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2022-05-06-0933

2 x Intel Xeon E5-2620 v3 testing with a Supermicro X10DRL-i v1.01 (3.4 BIOS) and ASPEED on Debian 11 via the Phoronix Test Suite.

Automated Executive Summary

SuperServer Xeon Haswell had the most wins, coming in first place for 43% of the tests.

Based on the geometric mean of all complete results, the fastest (SuperServer Xeon Haswell) was 1.354x the speed of the slowest (ASUS X512-JA vs Opteron). 4 x AMD Opteron 8378 was 0.761x the speed of SuperServer Xeon Haswell and ASUS X512-JA vs Opteron was 0.97x the speed of 4 x AMD Opteron 8378.

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

Stress-NG (Test: IO_uring) at 8.078x
Stress-NG (Test: Malloc) at 7.644x
Stress-NG (Test: RdRand) at 6.955x
Stress-NG (Test: MEMFD) at 4.01x
FLAC Audio Encoding (WAV To FLAC) at 3.271x
Timed MrBayes Analysis (Primate Phylogeny Analysis) at 3.091x
Stress-NG (Test: Crypto) at 2.861x
Stress-NG (Test: Semaphores) at 2.71x

Stress-NG (Test: Memory Copying) at 2.683x
7-Zip Compression (Test: Decompression Rating) at 2.62x.

Test Systems:

4 x AMD Opteron 8378

Processor: 4 x AMD Opteron 8378 (16 Cores), Motherboard: HP ProLiant DL585 G5 (A07 BIOS), Chipset: AMD 10h HyperTransport Configuration, Memory: 64GB, Disk: 90GB LOGICAL VOLUME, Graphics: AMD ES1000, Monitor: DELL E156FP, Network: 2 x Broadcom NetXtreme II BCM5706

OS: Debian 11, Kernel: 5.10.0-14-amd64 (x86_64), Vulkan: 1.0.2, Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1024x768

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --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-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/usr, hsa --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: 0x1000086
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Not affected + 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

ASUS X512-JA vs Opteron

Processor: Intel Core i5-1035G1 @ 3.60GHz (4 Cores / 8 Threads), Motherboard: ASUS X512JA v1.0 (X512JA.308 BIOS), Chipset: Intel Ice Lake-LP DRAM, Memory: 12GB, Disk: 128GB Toshiba THNSN5128GPU7, Graphics: ASUS Intel Iris Plus G1 (1050MHz), Audio: Realtek ALC256

OS: Debian 11, Kernel: 5.10.0-21-amd64 (x86_64), Display Server: X Server 1.20.11, Vulkan: 1.2.145, Compiler: GCC 10.2.1 20210110, File-System: ext4

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --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-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/usr, hsa --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: Scaling Governor: intel_pstate powersave (EPP: balance_performance) - CPU Microcode: 0xa0
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Vulnerable: Clear buffers attempted no microcode; SMT vulnerable + retbleed: Mitigation of Enhanced IBRS + 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 Enhanced IBRS IBPB: conditional RSB filling PBRSB-eIBRS: SW sequence + srbds: Vulnerable: No microcode + tsx_async_abort: Not affected

SuperServer Xeon Haswell

Processor: 2 x Intel Xeon E5-2620 v3 @ 3.20GHz (12 Cores), Motherboard: Supermicro X10DRL-i v1.01 (3.4 BIOS), Chipset: Intel Xeon E7 v3/Xeon, Memory: 64GB, Disk: 1000GB Western Digital WD10EZEX-08W + 6 x 2000GB TOSHIBA DT01ACA2 + 1000GB Western Digital WD10EZEX-00W + 480GB KINGSTON SEDC500 + 256GB

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SAMSUNG SSD PM84, Graphics: ASPEED, Network: 4 x Intel 82575GB + 2 x Intel I210

OS: Debian 11, Kernel: 5.10.0-20-amd64 (x86_64), Desktop: Xfce, Display Server: X Server, Vulkan: 1.0.2, Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1024x768

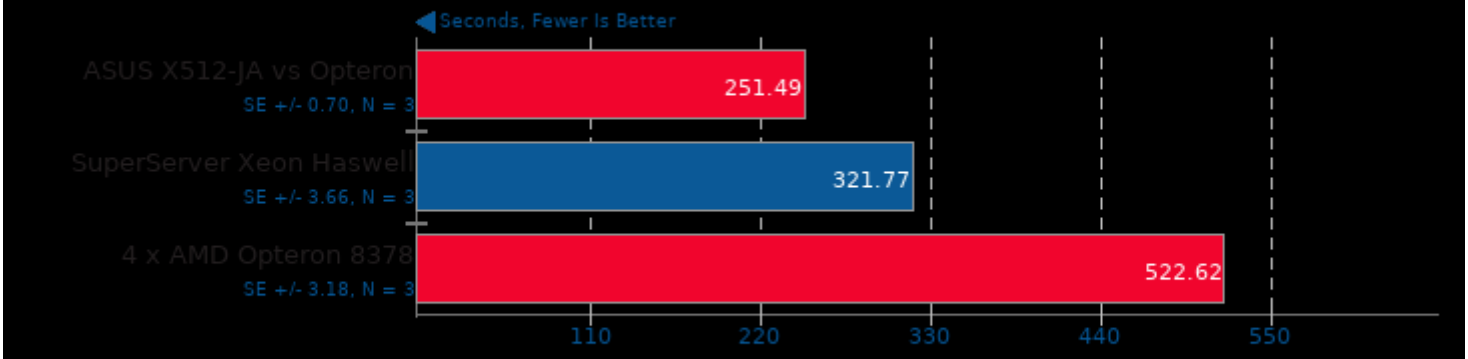
Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/usr, hsa --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: Scaling Governor: intel_cpufreq schedutil - CPU Microcode: 0x46
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT disabled + mds: Mitigation of Clear buffers; SMT disabled + meltdown: Mitigation of PTI + mmio_stale_data: Mitigation of Clear buffers; SMT disabled + retbleed: 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 RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

	4 x AMD Opteron 8378	ASUS X512-JA vs Opteron	SuperServer Xeon Haswell
Gcrypt Library (sec)	**522.615**	**251.486**	321.773
Normalized	48.12%	100%	78.16%
Standard Deviation	1.1%	0.5%	2%
Timed MrBayes Analysis - P.P.A (sec)	**598.989**	**193.759**	237.427
Normalized	32.35%	100%	81.61%
Standard Deviation	0.2%	1.1%	0.3%
Timed HMMer Search - P.D.S (sec)	**291.053**	**196.690**	236.572
Normalized	67.58%	100%	83.14%
Standard Deviation	0%	0.6%	0.3%
Stream - Copy (MB/s)	**22653**	24664	**28474**
Normalized	79.56%	86.62%	100%
Standard Deviation	2.4%	1.3%	14.9%
OpenSSL - SHA256 (byte/s)	**1793670973**	2176171110	**2445743477**
Normalized	73.34%	88.98%	100%
Standard Deviation	0.5%	0.1%	0.4%
Stress-NG - CPU Cache (Bogo Ops/s)	**42.36**	**206.11**	50.97
Normalized	20.55%	100%	24.73%
Standard Deviation	8.9%	3.3%	9.3%
Stress-NG - NUMA (Bogo Ops/s)	**0.49**	**86.99**	79.06
Normalized	0.56%	100%	90.88%
Standard Deviation	2.3%	2.5%	44.3%
Stress-NG - G.Q.D.S (Bogo Ops/s)	87.61	**42.17**	**97.25**
Normalized	90.09%	43.36%	100%
Standard Deviation	2.4%	4.9%	0.2%
Stress-NG - MMAP (Bogo Ops/s)	**105.04**	**30.96**	59.91
Normalized	100%	29.47%	57.04%
Standard Deviation	10.7%	2.3%	2%
OpenSSL - RSA4096 (verify/s)	73227	**44111**	**86759**
Normalized	84.4%	50.84%	100%
Standard Deviation	0.1%	0.1%	0.7%
OpenSSL - RSA4096 (sign/s)	1109	**726.5**	**1322**
Normalized	83.9%	54.95%	100%
Standard Deviation	0%	2.5%	0.6%

