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kernelcompare

Intel Core i5-2520M testing with a HP 1618 (68SCF Ver. F.04 BIOS) and Intel HD 3000 2GB on ManjaroLinux 20.2 via the Phoronix Test Suite.

Automated Executive Summary

5.7.4_mitigation_off had the most wins, coming in first place for 62% of the tests.

Based on the geometric mean of all complete results, the fastest (5.7.4_mitigation_off) was 1.163x the speed of the slowest (5.9.8_mitigation_on). 5.9.8_mitigation_off was 0.974x the speed of 5.7.4_mitigation_off, 5.7.4_mitigation_on was 0.887x the speed of 5.9.8_mitigation_off, 5.9.8_mitigation_on was 0.995x the speed of 5.7.4_mitigation_on.

Test Systems:

5.7.4_mitigation_off

5.7.4_mitigation_on

Processor: Intel Core i5-2520M @ 3.20GHz (2 Cores / 4 Threads), Motherboard: HP 1618 (68SCF Ver. F.04 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8GB, Disk: 320GB Seagate ST9320423AS, Graphics: Intel HD 3000 2GB (1300MHz), Audio: IDT 92HD81B1X5, Network: Intel 82579LM + Intel Centrino Advanced-N 6205

OS: ManjaroLinux 20.0.3, Kernel: 5.7.4-xanmod1-1-xanmod (x86_64), Desktop: Cinnamon 4.6.3, Display Server: X Server 1.20.8, Display Driver: intel 2.99.917, OpenGL: 3.3 Mesa 20.0.7, Compiler: GCC 10.1.0, File-System: ext4, Screen Resolution: 1366x768

Environment Notes: mesa_glthread=true
 Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale-gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,io,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu

Processor Notes: Scaling Governor: intel_cpufreq performance - CPU Microcode: 0x2f

Graphics Notes: SNA

Security Notes: itlb_multihit: KVM: Mitigation of Split huge pages + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbs: Not affected + tsx_async_abort: Not affected

5.9.8_mitigation_on

5.9.8_mitigation_off

Processor: Intel Core i5-2520M @ 3.20GHz (2 Cores / 4 Threads), Motherboard: HP 1618 (68SCF Ver. F.04 BIOS), Chipset: Intel 2nd Generation Core DRAM, Memory: 8GB, Disk: 320GB Seagate ST9320423AS, Graphics: Intel HD 3000 2GB (1300MHz), Audio: IDT 92HD81B1X5, Network: Intel 82579LM + Intel Centrino Advanced-N 6205

OS: ManjaroLinux 20.2, Kernel: 5.9.8-xanmod1-1 (x86_64), Desktop: Cinnamon 4.6.7, Display Server: X Server 1.20.9, Display Driver: intel 2.99.917, OpenGL: 3.3 Mesa 20.2.1, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1366x768

Environment Notes: mesa_glthread=true
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Processor Notes: Scaling Governor: intel_cpufreq performance - CPU Microcode: 0x2f

