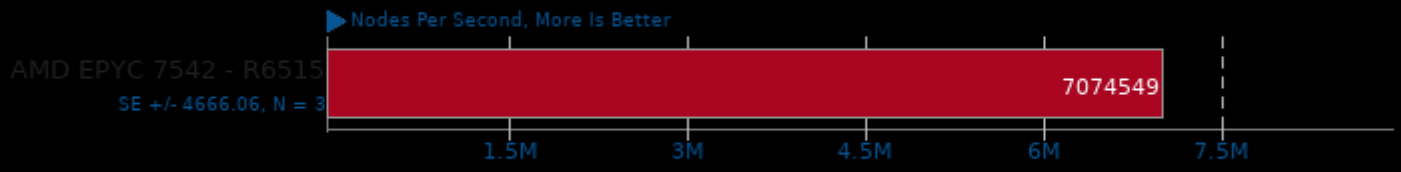
64MB Write - 32 Threads



1. (CC) gcc options: -O2

Crafty 25.2

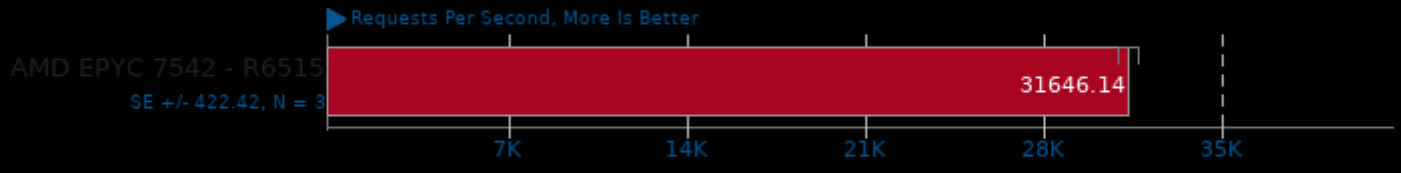
Elapsed Time



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

Apache Benchmark 2.4.29

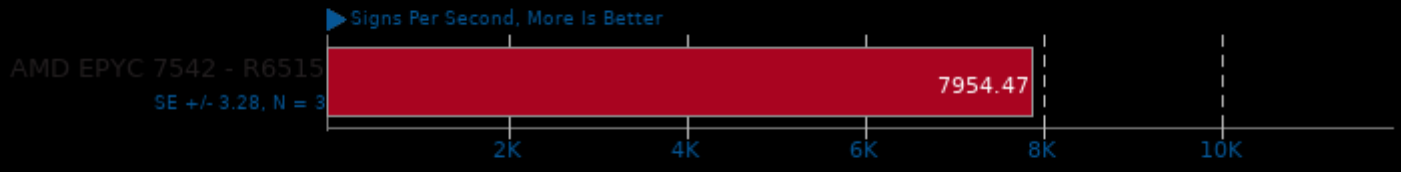
Static Web Page Serving



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

OpenSSL 1.1.1

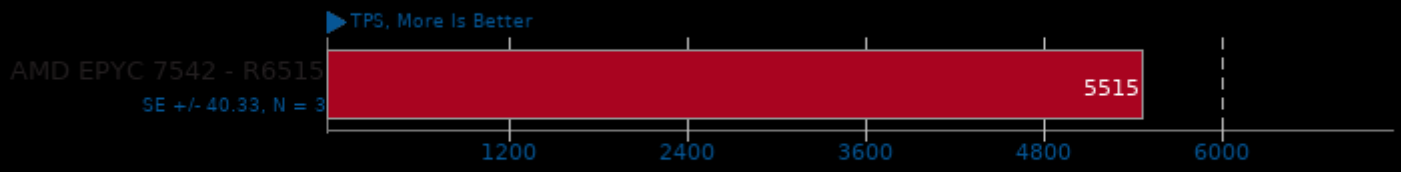
RSA 4096-bit Performance



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

PostMark 1.51

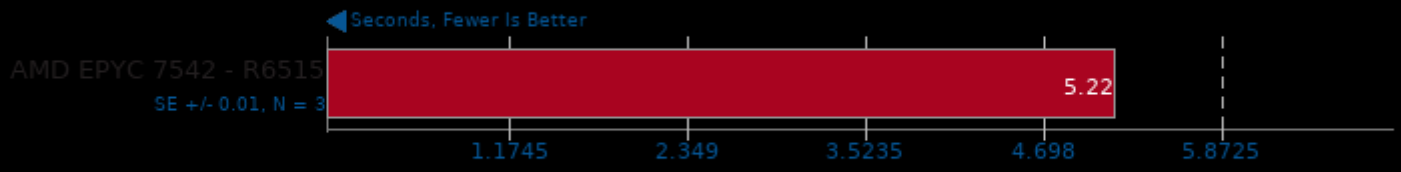
Disk Transaction Performance



1. (CC) gcc options: -O3

Timed HMMer Search 2.3.2