Stress-NG - Memory Copying (Bogo Ops/s)	**640.29**	964.58	**1718**
Normalized	37.27%	56.15%	100%
Standard Deviation	0.3%	1.7%	3.3%
Stress-NG - CPU Stress (Bogo Ops/s)	11010	**5318**	**11280**
Normalized	97.61%	47.14%	100%
Standard Deviation	0.9%	3.7%	0.3%
Stress-NG - G.C.S.F (Bogo Ops/s)	400288	**361147**	**876688**
Normalized	45.66%	41.19%	100%
Standard Deviation	0.3%	3.9%	0.1%
Stress-NG - Matrix Math (Bogo Ops/s)	28645	**12637**	**32631**
Normalized	87.78%	38.73%	100%
Standard Deviation	0%	4.5%	0.5%
Stress-NG - Atomic (Bogo Ops/s)	158413	**193100**	**156546**
Normalized	82.04%	100%	81.07%
Standard Deviation	0%	4.8%	1.6%
Stress-NG - Socket Activity (Bogo Ops/s)	**3005**	3329	**4249**
Normalized	70.72%	78.35%	100%
Standard Deviation	0.9%	14.3%	1%
Stress-NG - Forking (Bogo Ops/s)	11077	**18136**	**8098**
Normalized	61.08%	100%	44.65%
Standard Deviation	2.3%	2.6%	0.7%
FLAC Audio Encoding - WAV To FLAC (sec)	**61.461**	**18.787**	34.465
Normalized	30.57%	100%	54.51%
Standard Deviation	0.5%	0.4%	1%
Stress-NG - SENDFILE (Bogo Ops/s)	**87369**	**50825**	85795
Normalized	100%	58.17%	98.2%
Standard Deviation	0.4%	4.5%	0%
Stress-NG - Context Switching (Bogo Ops/s)	**2585566**	**1524544**	2003687
Normalized	100%	58.96%	77.5%
Standard Deviation	2.1%	2.5%	2.5%
7-Zip Compression - D.R (MIPS)	**38684**	**14765**	29605
Normalized	100%	38.17%	76.53%
Standard Deviation	0.1%	3.1%	1.2%
7-Zip Compression - Compression Rating (MIPS)	**39259**	**19638**	37374
Normalized	100%	50.02%	95.2%
Standard Deviation	0.1%	0.3%	1.6%
Parallel BZIP2 Compression - F.1.0.R.a.m.i.C (sec)	20.695	**32.618**	**16.809**
Normalized	81.22%	51.53%	100%
Standard Deviation	0.6%	2.4%	1.5%
nginx - 1000 (Reqs/sec)	110879		
Standard Deviation	0.4%		
nginx - 100 (Reqs/sec)	113406		
Standard Deviation	0.3%		
nginx - 1 (Reqs/sec)	28251		
Standard Deviation	0.2%		
nginx - 200 (Reqs/sec)	112747		
Standard Deviation	0%		
nginx - 20 (Reqs/sec)	113272		
Standard Deviation	0.8%		
nginx - 500 (Reqs/sec)	111016		
Standard Deviation	0.2%		
Stress-NG - Crypto (Bogo Ops/s)	1524	**548.22**	**1568**

Normalized	97.21%	34.96%	100%
Standard Deviation	0.2%	2.5%	0%
Stress-NG - MEMFD (Bogo Ops/s)	522.50	**201.46**	**807.79**
Normalized	64.68%	24.94%	100%
Standard Deviation	0.5%	2.3%	0.1%
Stress-NG - S.V.M.P (Bogo Ops/s)	2239789	**4157531**	**2116053**
Normalized	53.87%	100%	50.9%
Standard Deviation	0.5%	2.5%	0.8%
Stress-NG - RdRand (Bogo Ops/s)		**67463**	**469216**
Normalized		14.38%	100%
Standard Deviation		0.2%	0%
Stress-NG - Malloc (Bogo Ops/s)	47346406	**17225788**	**131671810**
Normalized	35.96%	13.08%	100%
Standard Deviation	0.1%	0.6%	1.4%
Stress-NG - IO_uring (Bogo Ops/s)	**34606**	9684	**4284**
Normalized	100%	27.98%	12.38%
Standard Deviation	2%	1.9%	1.8%
Stress-NG - Vector Math (Bogo Ops/s)	14103	**9324**	**15856**
Normalized	88.94%	58.8%	100%
Standard Deviation	0.1%	2.4%	0.1%
Stress-NG - Semaphores (Bogo Ops/s)	1305188	**724400**	**1963070**
Normalized	66.49%	36.9%	100%
Standard Deviation	0.2%	0.1%	0.1%
Stream - Add (MB/s)	**21824**	**19635**	20862
Normalized	100%	89.97%	95.6%
Standard Deviation	0.9%	1.3%	5.7%
Stream - Triad (MB/s)	21744	**18529**	**23116**
Normalized	94.06%	80.16%	100%
Standard Deviation	1.4%	1.4%	2.8%
Stream - Scale (MB/s)	**19418**	**17744**	18311
Normalized	100%	91.38%	94.3%
Standard Deviation	0.7%	0.6%	5.8%