Graphics Notes: SNA

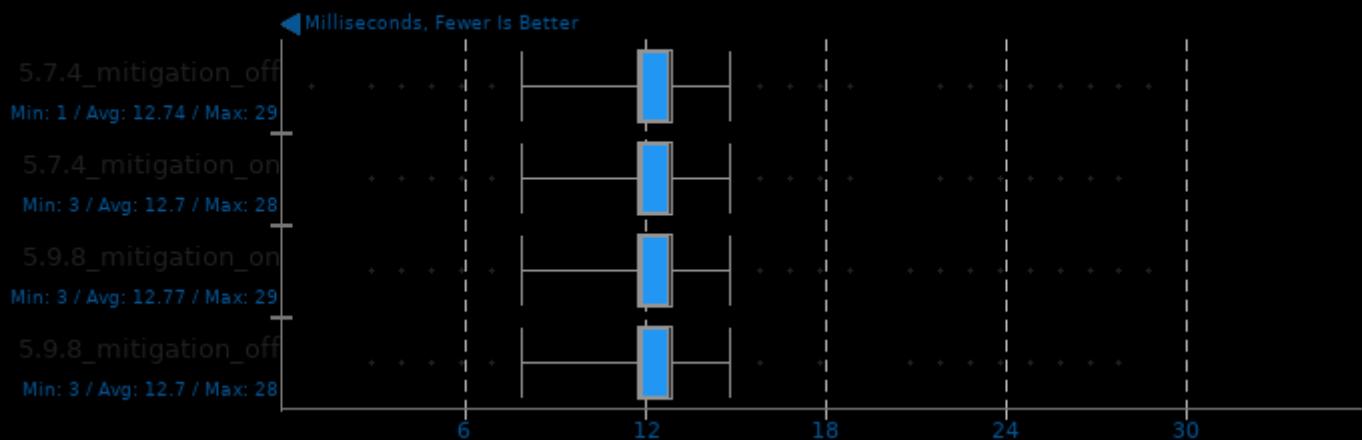
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: vulnerable + mds: Vulnerable; SMT vulnerable + meltdown: Vulnerable + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swaps barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbs: Not affected + tsx_async_abort: Not affected

	5.7.4_mitigation_o	5.7.4_mitigation_o	5.9.8_mitigation_o	5.9.8_mitigation_o
Unreal Tournament 2004 Demo - C.F.B - 1024 x 768 (FPS)	142.512075	140.815536	134.647817	138.725667
Normalized	100%	98.81%	94.48%	97.34%
Standard Deviation	2.7%	2.8%	0.7%	2.6%
Unreal Tournament 2004 Demo - C.B.B - 1024 x 768 (FPS)	170.129237	168.852910	163.617818	165.031215
Normalized	100%	99.25%	96.17%	97%
Standard Deviation	0.2%	0.3%	0.4%	0.7%

IPC_benchmark - TCP Socket - 4096	773727	545608	560641	765248
	(Messages/sec)			
Normalized	100%	70.52%	72.46%	98.9%
Standard Deviation	0.1%	0.6%	0.3%	0.9%
IPC_benchmark - Unnamed Pipe - 4096	1205250	846787	951909	1163024
	(Messages/sec)			
Normalized	100%	70.26%	78.98%	96.5%
Standard Deviation	8.5%	0.7%	9.2%	10.7%
IPC_benchmark - FIFO Named Pipe - 4096	1004228	915044	879314	1009028
	(Messages/sec)			
Normalized	99.52%	90.69%	87.14%	100%
Standard Deviation	0.2%	5.6%	8.2%	2.5%
IPC_benchmark - U.U.D.S - 4096	815285	586833	531175	706465
	(Messages/sec)			
Normalized	100%	71.98%	65.15%	86.65%
Standard Deviation	1%	0.3%	0.9%	1.1%
Coremark - CoreMark Size 666 - I.P.S	51100	50825	51429	51430
	(Iterations/Sec)			
Normalized	99.36%	98.82%	100%	100%
Standard Deviation	0.2%	0.2%	0.2%	0.1%
Core-Latency - A.L.B.C.C (ns)	83.744125	85.281825	83.938175	81.3989
Normalized	97.2%	95.45%	96.97%	100%

