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hv-gateway

KVM testing on Ubuntu 22.04 via the Phoronix Test Suite.

Automated Executive Summary

E3-1230v3 3.3GHz host had the most wins, coming in first place for 62% of the tests.

Based on the geometric mean of all complete results, the fastest (E3-1230v3 3.3GHz host) was 1.083x the speed of the slowest (E3-1230v3 3.3GHz).

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

Stress-NG (Test: NUMA) at 2.517x
Stress-NG (Test: Mutex) at 1.159x
Stress-NG (Test: Futex) at 1.133x
Stress-NG (Test: Malloc) at 1.109x
Stress-NG (Test: Vector Math) at 1.099x
Stress-NG (Test: Matrix Math) at 1.076x
Stress-NG (Test: Semaphores) at 1.06x
Stress-NG (Test: Forking) at 1.037x
Stress-NG (Test: MMAP) at 1.019x
Stress-NG (Test: IO_uring) at 1.013x.

Test Systems:

E3-1230v3 3.3GHz

Processor: Common KVM (8 Cores), Motherboard: QEMU Standard PC (i440FX + PIIX 1996) (rel-1.16.0-0-gd239552ce722-prebuilt.qemu.org BIOS), Chipset: Intel 440FX 82441FX PMC, Memory: 16GB, Disk: 17GB QEMU HDD, Graphics: bochs-drmdrmfb, Monitor: QEMU Monitor, Network: Red Hat Virtio device

OS: Ubuntu 22.04, Kernel: 5.15.0-43-generic (x86_64), Vulkan: 1.2.204, Compiler: GCC 11.3.0, File-System: ext4, Screen Resolution: 1280x800, System Layer: KVM

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-gcn/usr --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-build-config=bootstrap-lto-lean --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
Processor Notes: CPU Microcode: 0x1
Security Notes: itlb_multihit: KVM: Mitigation of VMX unsupported + l1tf: Mitigation of PTE Inversion + mds: Vulnerable: Clear buffers attempted no microcode; SMT Host state unknown + meltdown: Mitigation of PTI + mmio_stale_data: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

E3-1230v3 3.3GHz host

Processor: Intel Xeon E3-1230 v3 (8 Cores), Motherboard: QEMU Standard PC (i440FX + PIIX 1996) (rel-1.16.0-0-gd239552ce722-prebuilt.qemu.org BIOS), Chipset: Intel 440FX 82441FX PMC, Memory: 16GB, Disk: 17GB QEMU HDD, Graphics: bochs-drmdrmfb, Monitor: QEMU Monitor, Network: Red Hat Virtio device

OS: Ubuntu 22.04, Kernel: 5.15.0-43-generic (x86_64), Vulkan: 1.2.204, Compiler: GCC 11.3.0, File-System: ext4, Screen Resolution: 1280x800, System Layer: KVM

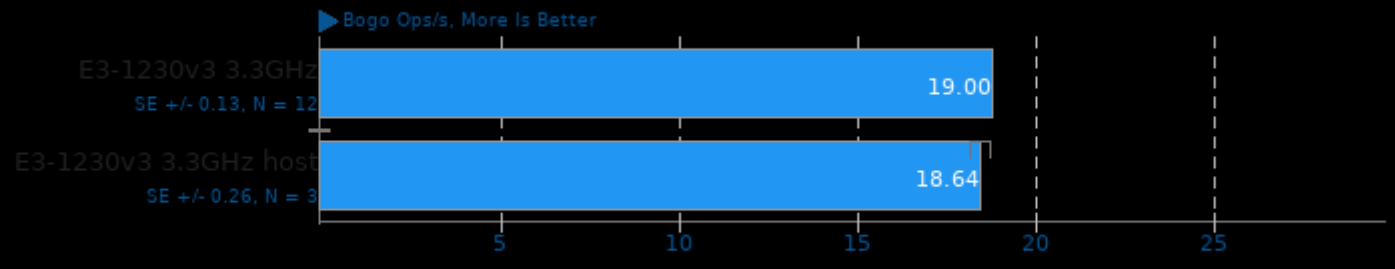
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-gcn/usr --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-build-config=bootstrap-lto-lean --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
Processor Notes: CPU Microcode: 0x28
Security Notes: itlb_multihit: Not affected + l1tf: Mitigation of PTE Inversion; VMX: flush not necessary SMT disabled + mds: Mitigation of Clear buffers; SMT Host state unknown + meltdown: Mitigation of PTI + mmio_stale_data: 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 Retpolines IBPB: conditional IBRS_FW STIBP: disabled RSB filling + srbds: Unknown: Dependent on hypervisor status + tsx_async_abort: Not affected

