

www.phoronix-test-suite.com

x470withLPXmemory

AMD Ryzen 7 2700X Eight-Core testing with a ASRock B450 Steel Legend (P2.00 BIOS) and AMD Radeon RX 580 4GB on Microsoft Windows 10 Pro Build 18363 via the Phoronix Test Suite.

Automated Executive Summary

compare to freek lpx memory had the most wins, coming in first place for 50% of the tests.

Based on the geometric mean of all complete results, the fastest (compare to freek lpx memory) was 1.576x the speed of the slowest (x470withLPXmemory). back beach was 0.995x the speed of compare to freek lpx memory and x470withLPXmemory was 0.638x the speed of back beach.

Test Systems:

x470withLPXmemory

Processor: AMD Ryzen 7 1800X Eight-Core @ 3.60GHz (8 Cores / 16 Threads), Motherboard: Gigabyte X470 AORUS GAMING 5 WIFI-CF (F3 BIOS), Chipset: AMD 17h, Memory: 16384MB, Disk: 500GB Samsung SSD 850 + 1000GB

Western Digital WDS100T2B0B, Graphics: ASUS AMD Radeon RX 580 8GB (1411/2000MHz), Audio: AMD Ellesmere, Monitor: 2490W1 + Acer P221W, Network: Intel I211 + Intel-AC 9260

OS: Ubuntu 18.04, Kernel: 5.0.0-32-generic (x86_64), Display Server: X Server 1.20.4, Display Driver: modesetting 1.20.4, OpenGL: 4.6.13556, Compiler: GCC 7.4.0, File-System: ext4, Screen Resolution: 3600x1080

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++ --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 ondemand
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 usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional STIBP: disabled RSB filling

compare to freek lpx memory

Processor: AMD Ryzen 7 2700X Eight-Core @ 3.70GHz (8 Cores / 16 Threads), Motherboard: ASRock B450 Steel Legend (P2.30 BIOS), Memory: 2 x 8192 MB 2133MHz CMK16GX4M2B3200C16, Disk: 932GB WDC WDS100T2B0B-00YS70, Graphics: AMD Radeon RX 580 4GB

OS: Microsoft Windows 10 Pro Build 18363, Kernel: 10.0 (x86_64), Display Driver: 26.20.15019.1003, OpenCL: OpenCL 2.1 AMD-APP (3004.8), File-System: NTFS, Screen Resolution: 3840x2160

Security Notes: __user pointer sanitization: Disabled + Retpoline: Full + IBPB: Always

back beach

Processor: AMD Ryzen 7 2700X Eight-Core @ 3.70GHz (8 Cores / 16 Threads), Motherboard: ASRock B450 Steel Legend (P2.00 BIOS), Memory: 1 x 16384 MB 2400MHz CMK32GX4M2A2400C16, Disk: 932GB WDC WDS100T2B0B-00YS70, Graphics: AMD Radeon RX 580 4GB

OS: Microsoft Windows 10 Pro Build 18363, Kernel: 10.0 (x86_64), Display Driver: 26.20.15015.1007, OpenCL: OpenCL 2.1 AMD-APP (3004.8), File-System: NTFS, Screen Resolution: 3840x2160

Security Notes: __user pointer sanitization: Disabled + Retpoline: Full + IBPB: Always

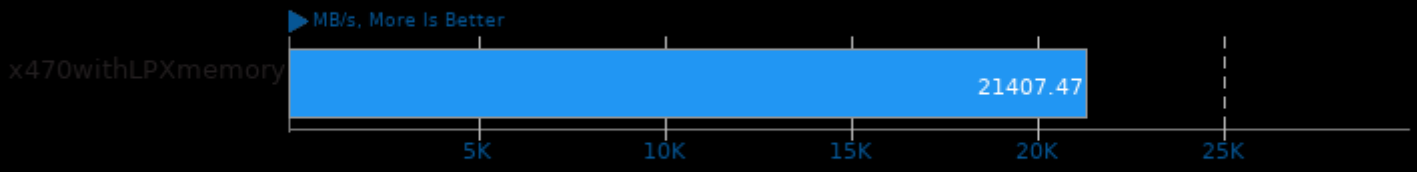
	x470withLPXmemory	compare to freek lpx memory	back beach
RAMspeed SMP - Integer Add (MB/s)	21407		
RAMspeed SMP - Integer Copy (MB/s)	18768		
RAMspeed SMP - Integer Scale (MB/s)	14768		
RAMspeed SMP - Floating-Point Add (MB/s)	21371		
Stream - Add (MB/s)	21567		
Standard Deviation	0.1%		
Stream - Copy (MB/s)	27536		
Standard Deviation	0.2%		
Stream - Scale (MB/s)	18411		
Standard Deviation	0%		