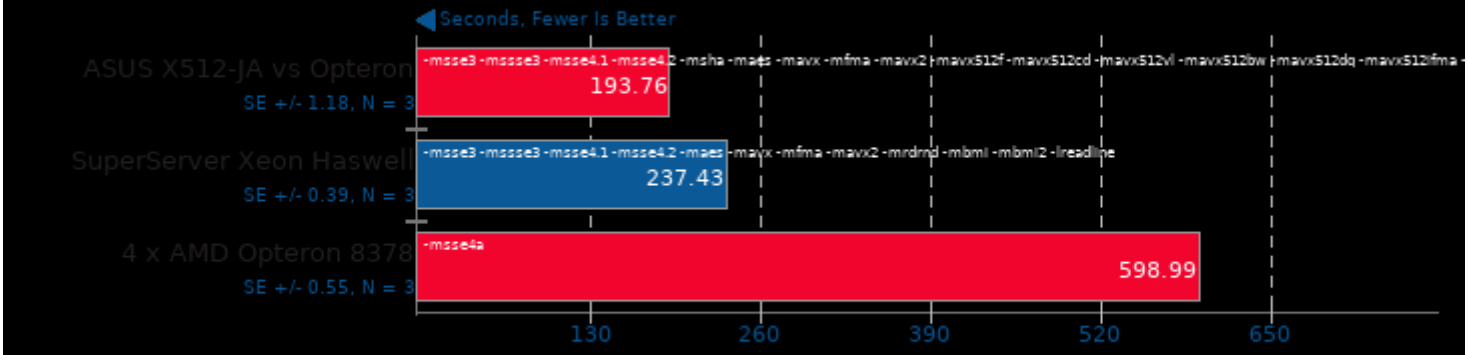
Gcrypt Library 1.9



1. (CC) gcc options: -O2 -fvisibility=hidden

Timed MrBayes Analysis 3.2.7

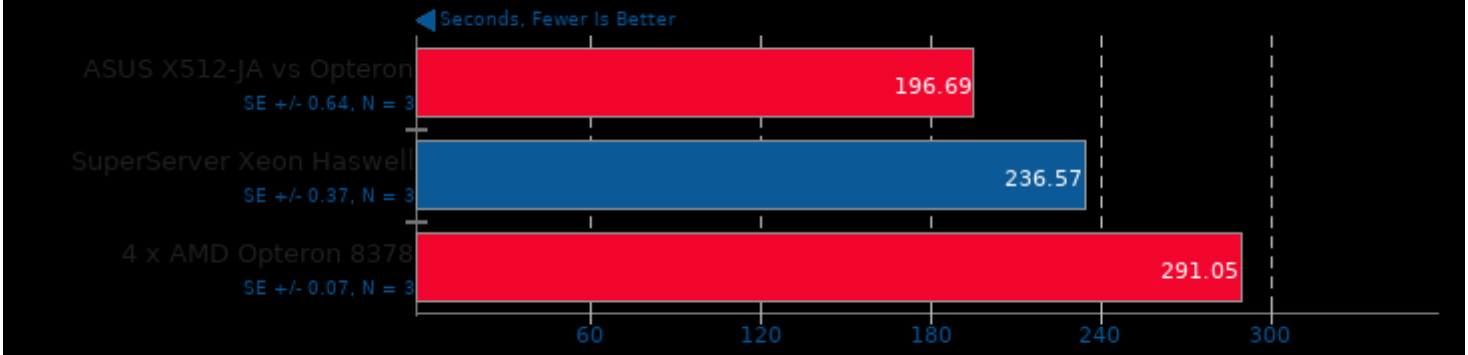
Primate Phylogeny Analysis



1. (CC) gcc options: -mmmx -msse -msse2 -mabm -O3 -std=c99 -pedantic -lm

Timed HMMer Search 3.3.2

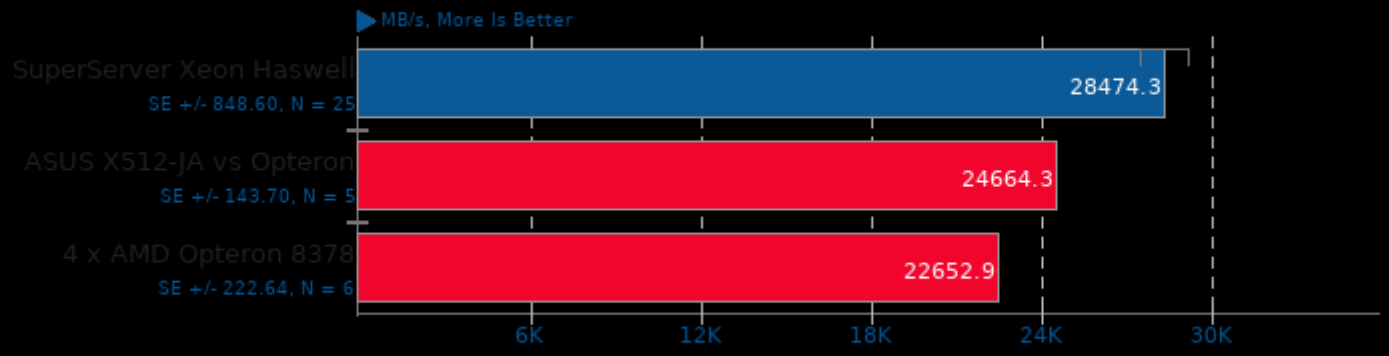
Pfam Database Search



1. (CC) gcc options: -O3 -pthread -lhmmer -leasel -lm -lmpi

Stream 2013-01-17

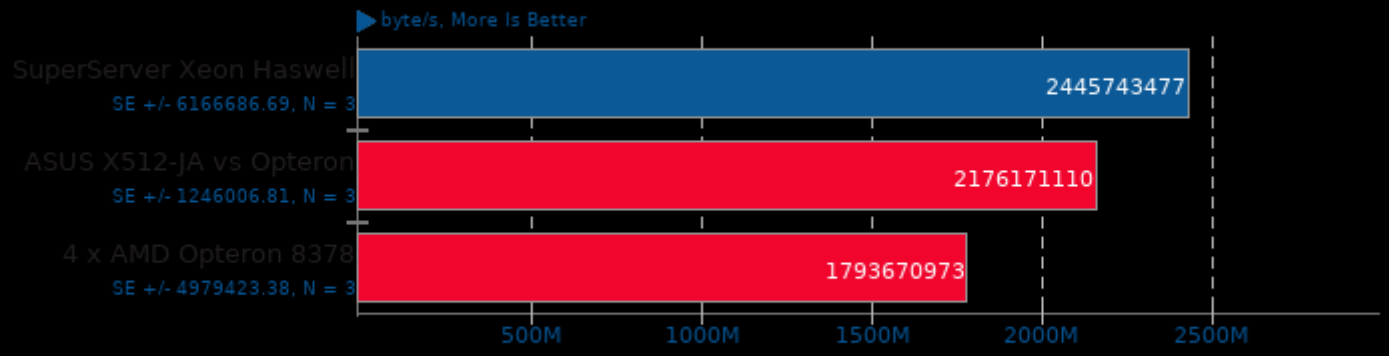
Type: Copy



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

OpenSSL 3.0

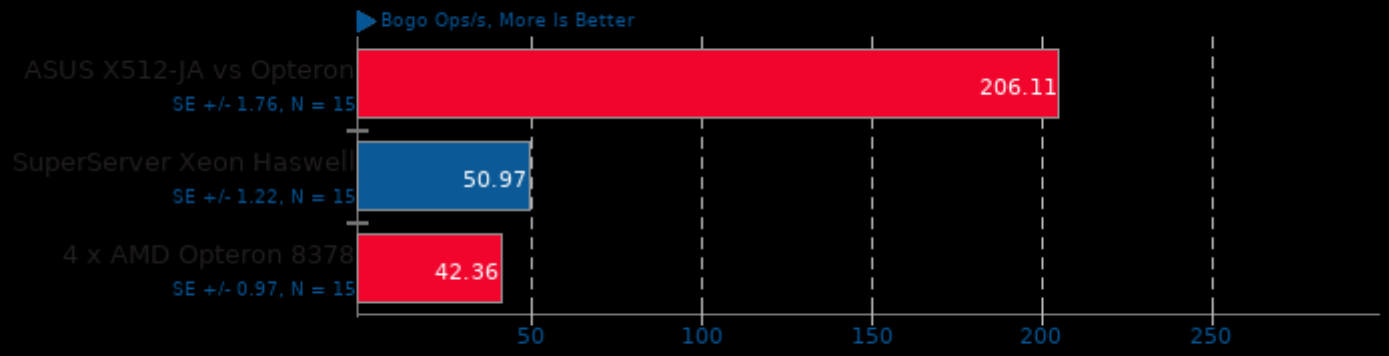
Algorithm: SHA256



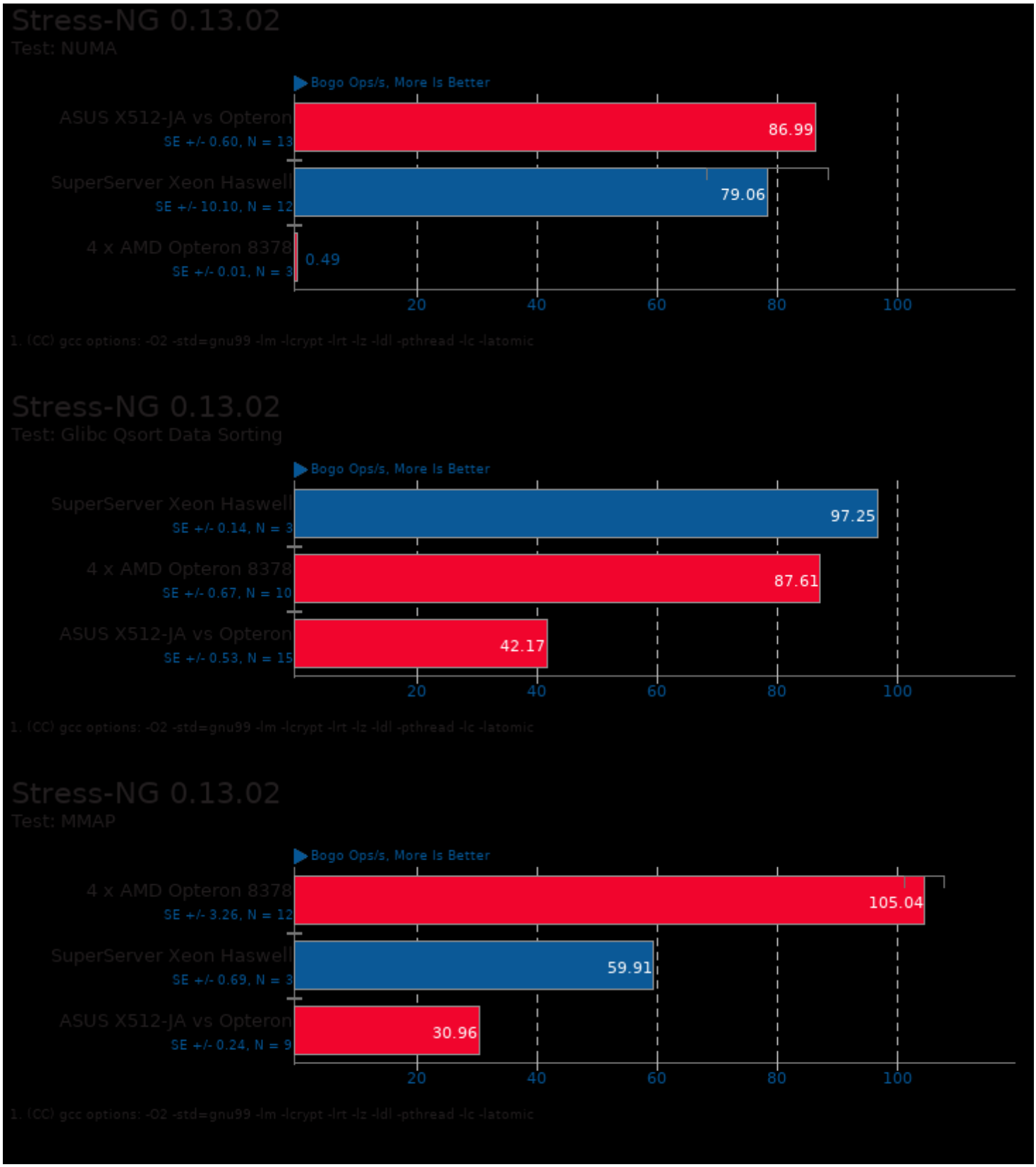
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