	E3-1230v3 3.3GHz	E3-1230v3 3.3GHz host
Stress-NG - MMAP (Bogo Ops/s)	**19.00**	**18.64**
Normalized	100%	98.11%
Standard Deviation	2.4%	2.4%
Stress-NG - NUMA (Bogo Ops/s)	**32.15**	**80.93**
Normalized	39.73%	100%
Standard Deviation	0.2%	0.5%
Stress-NG - Futex (Bogo Ops/s)	**561636**	**636061**
Normalized	88.3%	100%

Standard Deviation	0.4%	0.7%
Stress-NG - MEMFD (Bogo Ops/s)	**84.14**	**84.41**
Normalized	99.68%	100%
Standard Deviation	0.9%	2%
Stress-NG - Mutex (Bogo Ops/s)	**810524**	**939326**
Normalized	86.29%	100%
Standard Deviation	2.3%	0.2%
Stress-NG - Atomic (Bogo Ops/s)	**151734**	**151312**
Normalized	100%	99.72%
Standard Deviation	0.7%	0.5%
Stress-NG - Crypto (Bogo Ops/s)	**4123**	**4167**
Normalized	98.95%	100%
Standard Deviation	0.1%	0.3%
Stress-NG - Malloc (Bogo Ops/s)	**575378**	**637891**
Normalized	90.2%	100%
Standard Deviation	1.4%	0.2%
Stress-NG - Forking (Bogo Ops/s)	**21320**	**20561**
Normalized	100%	96.44%
Standard Deviation	0.6%	0.5%
Stress-NG - IO_uring (Bogo Ops/s)	**2013**	**2039**
Normalized	98.72%	100%
Standard Deviation	0.1%	1.1%
Stress-NG - SENDFILE (Bogo Ops/s)	**51654**	**51910**
Normalized	99.51%	100%
Standard Deviation	0.1%	0.1%
Stress-NG - CPU Cache (Bogo Ops/s)	**44.33**	**41.64**
Normalized	100%	93.93%
Standard Deviation	8.1%	10%
Stress-NG - CPU Stress (Bogo Ops/s)	**7194**	**7130**
Normalized	100%	99.11%
Standard Deviation	0.1%	0.1%
Stress-NG - Semaphores (Bogo Ops/s)	**500852**	**530808**
Normalized	94.36%	100%
Standard Deviation	0.1%	0.2%
Stress-NG - Matrix Math (Bogo Ops/s)	**18338**	**17043**
Normalized	100%	92.93%
Standard Deviation	1.1%	0.7%
Stress-NG - Vector Math (Bogo Ops/s)	**11761**	**12920**
Normalized	91.03%	100%
Standard Deviation	0.4%	0.1%
Stress-NG - x86_64 RdRand (Bogo Ops/s)		5721
Standard Deviation		0.7%
Stress-NG - Memory Copying (Bogo Ops/s)		843.92
Standard Deviation		0.2%
Stress-NG - Socket Activity (Bogo Ops/s)		3045
Standard Deviation		0.3%
Stress-NG - Context Switching (Bogo Ops/s)		1011754
Standard Deviation		0.8%
Stress-NG - G.C.S.F (Bogo Ops/s)		485236
Standard Deviation		0.6%
Stress-NG - G.Q.D.S (Bogo Ops/s)		54.52
Standard Deviation		0.7%
Stress-NG - S.V.M.P (Bogo Ops/s)		3346565
Standard Deviation		0.3%