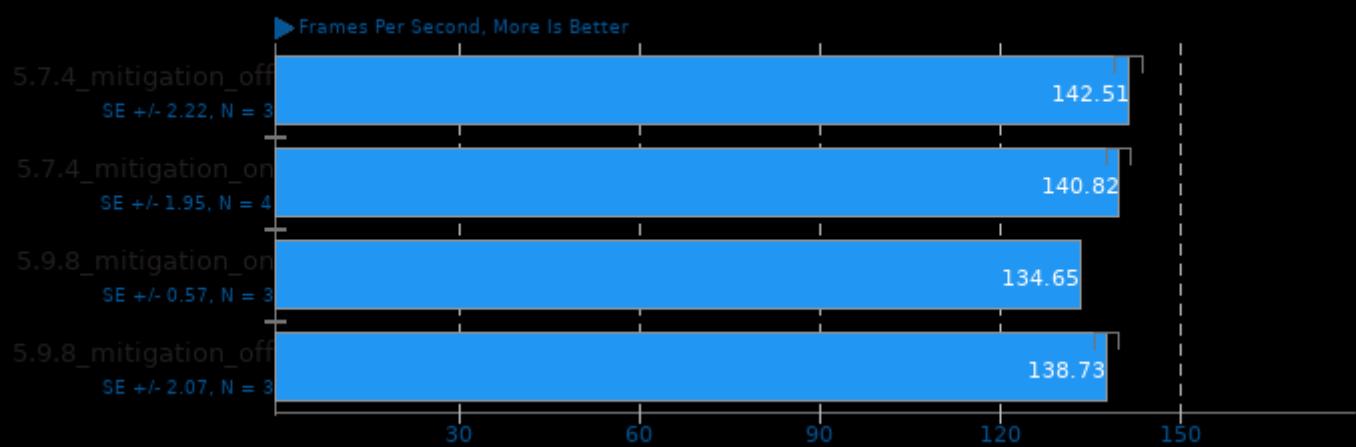
OpenArena 0.8.8

Resolution: 1024 x 768 - Total Frame Time



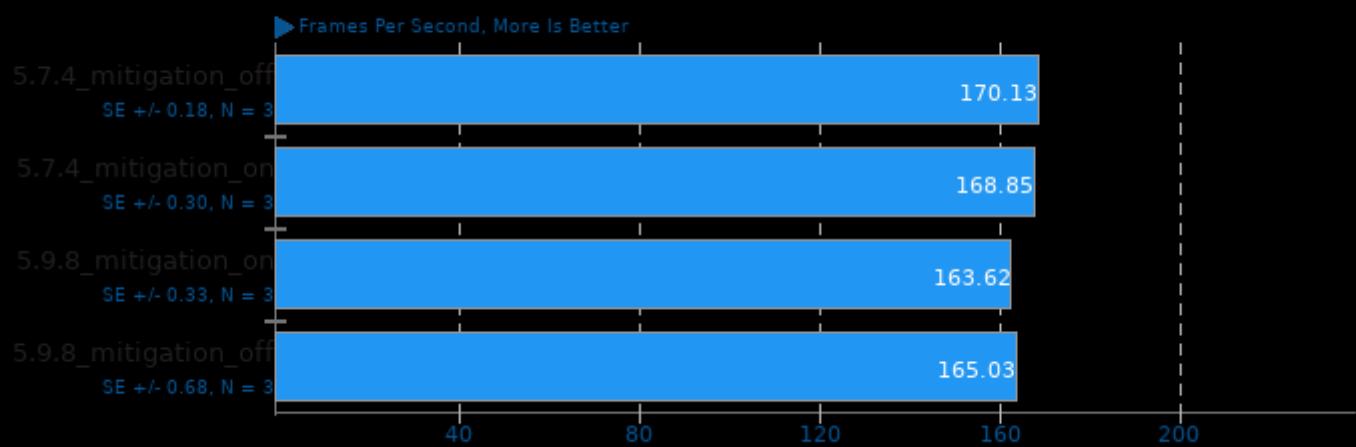
Unreal Tournament 2004 Demo 3334

Map: CTF-FaceClassic Botmatch - Resolution: 1024 x 768



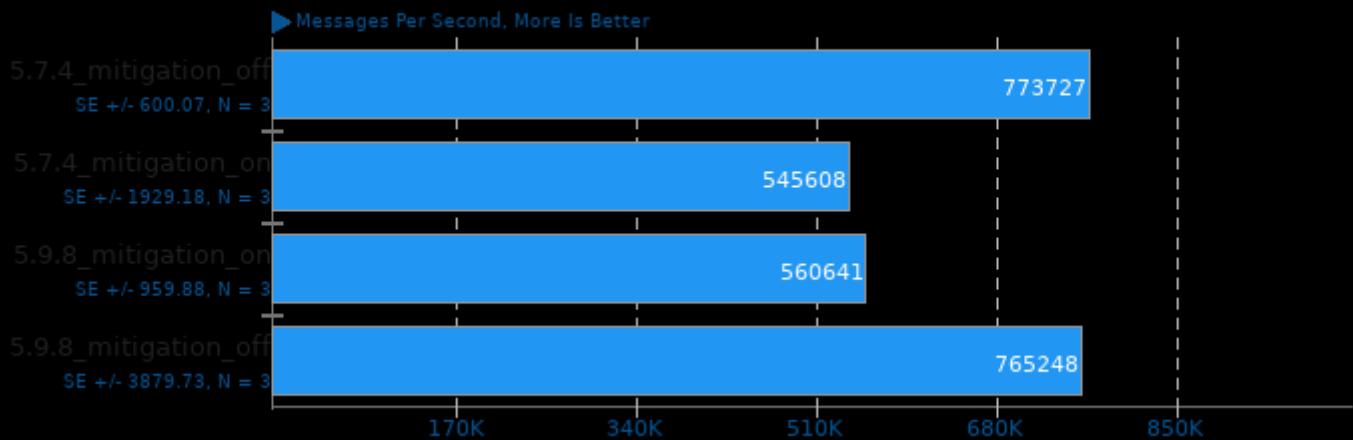