Stress-NG 0.13.02

Test: CPU Cache

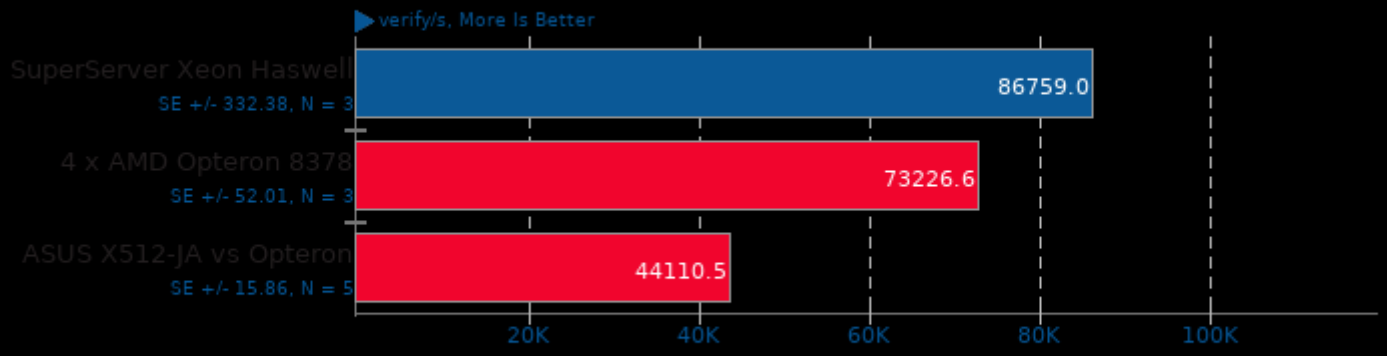


1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic


Stress-NG 0.13.02
Test: NUMA
Bogo Ops/s, More Is Better
ASUS X512-JA vs Opteron
SE +/- 0.60, N = 13
86.99
SuperServer Xeon Haswell
SE +/- 10.10, N = 12
79.06
4 x AMD Opteron 8378
SE +/- 0.01, N = 3
0.49
20
40
60
80
100
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Glibc Qsort Data Sorting
Bogo Ops/s, More Is Better
SuperServer Xeon Haswell
SE +/- 0.14, N = 3
97.25
4 x AMD Opteron 8378
SE +/- 0.67, N = 10
87.61
ASUS X512-JA vs Opteron
SE +/- 0.53, N = 15
42.17
20
40
60
80
100
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: MMAP
Bogo Ops/s, More Is Better
4 x AMD Opteron 8378
SE +/- 3.26, N = 12
105.04
SuperServer Xeon Haswell
SE +/- 0.69, N = 3
59.91
ASUS X512-JA vs Opteron
SE +/- 0.24, N = 9
30.96
20
40
60
80
100
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic

OpenSSL 3.0

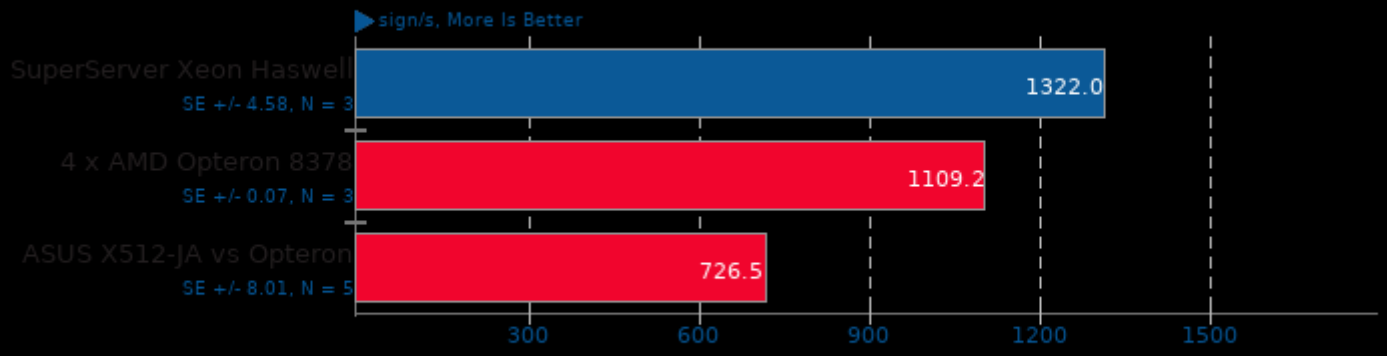
Algorithm: RSA4096



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

OpenSSL 3.0

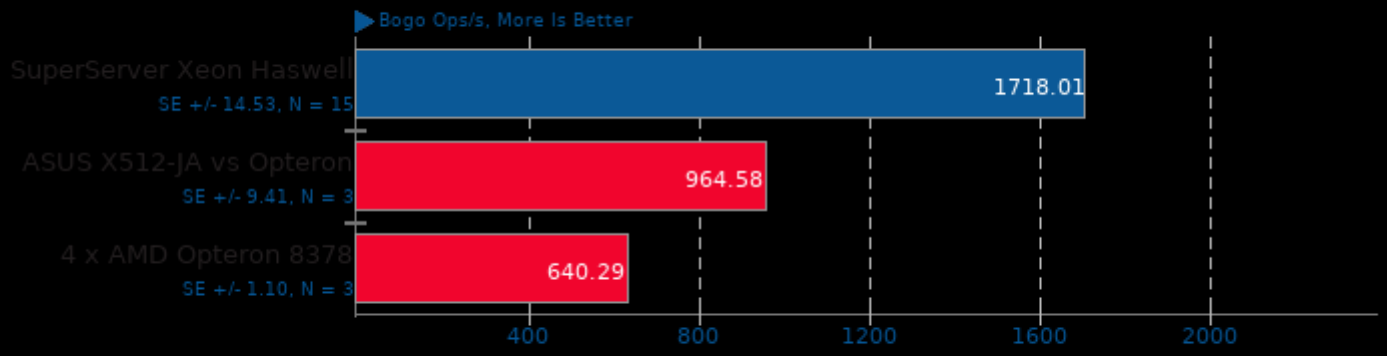
Algorithm: RSA4096



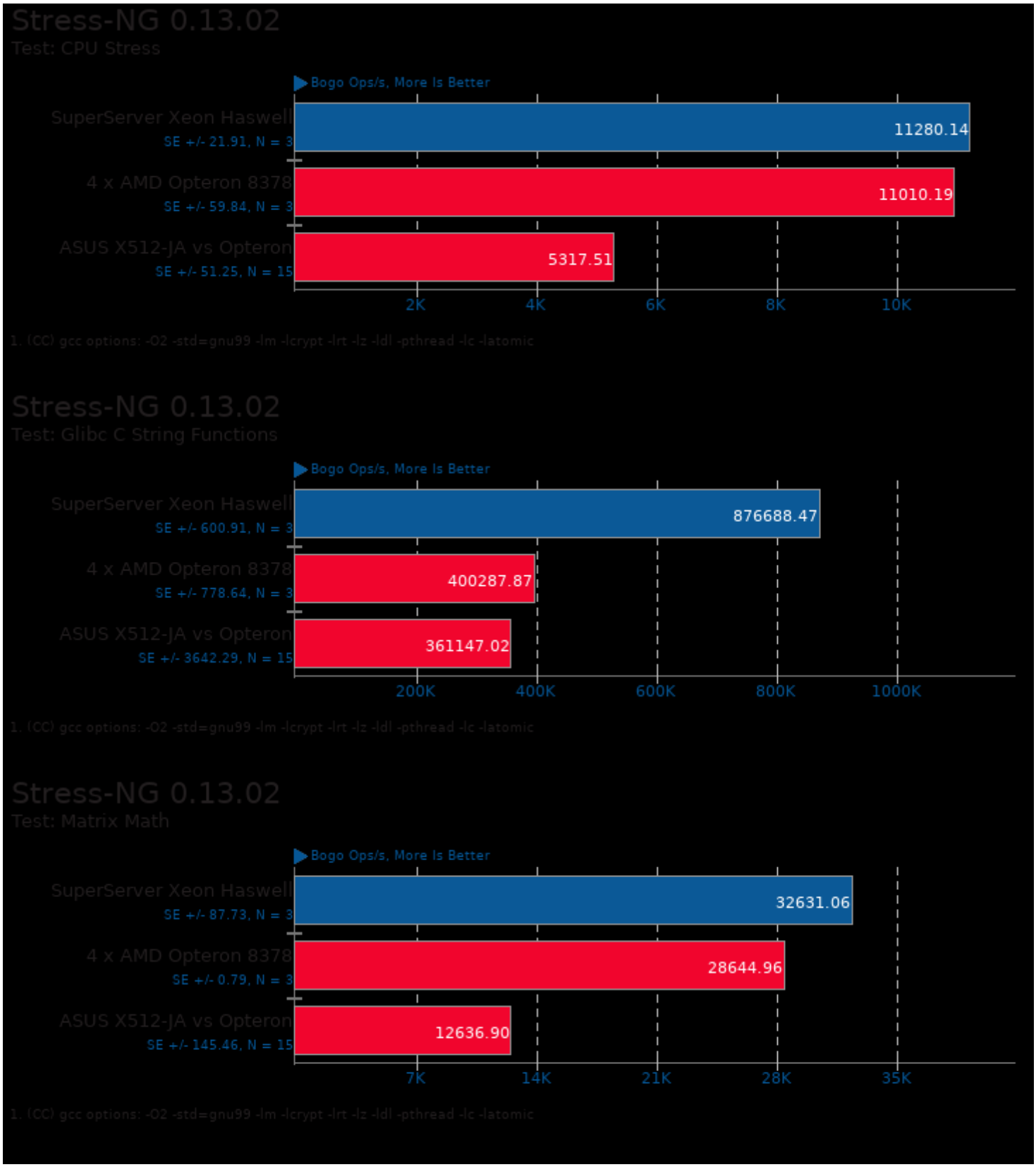
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