Stress-NG 0.14.06

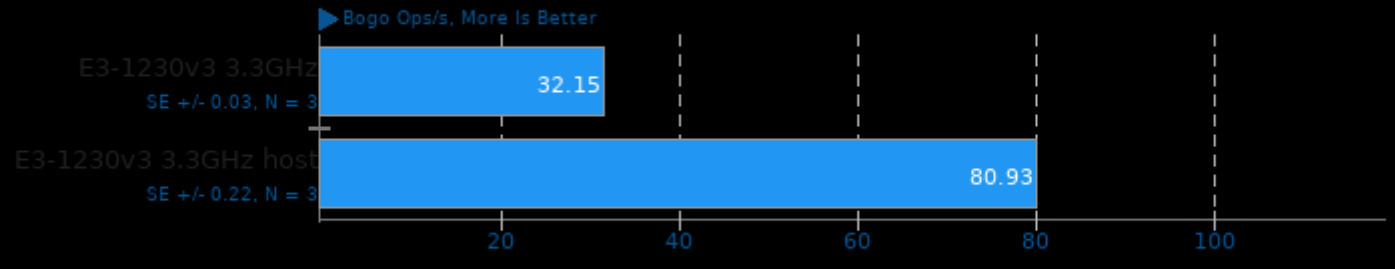
Test: MMAP



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread

Stress-NG 0.14.06

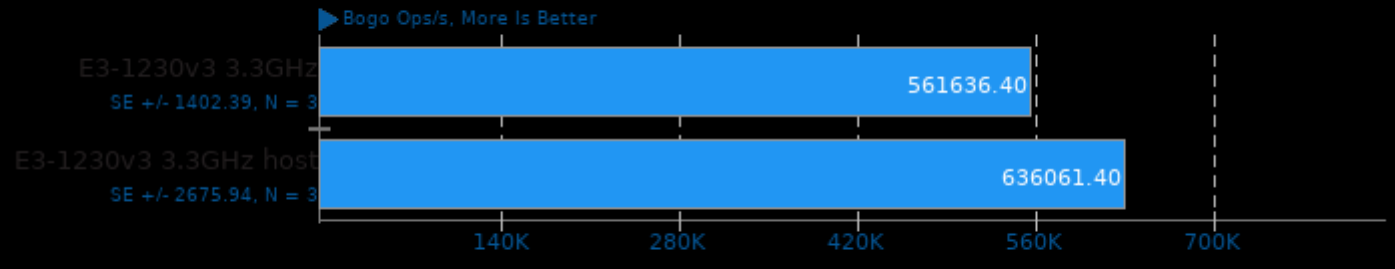
Test: NUMA