x470withLPXmemory

Tinymembench - Standard Memcpy (MB/s)	11712		
Standard Deviation	0.3%		
Tinymembench - Standard Memset (MB/s)	9405		
Standard Deviation	0.3%		
MBW - Memory Copy - 1024 MiB (MiB/s)	11489		
Standard Deviation	0.2%		
MBW - M.C.F.B.S - 1024 MiB (MiB/s)	6042		
Standard Deviation	1%		
CacheBench - Read Cache (MB/s)	**2554**	**10613**	10524
Normalized	24.07%	100%	99.17%
Standard Deviation	0%	0.4%	1.4%
CacheBench - Write Cache (MB/s)	**25095**	14992	**14954**
Normalized	100%	59.74%	59.59%
Standard Deviation	0.1%	0.5%	1.1%

RAMspeed SMP 3.5.0

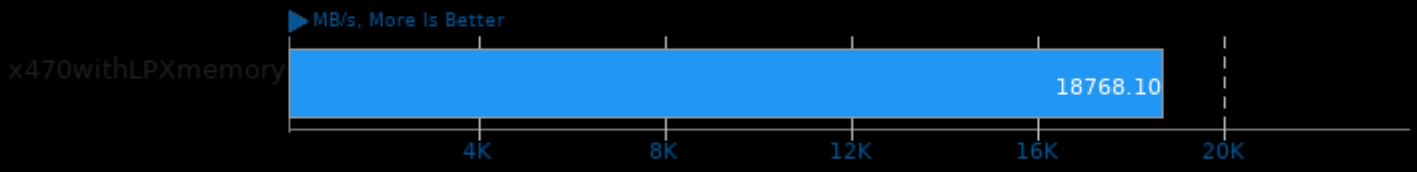
Integer Add



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