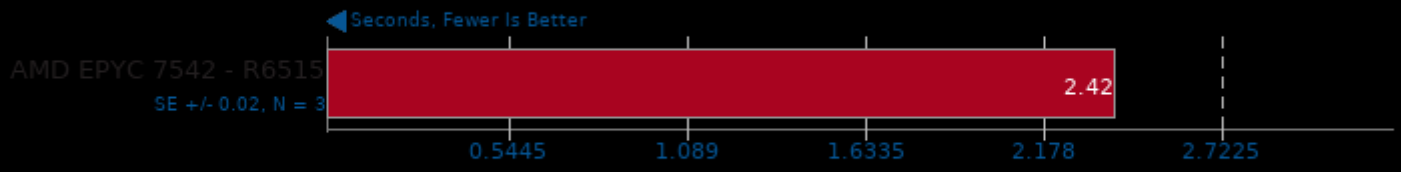
Pfam Database Search



1. (CC) gcc options: -O2 -pthread -lhmmer -lsquid -lm

Timed MAFFT Alignment 7.392

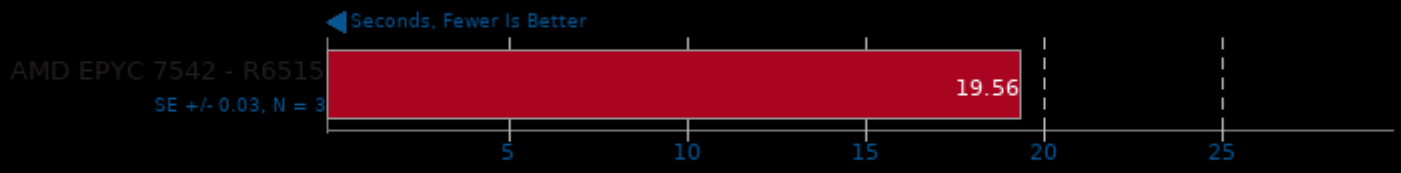
Multiple Sequence Alignment



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

C-Ray 1.1

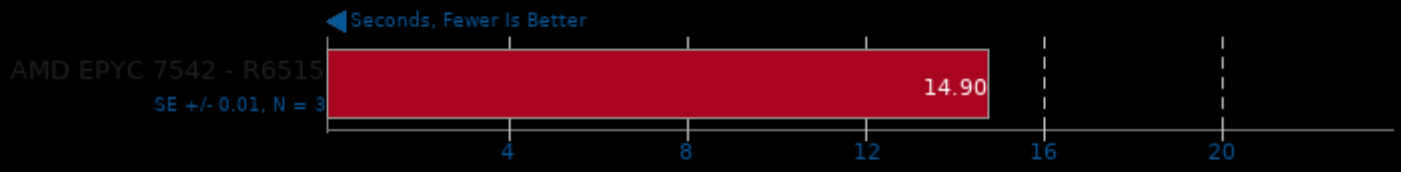
Total Time - 4K, 16 Rays Per Pixel



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

POV-Ray 3.7.0.7

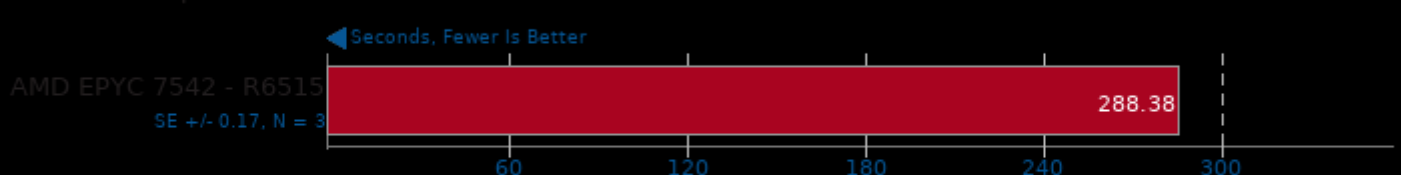
Trace Time



1. (CXX) g++ options: -pipe -O3 -ffast-math -march=native -pthread -ltiff -ljpeg -lpng -lz -lrt -lm -lboost_thread -lboost_system