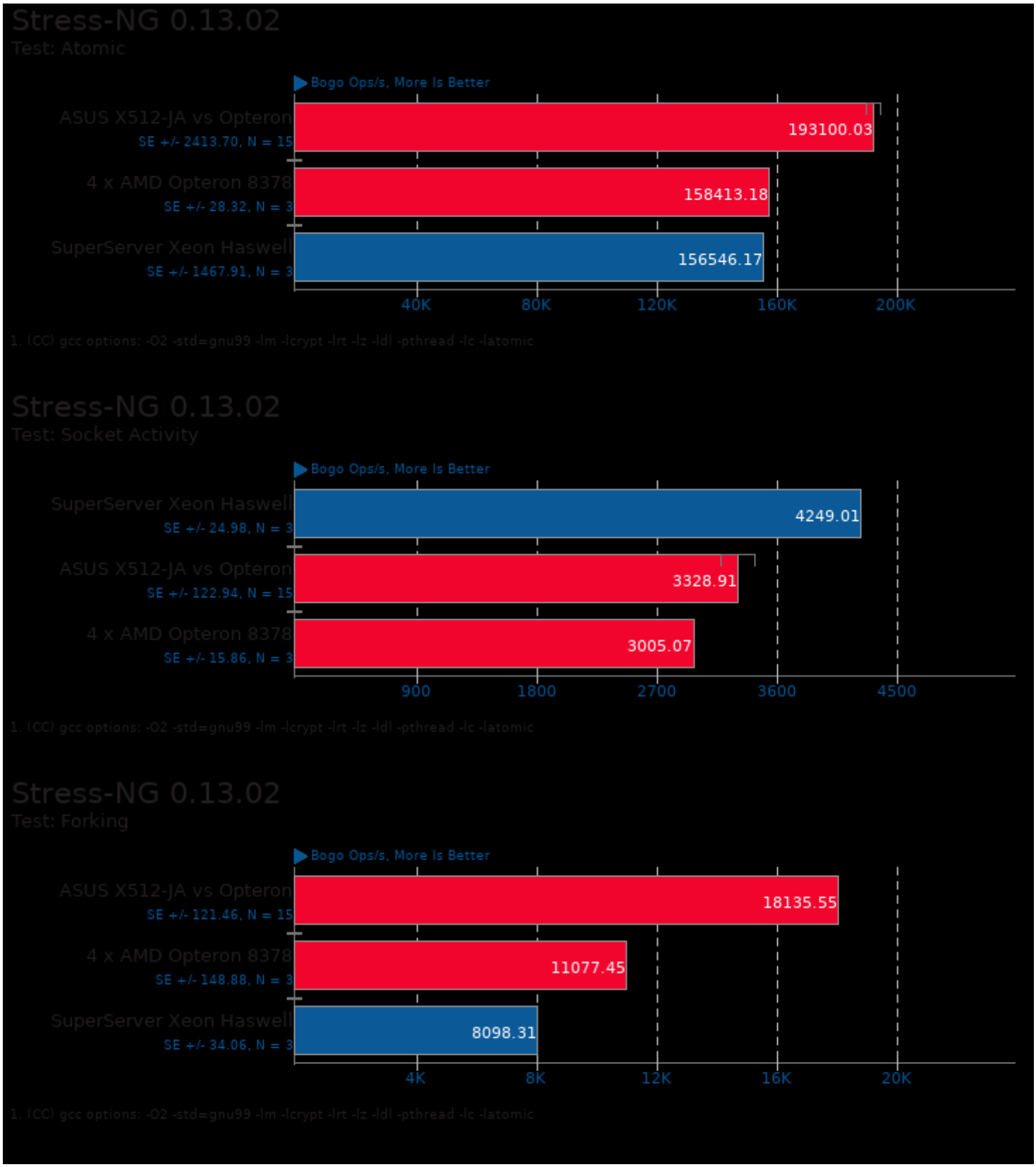
Stress-NG 0.13.02

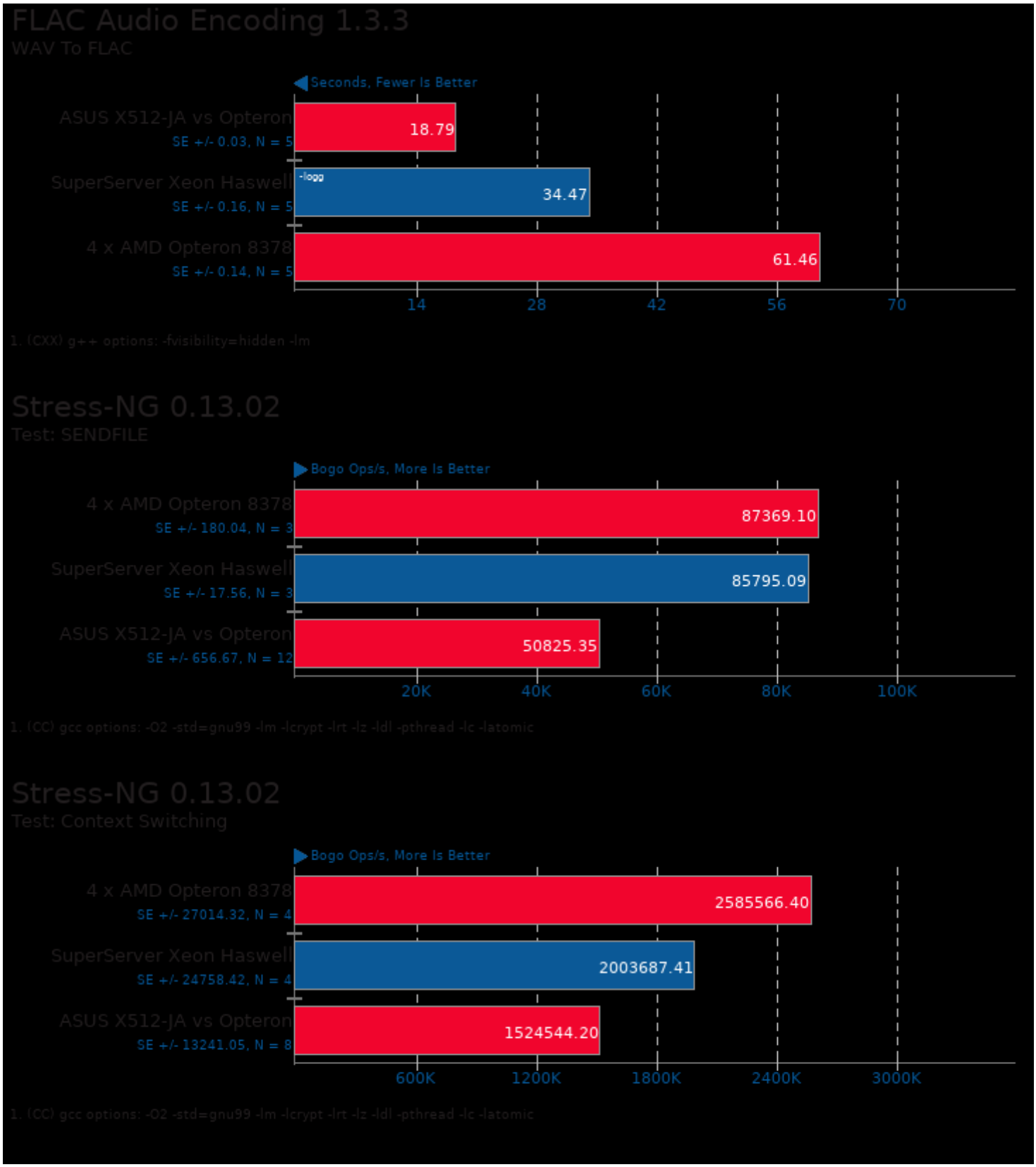
Test: Memory Copying

