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test-scimark2

KVM testing on CentOS Linux 8 via the Phoronix Test Suite.

Automated Executive Summary

2 x Intel Xeon 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 Intel Xeon) was 1.016x the speed of the slowest (4 x Intel Xeon).

Test Systems:

2 x Intel Xeon

Processor: 2 x Intel Xeon (Cascadelake) (2 Cores / 4 Threads), Motherboard: QEMU Standard PC (i440FX + PIIX 1996) (1.13.0-1ubuntu1.1 BIOS), Chipset: Intel 440FX 82441FX PMC, Memory: 1 x 8 GB RAM QEMU, Disk: 215GB QEMU HDD, Graphics: Cirrus Logic GD 5446, Network: 2 x Red Hat Virtio device

OS: CentOS Linux 8, Kernel: 4.18.0-240.el8.x86_64 (x86_64), Compiler: GCC 8.5.0 20210514, File-System: xfs, Screen Resolution: 1024x768, System Layer: KVM

Kernel Notes: Transparent Huge Pages: always
 Compiler Notes: --build=x86_64-redhat-linux --disable-libmpx --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-gcc-major-version-only --with-isl --with-linker-hash-style-gnu --with-tune=generic --without-cuda-driver

Processor Notes: CPU Microcode: 0x1
 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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

4 x Intel Xeon

Processor: 4 x Intel Xeon (Cascadelake) (4 Cores), Motherboard: QEMU Standard PC (i440FX + PII 1996) (1.13.0-1ubuntu1.1 BIOS), Chipset: Intel 440FX 82441FX PMC, Memory: 1 x 8 GB RAM QEMU, Disk: 215GB QEMU HDD, Graphics: Cirrus Logic GD 5446, Network: 2 x Red Hat Virtio device

OS: CentOS Linux 8, Kernel: 4.18.0-240.el8.x86_64 (x86_64), Compiler: GCC 8.5.0 20210514, File-System: xfs, Screen Resolution: 1024x768, System Layer: KVM

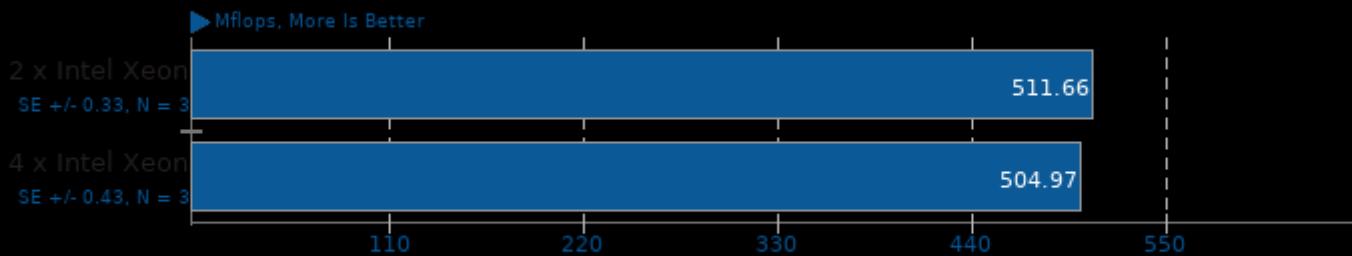
Kernel Notes: Transparent Huge Pages: always
 Compiler Notes: --build=x86_64-redhat-linux --disable-libmpx --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-gcc-major-version-only --with-isl --with-linker-hash-style-gnu --with-tune=generic --without-cuda-driver

Processor Notes: CPU Microcode: 0x1
 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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	2 x Intel Xeon	4 x Intel Xeon
SciMark - Composite (Mflops)	511.66	504.97
Normalized	100%	98.69%
Standard Deviation	0.1%	0.1%
SciMark - Monte Carlo (Mflops)	106.06	107.02
Normalized	99.1%	100%
Standard Deviation	1%	0.2%
SciMark - F.F.T (Mflops)	264.35	247.94
Normalized	100%	93.79%
Standard Deviation	1.6%	2.9%
SciMark - S.M.M (Mflops)	576.33	573.51
Normalized	100%	99.51%
Standard Deviation	0.3%	0.5%
SciMark - D.L.M.F (Mflops)	712.96	702.73
Normalized	100%	98.57%
Standard Deviation	0.1%	1.7%
SciMark - J.S.O.R (Mflops)	898.61	893.64
Normalized	100%	99.45%
Standard Deviation	0.1%	0.5%