LZMA Compression

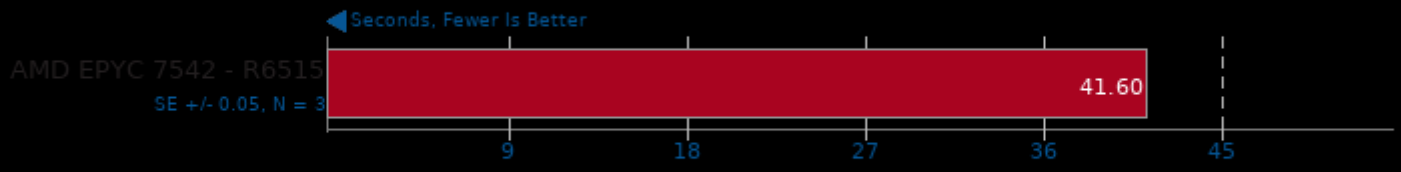
256MB File Compression



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

dcraw

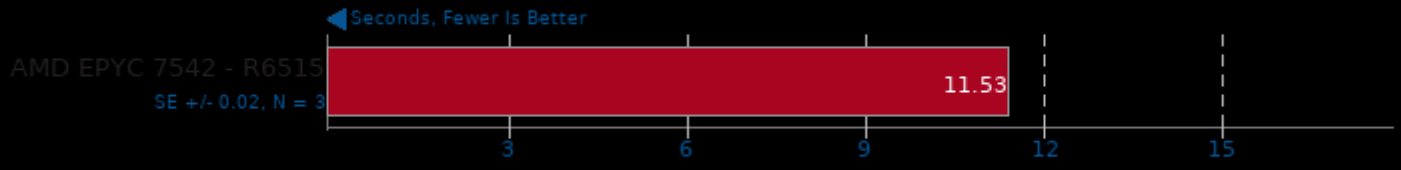
RAW To PPM Image Conversion



1. (CC) gcc options: -lm

LAME MP3 Encoding 3.100

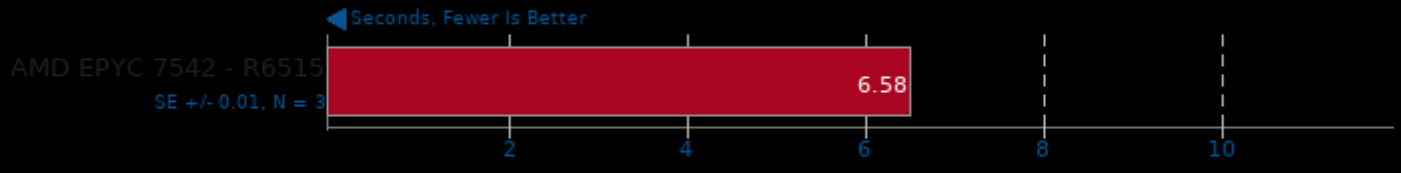
WAV To MP3



1. (CC) gcc options: -O3 -ffast-math -funroll-loops -fschedule-insns2 -fbranch-count-reg -fforce-addr -pipe -lm

FFmpeg 4.0.2

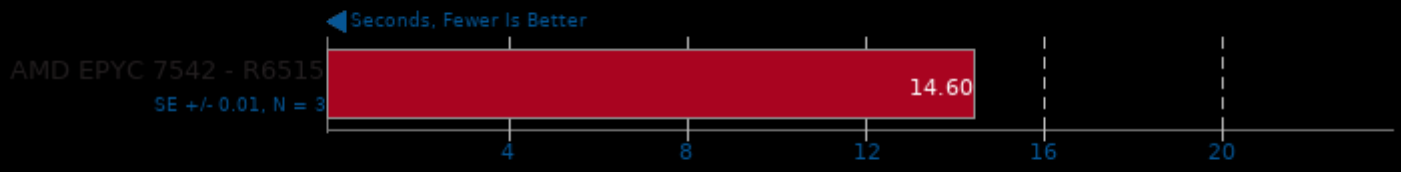
H.264 HD To NTSC DV



1. (CC) gcc options: -lavdevice -lavfilter -lavformat -lavcodec -lswresample -lswscale -lavutil -lm -pthread -lbz2 -std=c11 -fomit-frame-pointer -O3 -fno-ma