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread

Stress-NG 0.14.06

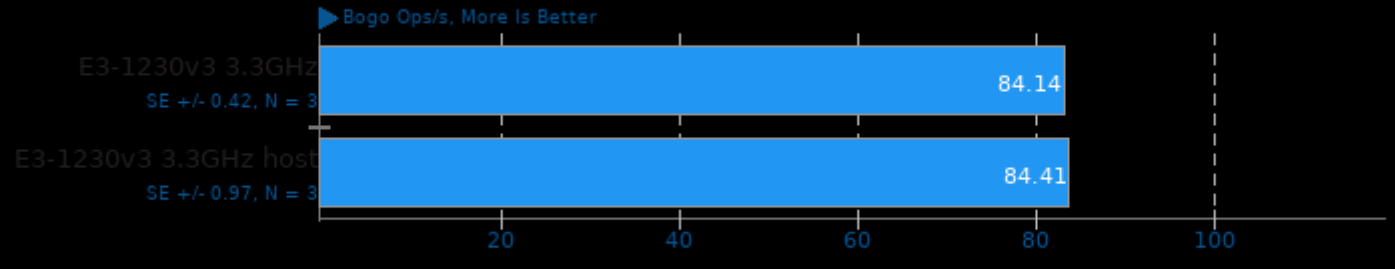
Test: Futex



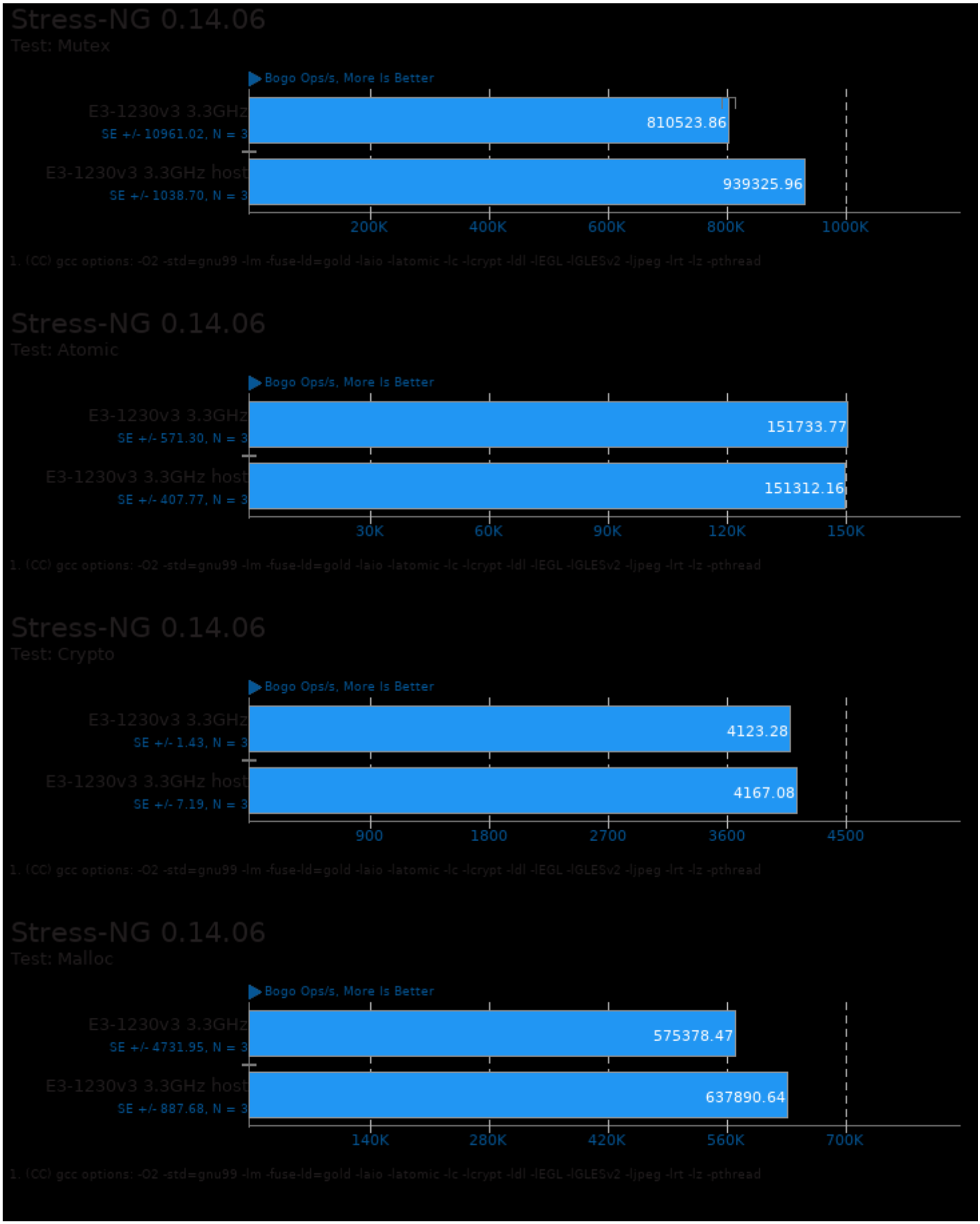
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread

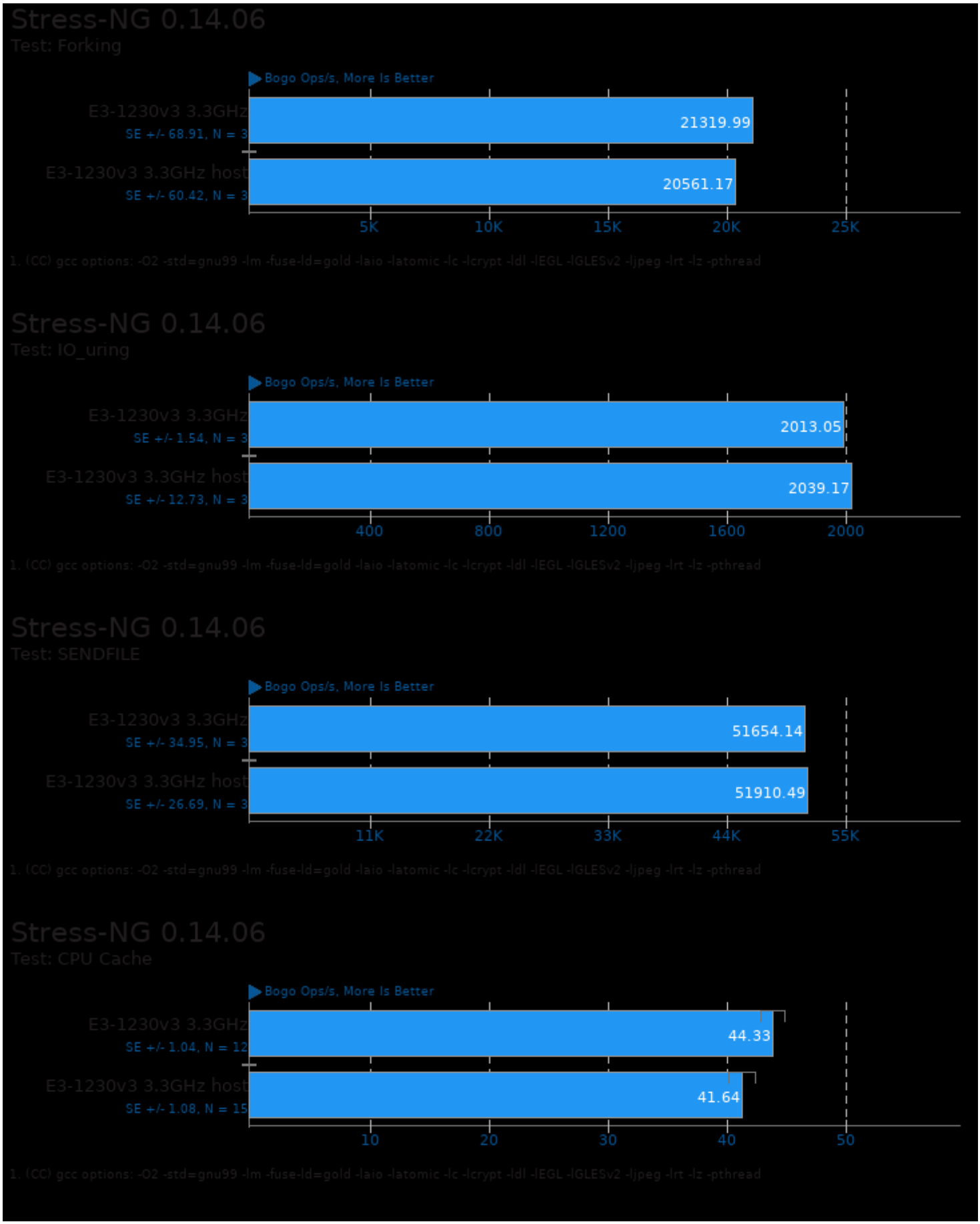
Stress-NG 0.14.06

Test: MEMFD



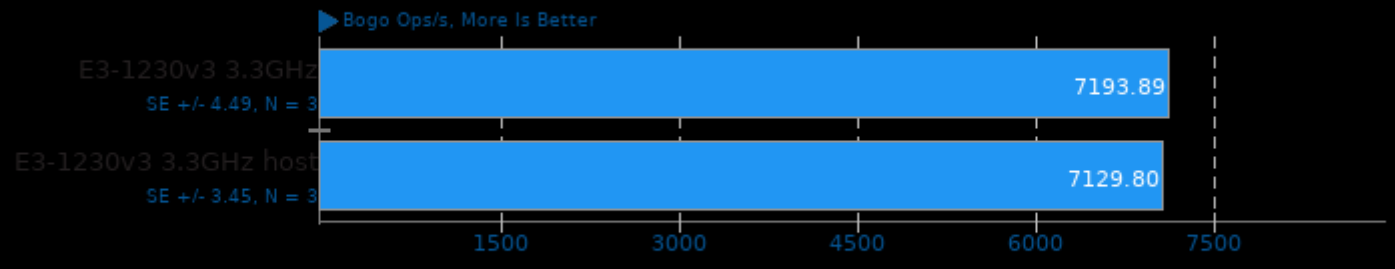
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread


Stress-NG 0.14.06
Test: Mutex
Bogo Ops/s, More Is Better
E3-1230v3 3.3GHz
SE +/- 10961.02, N = 3
810523.86
E3-1230v3 3.3GHz host
SE +/- 1038.70, N = 3
939325.96
200K
400K
600K
800K
1000K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread
Stress-NG 0.14.06
Test: Atomic
Bogo Ops/s, More Is Better
E3-1230v3 3.3GHz
SE +/- 571.30, N = 3
151733.77
E3-1230v3 3.3GHz host
SE +/- 407.77, N = 3
151312.16
30K
60K
90K
120K
150K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread
Stress-NG 0.14.06
Test: Crypto
Bogo Ops/s, More Is Better
E3-1230v3 3.3GHz
SE +/- 1.43, N = 3
4123.28
E3-1230v3 3.3GHz host
SE +/- 7.19, N = 3
4167.08
900
1800
2700
3600
4500
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread
Stress-NG 0.14.06
Test: Malloc
Bogo Ops/s, More Is Better
E3-1230v3 3.3GHz
SE +/- 4731.95, N = 3
575378.47
E3-1230v3 3.3GHz host
SE +/- 887.68, N = 3
637890.64
140K
280K
420K
560K
700K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread


Stress-NG 0.14.06
Test: Forking
Bogo Ops/s, More Is Better
E3-1230v3 3.3GHz
SE +/- 68.91, N = 3
21319.99
E3-1230v3 3.3GHz host
SE +/- 60.42, N = 3
20561.17
5K
10K
15K
20K
25K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread
Stress-NG 0.14.06
Test: IO_uring
Bogo Ops/s, More Is Better
E3-1230v3 3.3GHz
SE +/- 1.54, N = 3
2013.05
E3-1230v3 3.3GHz host
SE +/- 12.73, N = 3
2039.17
400
800
1200
1600
2000
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread
Stress-NG 0.14.06
Test: SENDFILE
Bogo Ops/s, More Is Better
E3-1230v3 3.3GHz
SE +/- 34.95, N = 3
51654.14
E3-1230v3 3.3GHz host
SE +/- 26.69, N = 3
51910.49
11K
22K
33K
44K
55K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread
Stress-NG 0.14.06
Test: CPU Cache
Bogo Ops/s, More Is Better
E3-1230v3 3.3GHz
SE +/- 1.04, N = 12
44.33
E3-1230v3 3.3GHz host
SE +/- 1.08, N = 15
41.64
10
20
30
40
50
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread

Stress-NG 0.14.06

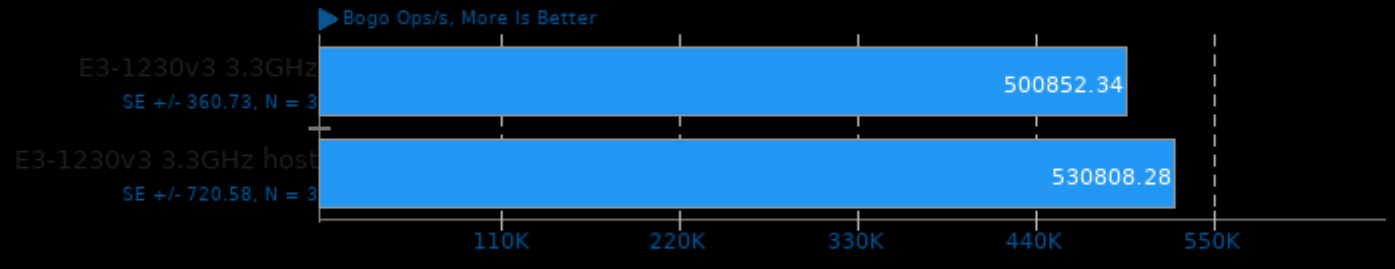
Test: CPU Stress



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread

Stress-NG 0.14.06

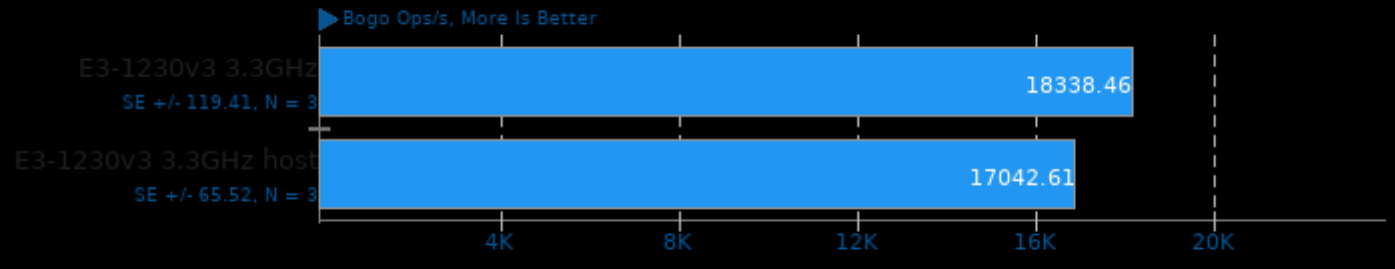
Test: Semaphores



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread

Stress-NG 0.14.06

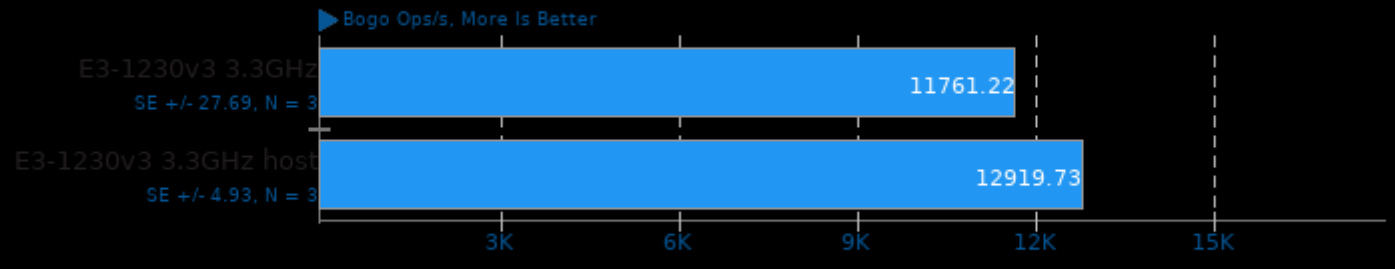
Test: Matrix Math



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread

Stress-NG 0.14.06

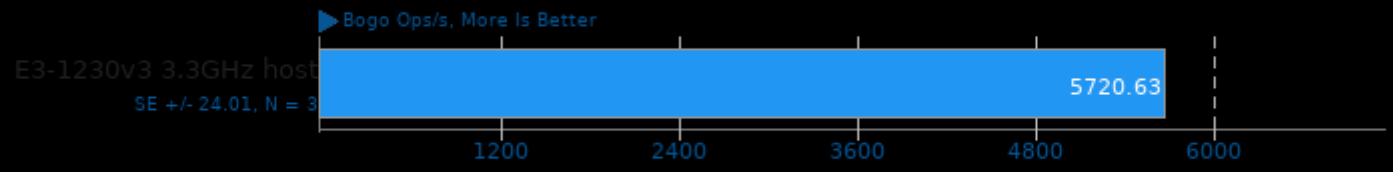
Test: Vector Math



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread

Stress-NG 0.14.06

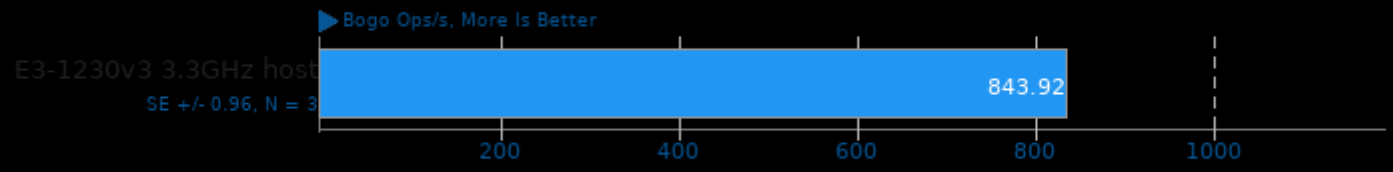
Test: x86_64 RdRand