RAMspeed SMP 3.5.0

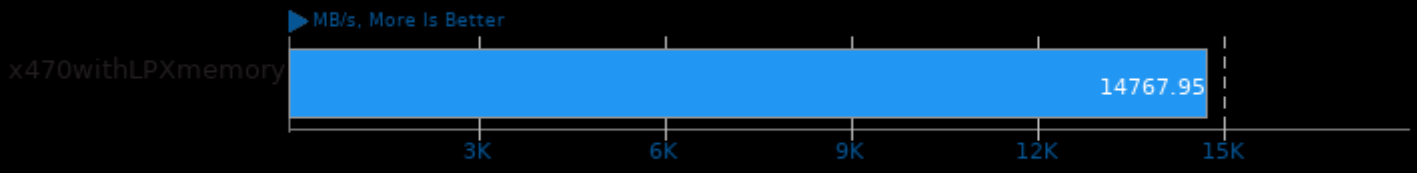
Integer Copy



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

RAMspeed SMP 3.5.0

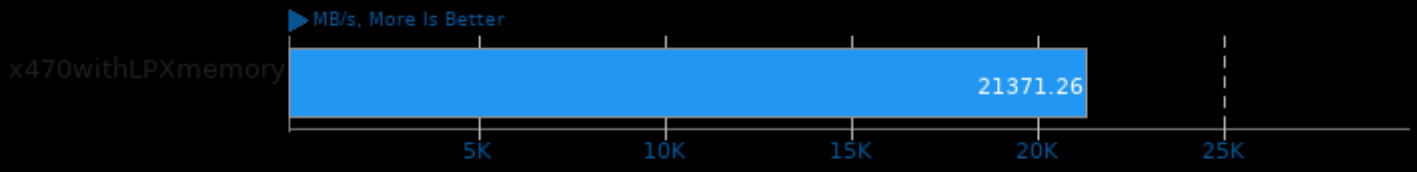
Integer Scale



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

RAMspeed SMP 3.5.0

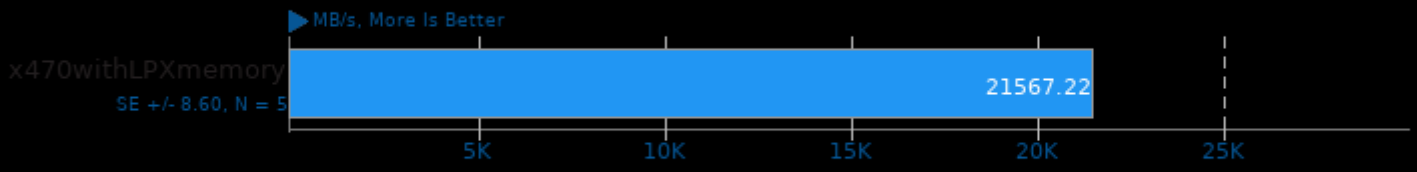
Floating-Point Add



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

Stream 2013-01-17

Add

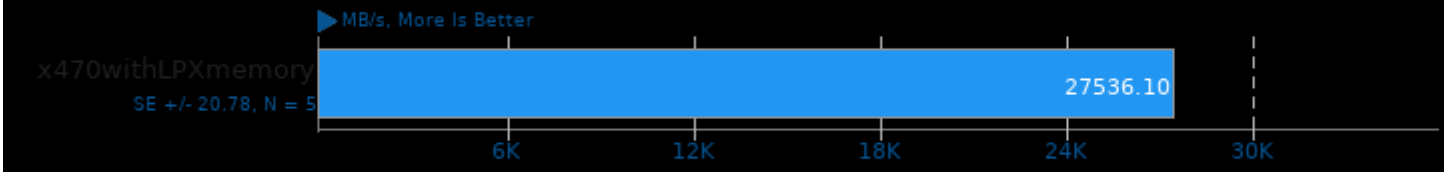


1. (CC) gcc options: -O3 -march=native -fopenmp

x470withLPXmemory

Stream 2013-01-17

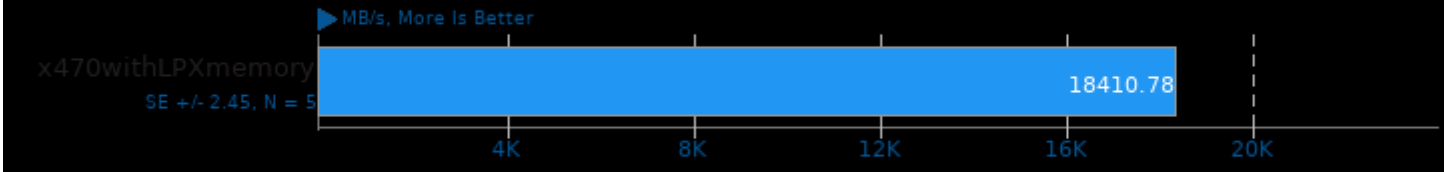
Copy



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

Stream 2013-01-17