GnuPG 1.4.22

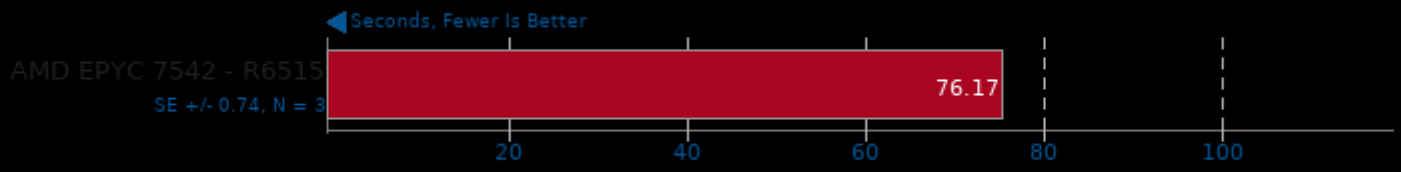
2GB File Encryption



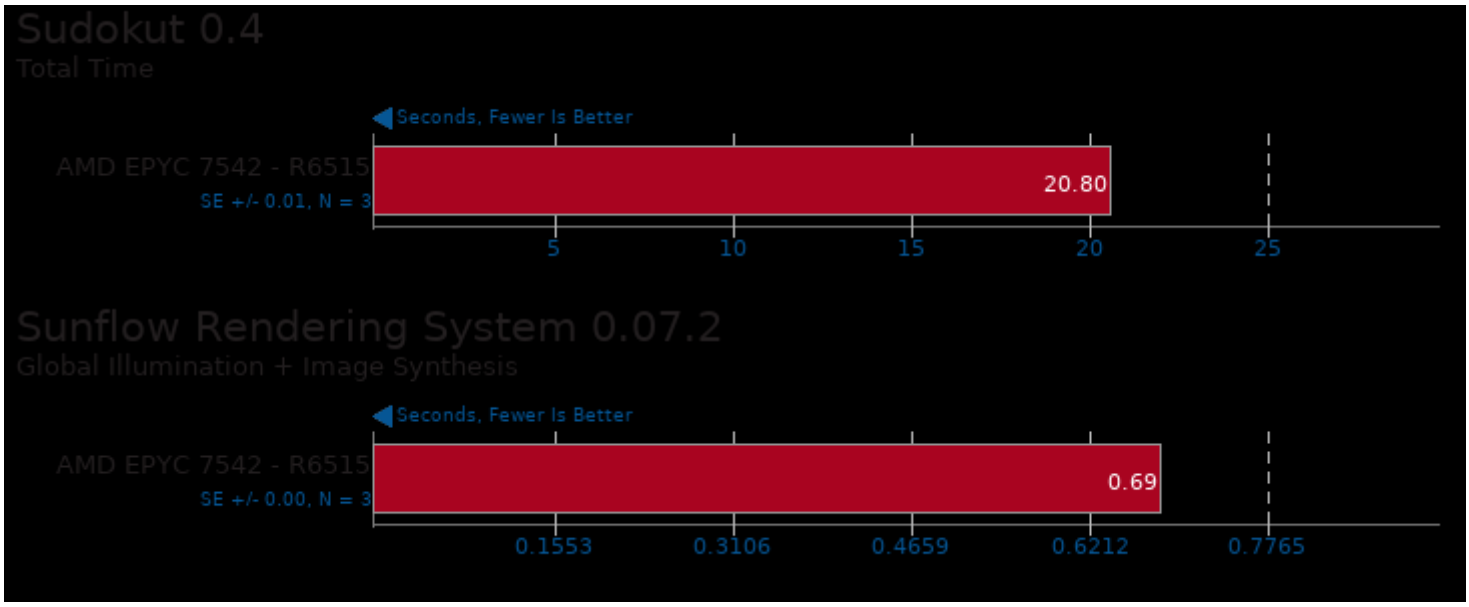
1. (CC) gcc options: -O2 -MT -MD -MP -MF

Minion 1.8

Solitaire



1. (CXX) g++ options: -std=gnu++11 -O3 -fomit-frame-pointer -rdynamic



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