Unreal Tournament 2004 Demo 3334

Map: CTF-BridgeOfFate Botmatch - Resolution: 1024 x 768



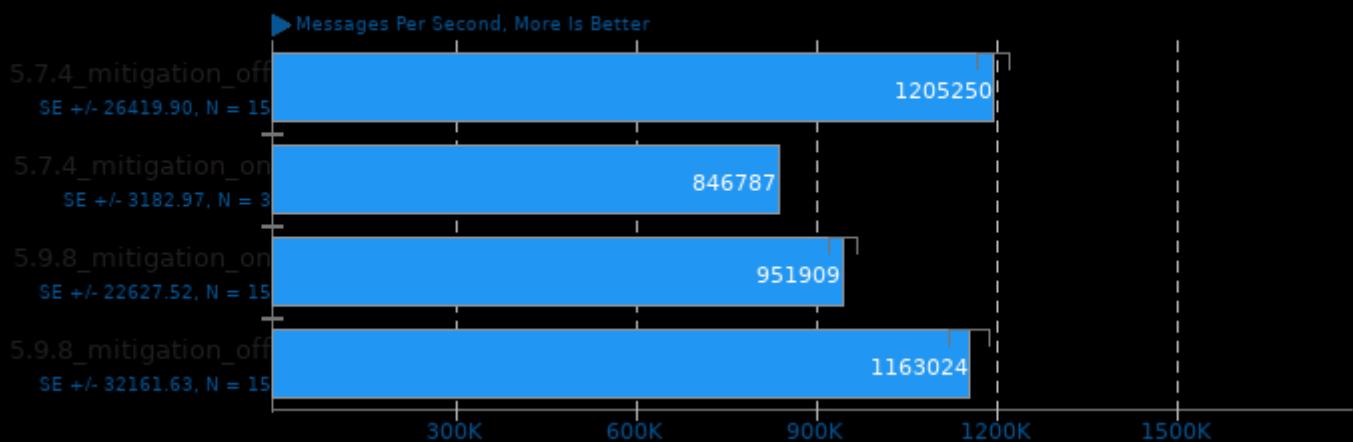
IPC_benchmark

Type: TCP Socket - Message Bytes: 4096



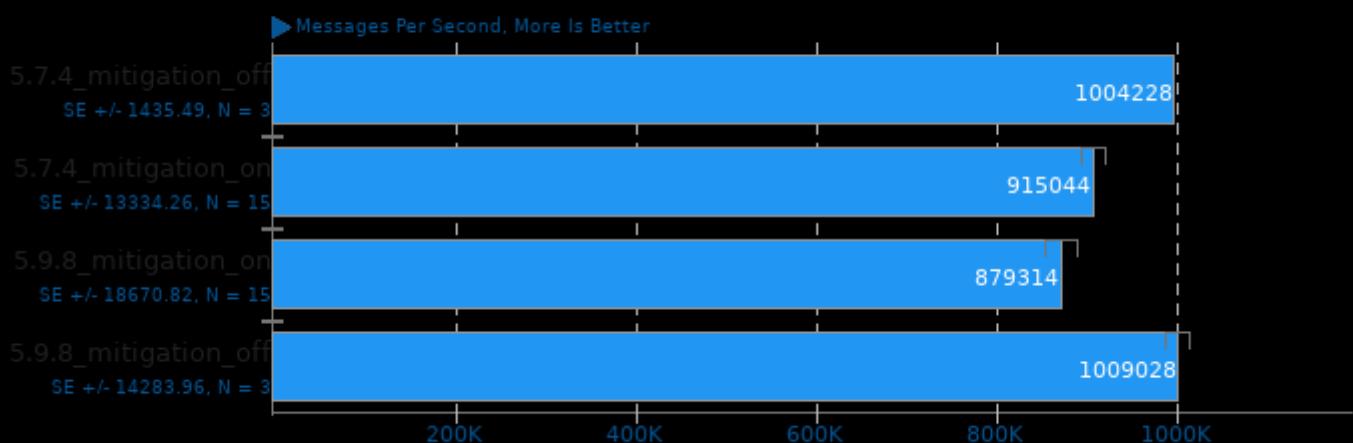
IPC_benchmark