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread

Stress-NG 0.14.06

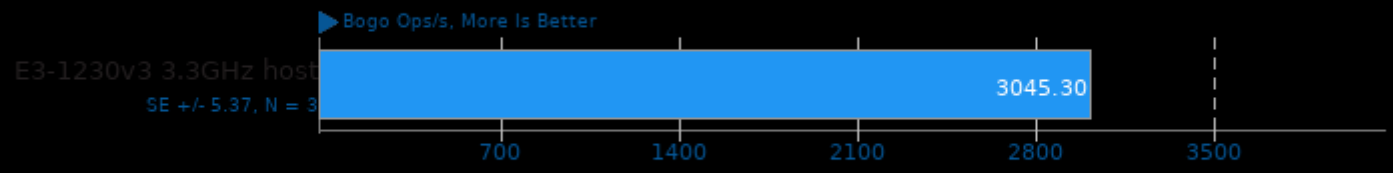
Test: Memory Copying



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread

Stress-NG 0.14.06

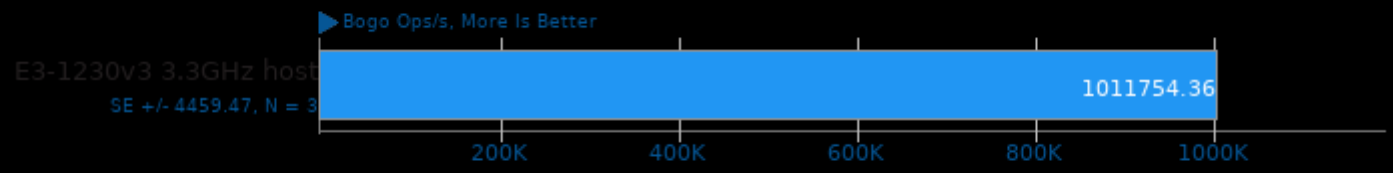
Test: Socket Activity



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread

Stress-NG 0.14.06

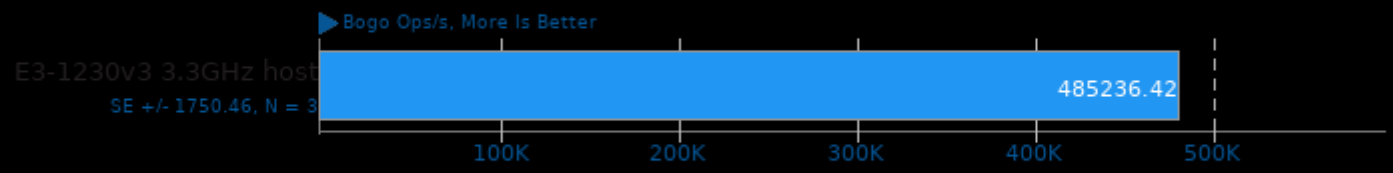
Test: Context Switching



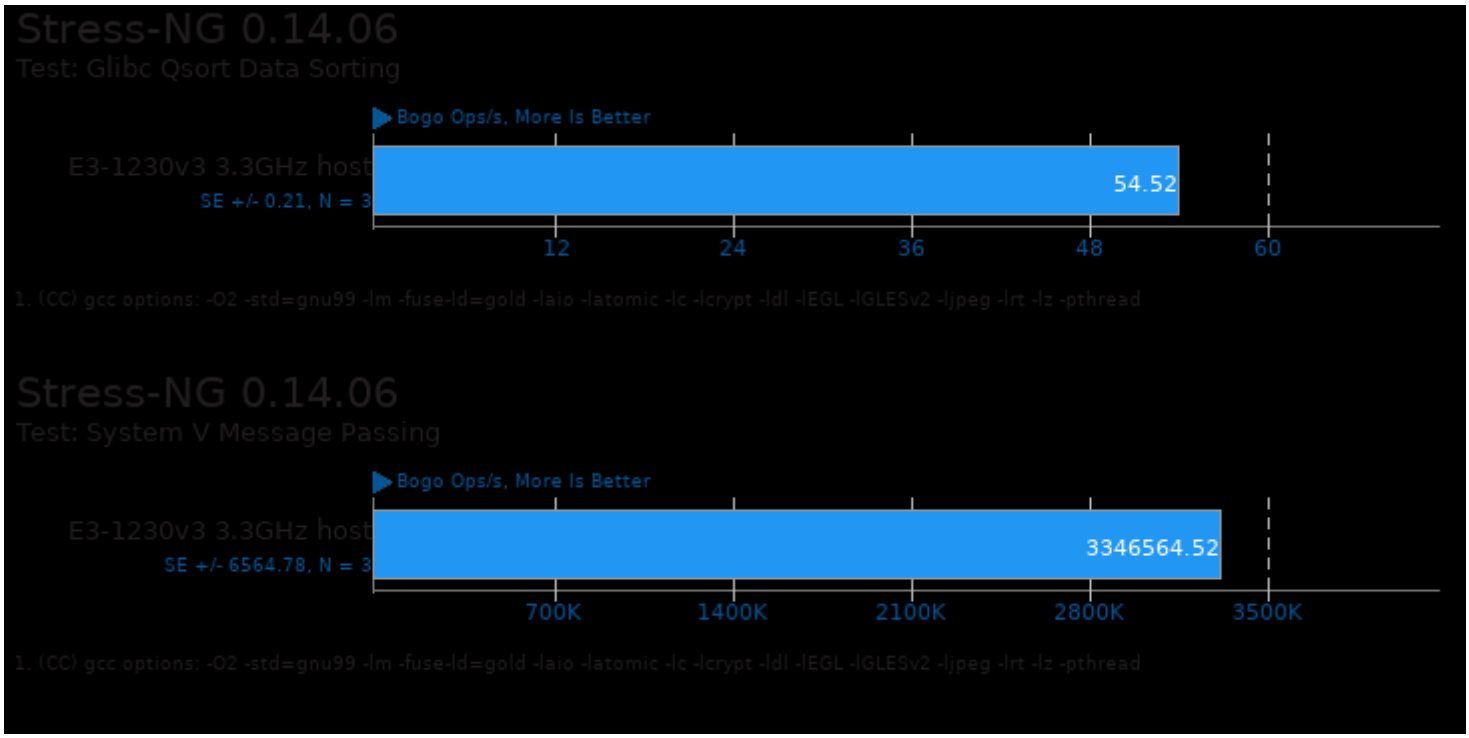
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread

Stress-NG 0.14.06

Test: Glibc C String Functions



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -latomic -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lz -pthread



This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 10:45.