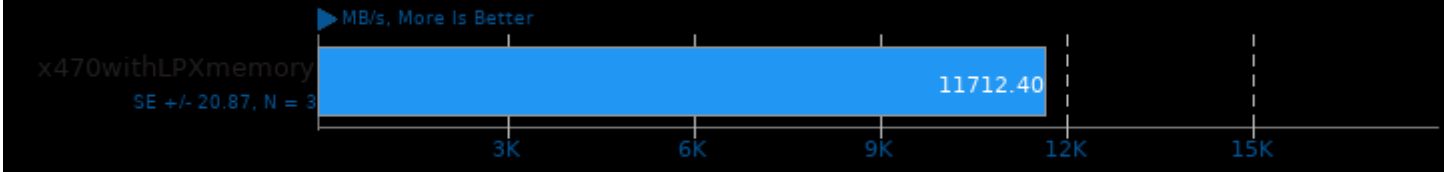
Scale



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

Tinymembench 2018-05-28

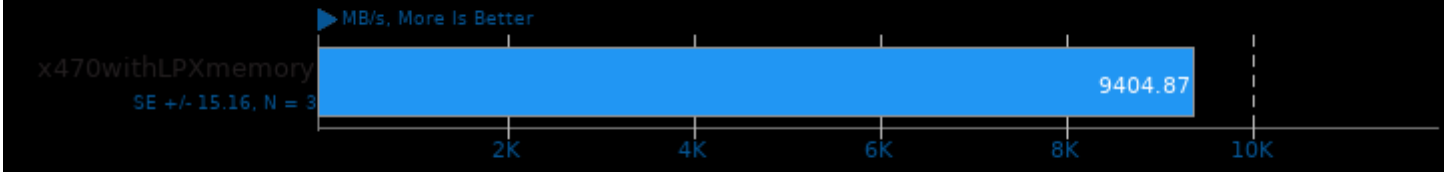
Standard Memcpy



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

Tinymembench 2018-05-28

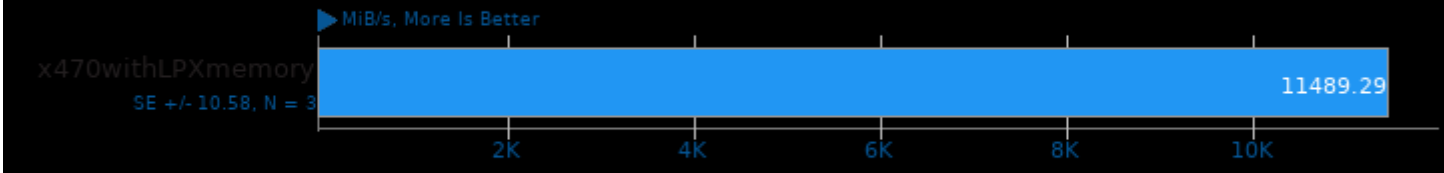
Standard Memset



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

MBW 2018-09-08

Test: Memory Copy - Array Size: 1024 MiB

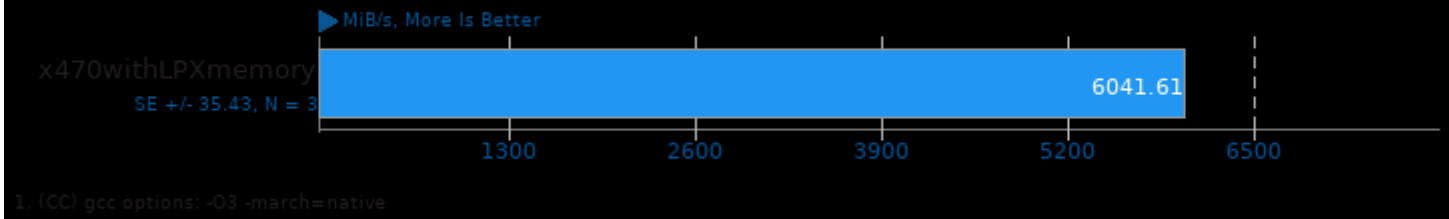


1. (CC) gcc options: -O3 -march=native

x470withLPXmemory

MBW 2018-09-08

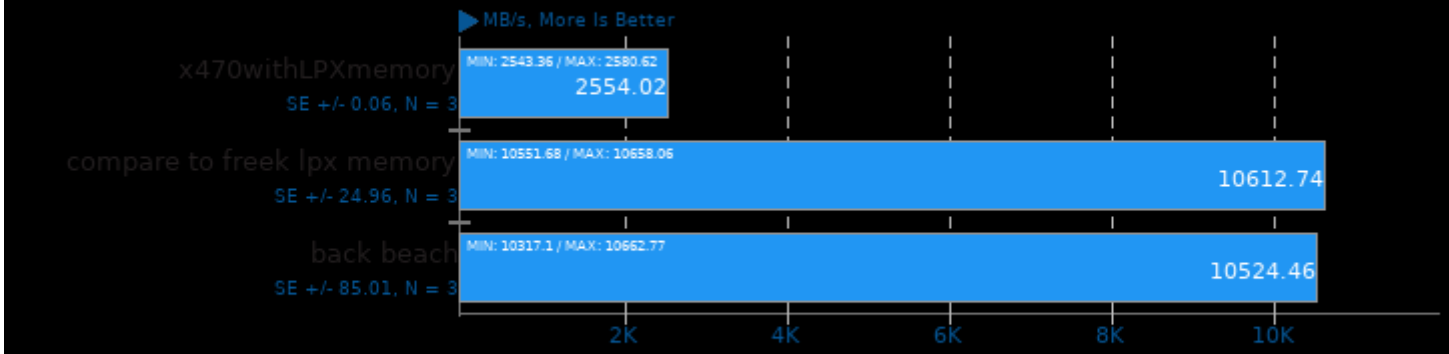
Test: Memory Copy, Fixed Block Size - Array Size: 1024 MiB