Type: Unnamed Pipe - Message Bytes: 4096



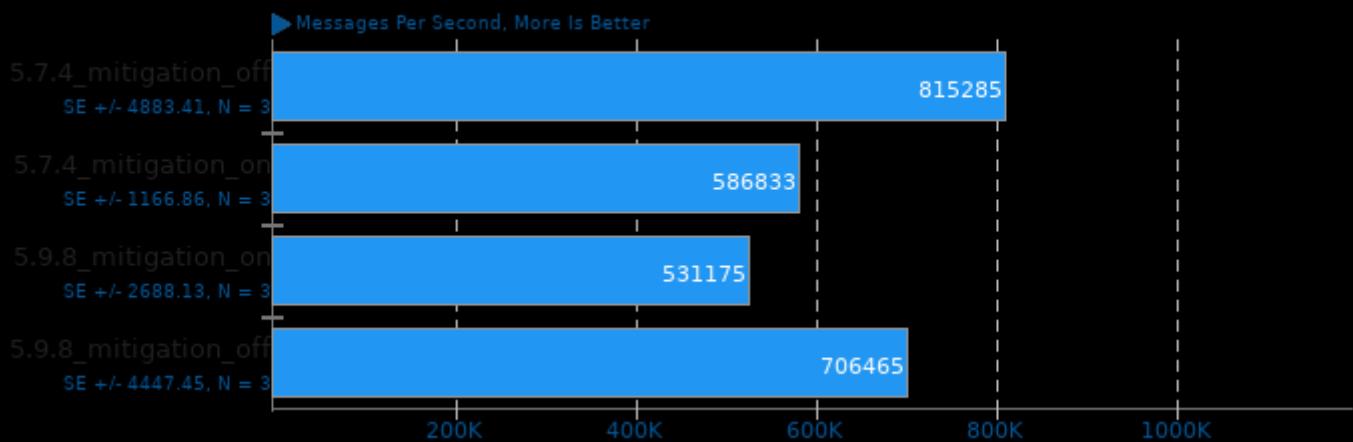
IPC_benchmark

Type: FIFO Named Pipe - Message Bytes: 4096



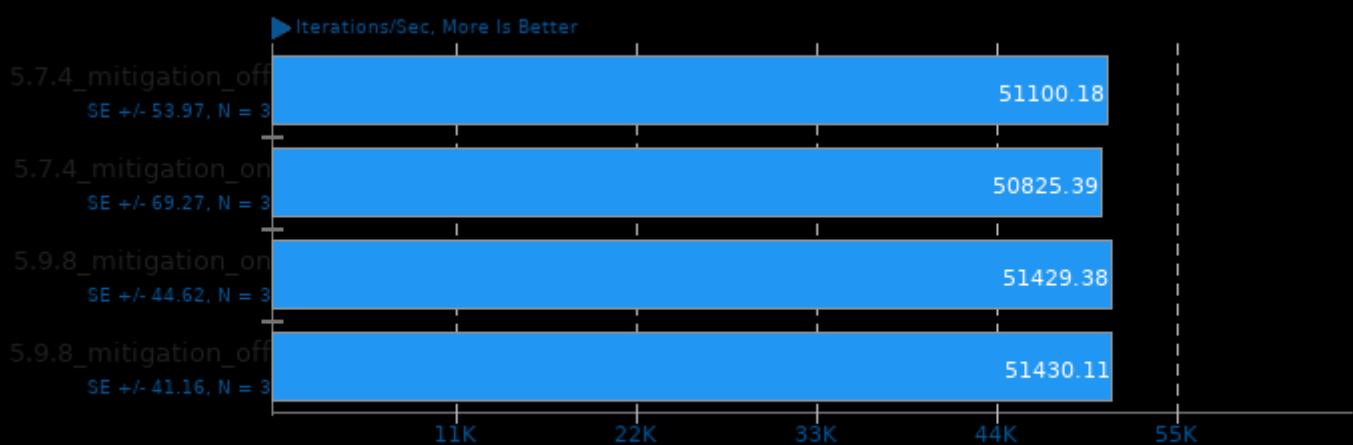
IPC_benchmark

Type: Unnamed Unix Domain Socket - Message Bytes: 4096



Coremark 1.0