SciMark 2.0

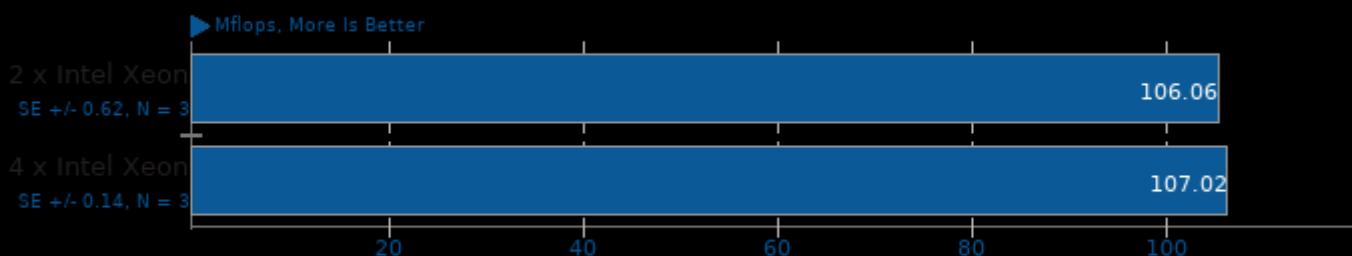
Computational Test: Composite



1. (CC) gcc options: -lm

SciMark 2.0

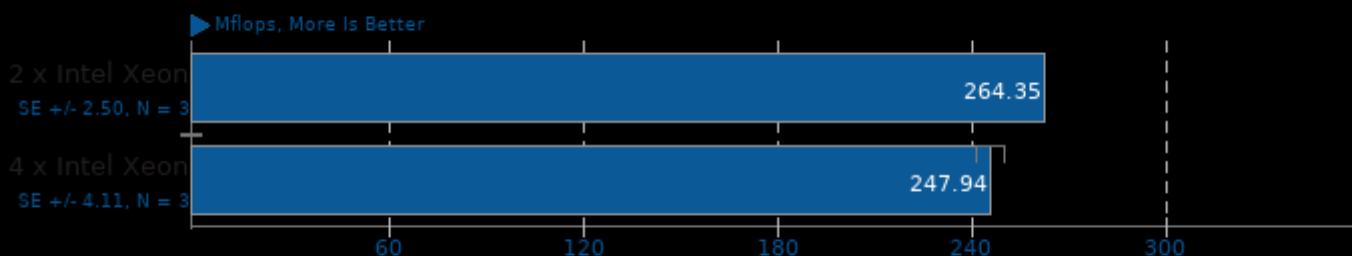
Computational Test: Monte Carlo



1. (CC) gcc options: -lm

SciMark 2.0

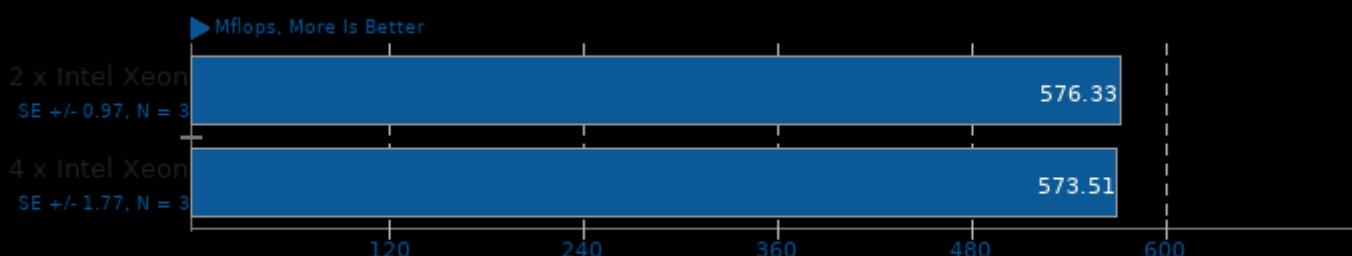
Computational Test: Fast Fourier Transform



1. (CC) gcc options: -lm

SciMark 2.0

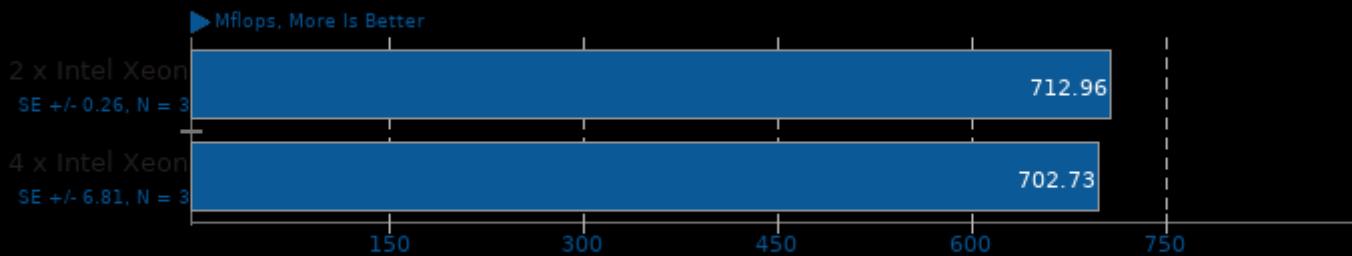
Computational Test: Sparse Matrix Multiply



1. (CC) gcc options: -lm

SciMark 2.0

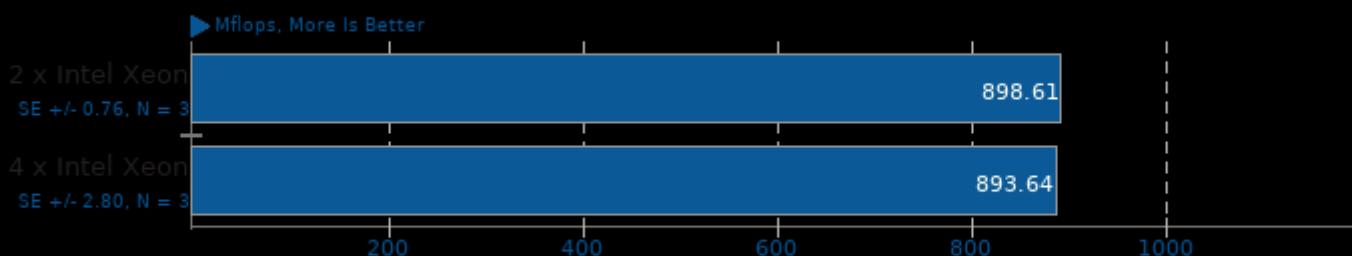
Computational Test: Dense LU Matrix Factorization



1. (CC) gcc options: -lm

SciMark 2.0

Computational Test: Jacobi Successive Over-Relaxation



1. (CC) gcc options: -lm

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