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

CacheBench

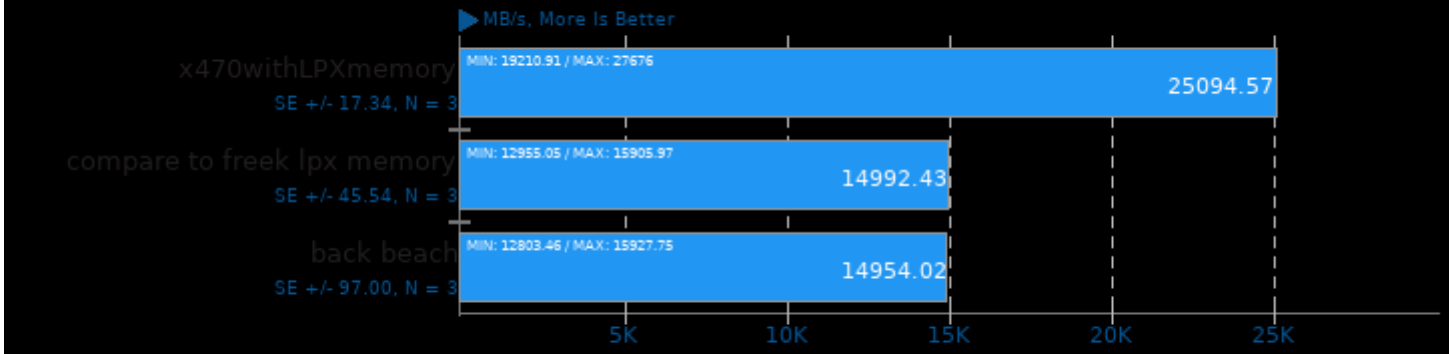
Read Cache



1. (CC) gcc options: -lrt

CacheBench

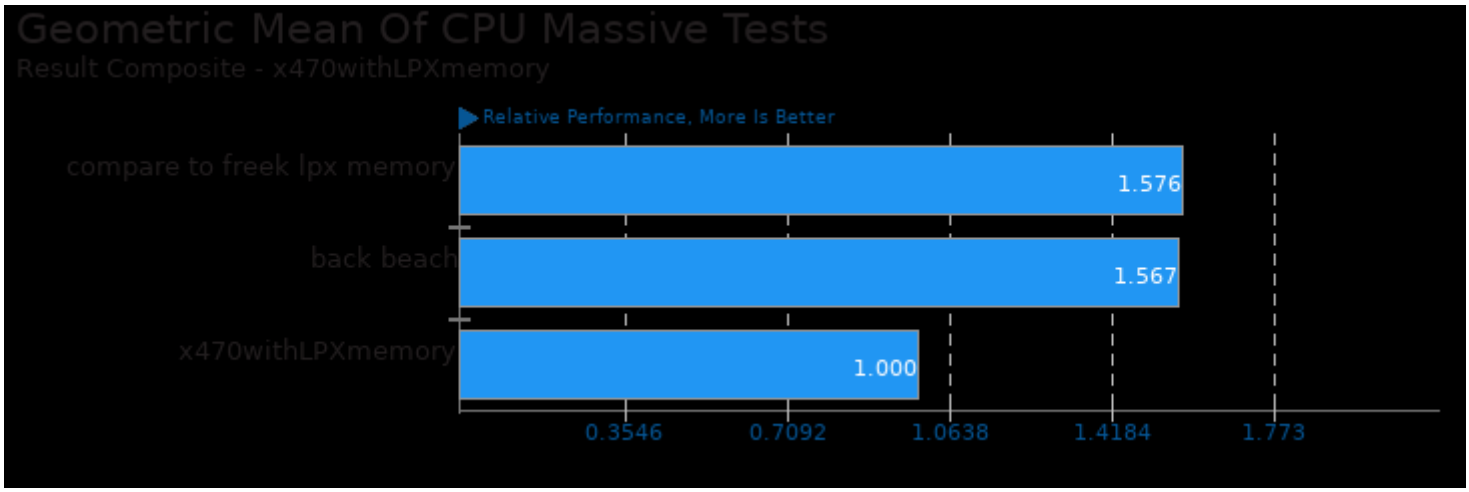
Write Cache



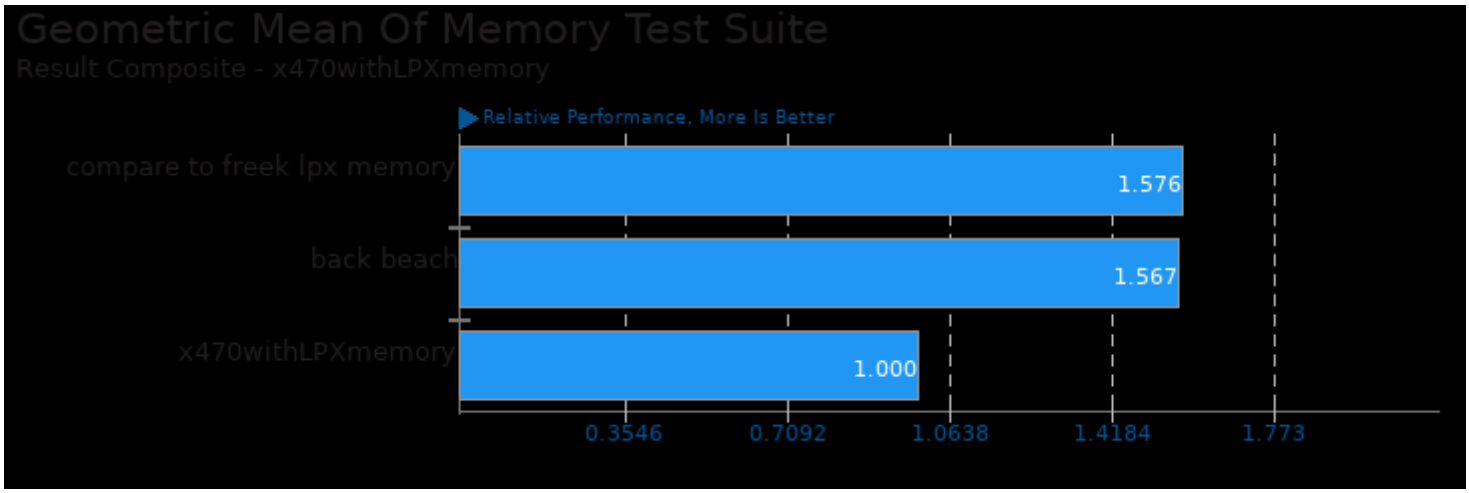
1. (CC) gcc options: -lrt

x470withLPXmemory

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



Geometric mean based upon tests: pts/cachebench, pts/mbw, pts/ramspeed, pts/stream and pts/tinymembench



Geometric mean based upon tests: pts/ramspeed, pts/stream, pts/cachebench, pts/tinymembench and pts/mbw

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 22:33.