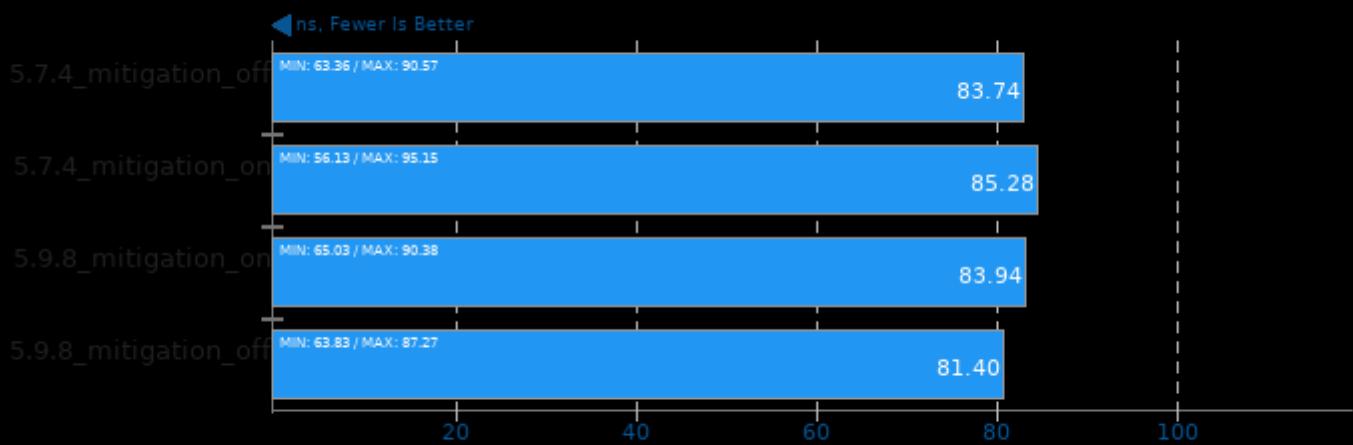
CoreMark Size 666 - Iterations Per Second



1. (CC) gcc options: -O2 -fomit-frame-pointer

Core-Latency

Average Latency Between CPU Cores



1. (CXX) g++ options: -std=c++11 -pthread -O3

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 11:27.