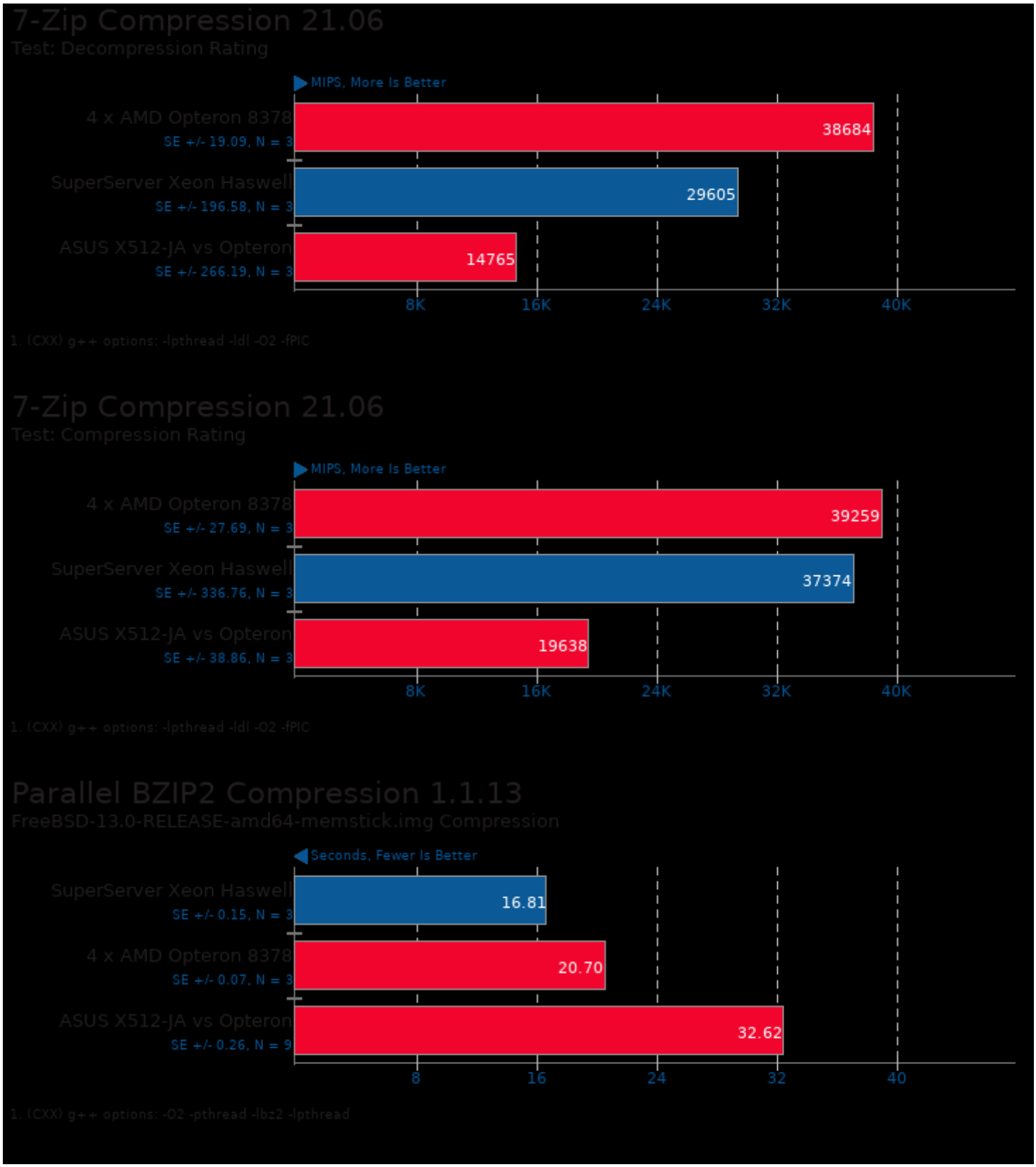


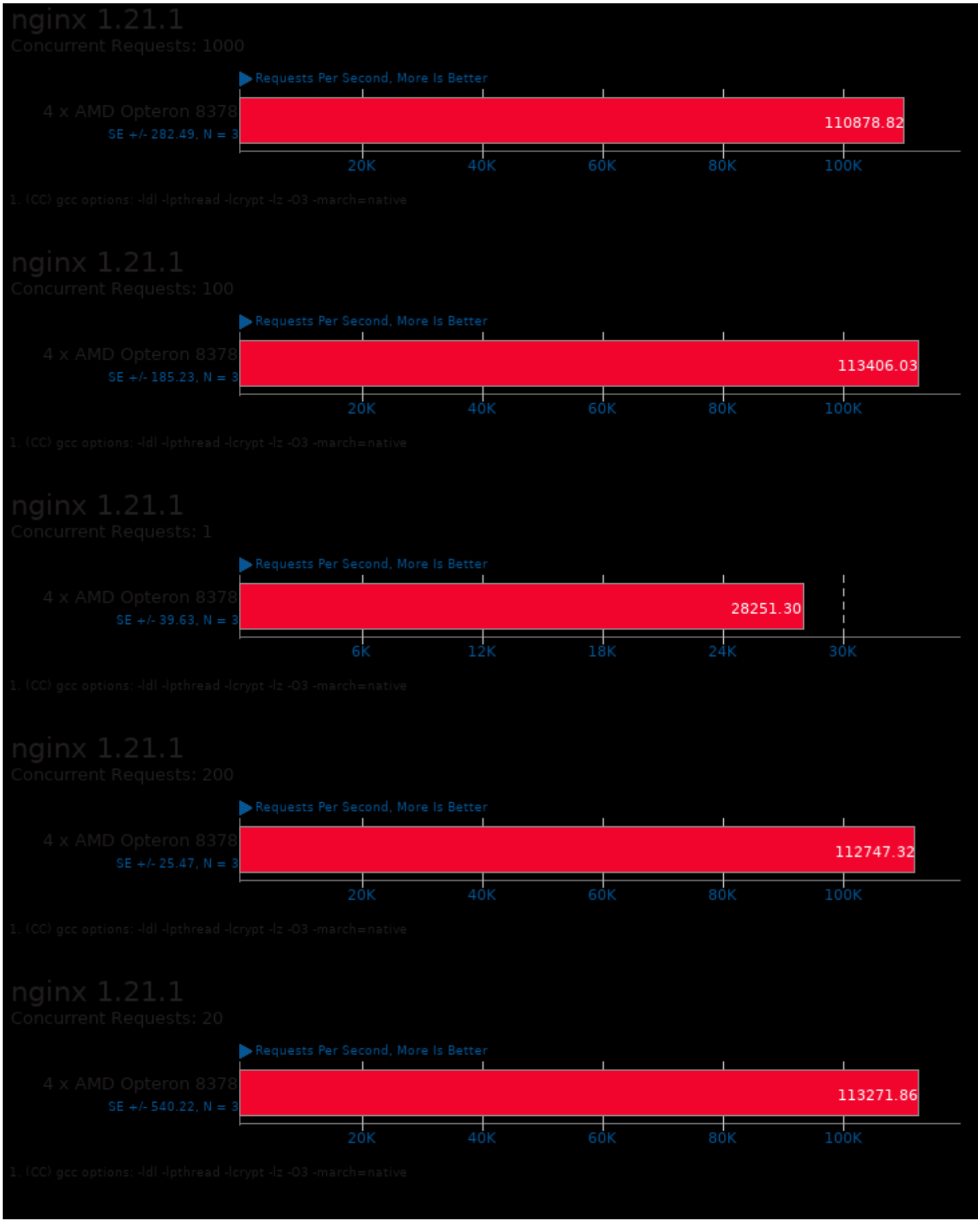
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic

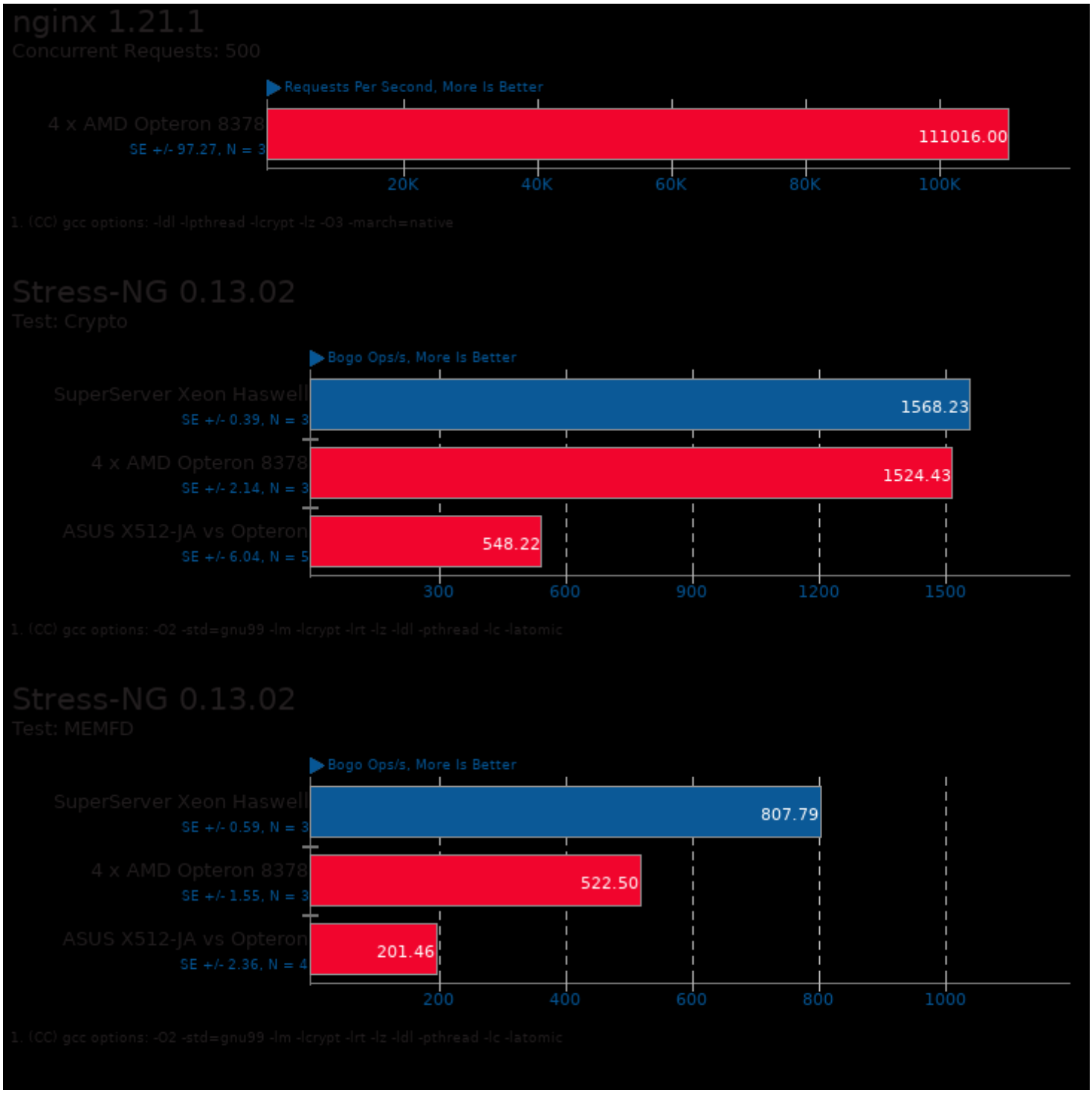

Stress-NG 0.13.02
Test: CPU Stress
Bogo Ops/s, More Is Better
SuperServer Xeon Haswell
SE +/- 21.91, N = 3
11280.14
4 x AMD Opteron 8378
SE +/- 59.84, N = 3
11010.19
ASUS X512-JA vs Opteron
SE +/- 51.25, N = 15
5317.51
2K
4K
6K
8K
10K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Glibc C String Functions
Bogo Ops/s, More Is Better
SuperServer Xeon Haswell
SE +/- 600.91, N = 3
876688.47
4 x AMD Opteron 8378
SE +/- 778.64, N = 3
400287.87
ASUS X512-JA vs Opteron
SE +/- 3642.29, N = 15
361147.02
200K
400K
600K
800K
1000K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Matrix Math
Bogo Ops/s, More Is Better
SuperServer Xeon Haswell
SE +/- 87.73, N = 3
32631.06
4 x AMD Opteron 8378
SE +/- 0.79, N = 3
28644.96
ASUS X512-JA vs Opteron
SE +/- 145.46, N = 15
12636.90
7K
14K
21K
28K
35K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic

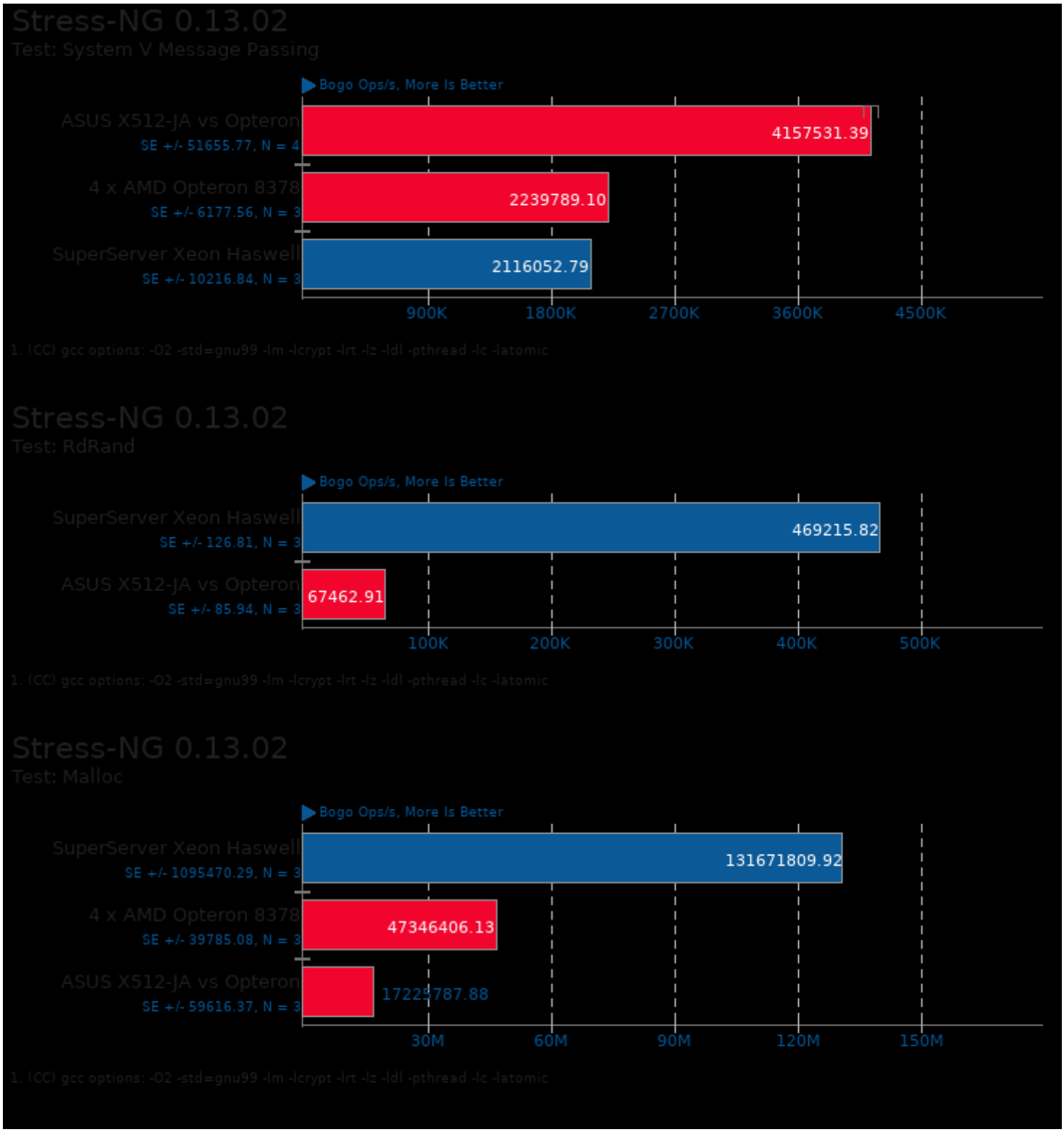

Stress-NG 0.13.02
Test: Atomic
Bogo Ops/s, More Is Better
ASUS X512-JA vs Opteron
SE +/- 2413.70, N = 15
193100.03
4 x AMD Opteron 8378
SE +/- 28.32, N = 3
158413.18
SuperServer Xeon Haswell
SE +/- 1467.91, N = 3
156546.17
40K
80K
120K
160K
200K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Socket Activity
Bogo Ops/s, More Is Better
SuperServer Xeon Haswell
SE +/- 24.98, N = 3
4249.01
ASUS X512-JA vs Opteron
SE +/- 122.94, N = 15
3328.91
4 x AMD Opteron 8378
SE +/- 15.86, N = 3
3005.07
900
1800
2700
3600
4500
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Forking
Bogo Ops/s, More Is Better
ASUS X512-JA vs Opteron
SE +/- 121.46, N = 15
18135.55
4 x AMD Opteron 8378
SE +/- 148.88, N = 3
11077.45
SuperServer Xeon Haswell
SE +/- 34.06, N = 3
8098.31
4K
8K
12K
16K
20K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic


FLAC Audio Encoding 1.3.3
WAV To FLAC
Seconds, Fewer Is Better
ASUS X512-JA vs Opteron
SE +/- 0.03, N = 5
18.79
SuperServer Xeon Haswell
SE +/- 0.16, N = 5
-logg
34.47
4 x AMD Opteron 8378
SE +/- 0.14, N = 5
61.46
14
28
42
56
70
1. (CXX) g++ options: -fvisibility=hidden -lm
Stress-NG 0.13.02
Test: SENDFILE
Bogo Ops/s, More Is Better
4 x AMD Opteron 8378
SE +/- 180.04, N = 3
87369.10
SuperServer Xeon Haswell
SE +/- 17.56, N = 3
85795.09
ASUS X512-JA vs Opteron
SE +/- 656.67, N = 12
50825.35
20K
40K
60K
80K
100K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Context Switching
Bogo Ops/s, More Is Better
4 x AMD Opteron 8378
SE +/- 27014.32, N = 4
2585566.40
SuperServer Xeon Haswell
SE +/- 24758.42, N = 4
2003687.41
ASUS X512-JA vs Opteron
SE +/- 13241.05, N = 8
1524544.20
600K
1200K
1800K
2400K
3000K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic


7-Zip Compression 21.06
Test: Decompression Rating
MIPS, More Is Better
4 x AMD Opteron 8378
SE +/- 19.09, N = 3
38684
SuperServer Xeon Haswell
SE +/- 196.58, N = 3
29605
ASUS X512-JA vs Opteron
SE +/- 266.19, N = 3
14765
8K
16K
24K
32K
40K
1. (CXX) g++ options: -lpthread -ldl -O2 -fPIC
7-Zip Compression 21.06
Test: Compression Rating
MIPS, More Is Better
4 x AMD Opteron 8378
SE +/- 27.69, N = 3
39259
SuperServer Xeon Haswell
SE +/- 336.76, N = 3
37374
ASUS X512-JA vs Opteron
SE +/- 38.86, N = 3
19638
8K
16K
24K
32K
40K
1. (CXX) g++ options: -lpthread -ldl -O2 -fPIC
Parallel BZIP2 Compression 1.1.13
FreeBSD-13.0-RELEASE-amd64-memstick.img Compression
Seconds, Fewer Is Better
SuperServer Xeon Haswell
SE +/- 0.15, N = 3
16.81
4 x AMD Opteron 8378
SE +/- 0.07, N = 3
20.70
ASUS X512-JA vs Opteron
SE +/- 0.26, N = 9
32.62
8
16
24
32
40
1. (CXX) g++ options: -O2 -pthread -lbz2 -lpthread

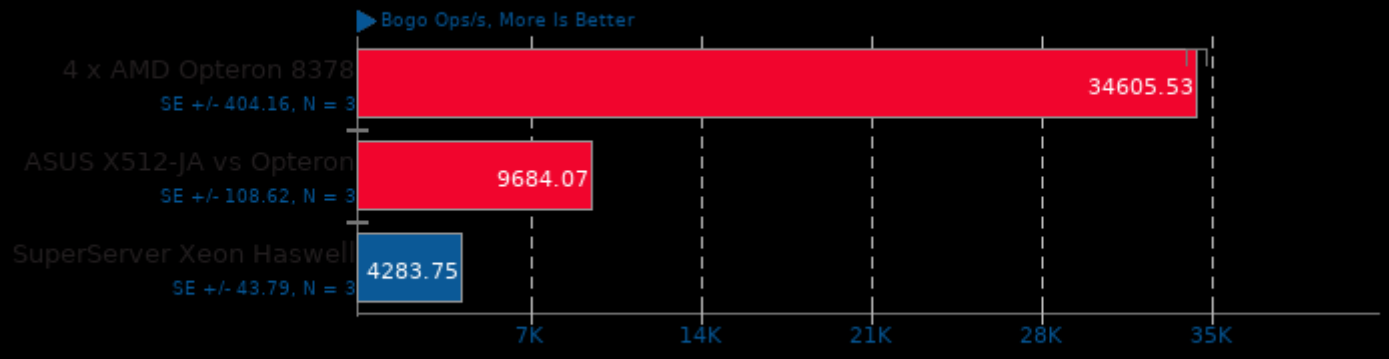

nginx 1.21.1
Concurrent Requests: 1000
Requests Per Second, More Is Better
4 x AMD Opteron 8378
SE +/- 282.49, N = 3
110878.82
20K
40K
60K
80K
100K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native
nginx 1.21.1
Concurrent Requests: 100
Requests Per Second, More Is Better
4 x AMD Opteron 8378
SE +/- 185.23, N = 3
113406.03
20K
40K
60K
80K
100K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native
nginx 1.21.1
Concurrent Requests: 1
Requests Per Second, More Is Better
4 x AMD Opteron 8378
SE +/- 39.63, N = 3
28251.30
6K
12K
18K
24K
30K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native
nginx 1.21.1
Concurrent Requests: 200
Requests Per Second, More Is Better
4 x AMD Opteron 8378
SE +/- 25.47, N = 3
112747.32
20K
40K
60K
80K
100K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native
nginx 1.21.1
Concurrent Requests: 20
Requests Per Second, More Is Better
4 x AMD Opteron 8378
SE +/- 540.22, N = 3
113271.86
20K
40K
60K
80K
100K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native


nginx 1.21.1
Concurrent Requests: 500
Requests Per Second, More Is Better
4 x AMD Opteron 8378
SE +/- 97.27, N = 3
111016.00
20K
40K
60K
80K
100K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native
Stress-NG 0.13.02
Test: Crypto
Bogo Ops/s, More Is Better
SuperServer Xeon Haswell
SE +/- 0.39, N = 3
1568.23
4 x AMD Opteron 8378
SE +/- 2.14, N = 3
1524.43
ASUS X512-JA vs Opteron
SE +/- 6.04, N = 5
548.22
300
600
900
1200
1500
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: MEMFD
Bogo Ops/s, More Is Better
SuperServer Xeon Haswell
SE +/- 0.59, N = 3
807.79
4 x AMD Opteron 8378
SE +/- 1.55, N = 3
522.50
ASUS X512-JA vs Opteron
SE +/- 2.36, N = 4
201.46
200
400
600
800
1000
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic


Stress-NG 0.13.02
Test: System V Message Passing
Bogo Ops/s, More Is Better
ASUS X512-JA vs Opteron
SE +/- 51655.77, N = 4
4157531.39
4 x AMD Opteron 8378
SE +/- 6177.56, N = 3
2239789.10
SuperServer Xeon Haswell
SE +/- 10216.84, N = 3
2116052.79
900K
1800K
2700K
3600K
4500K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: RdRand
Bogo Ops/s, More Is Better
SuperServer Xeon Haswell
SE +/- 126.81, N = 3
469215.82
ASUS X512-JA vs Opteron
SE +/- 85.94, N = 3
67462.91
100K
200K
300K
400K
500K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Malloc
Bogo Ops/s, More Is Better
SuperServer Xeon Haswell
SE +/- 1095470.29, N = 3
131671809.92
4 x AMD Opteron 8378
SE +/- 39785.08, N = 3
47346406.13
ASUS X512-JA vs Opteron
SE +/- 59616.37, N = 3
17225787.88
30M
60M
90M
120M
150M
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

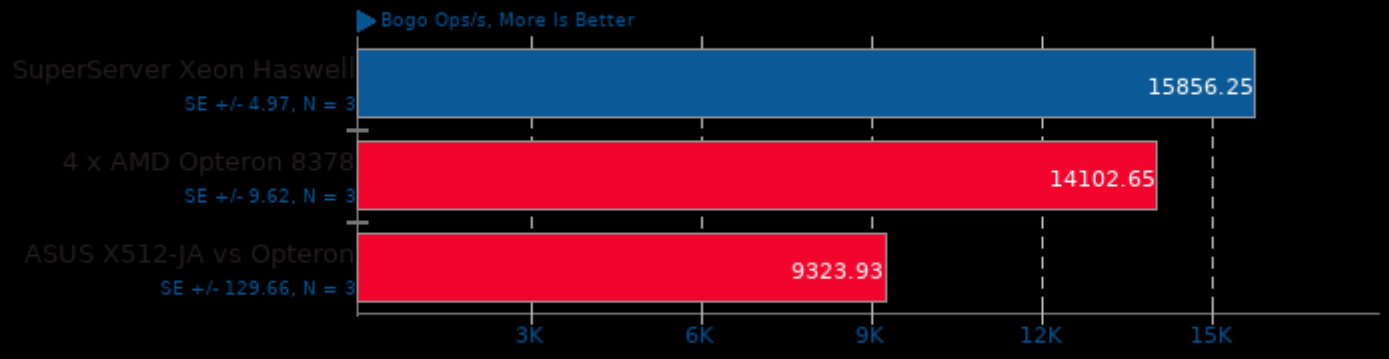
Test: IO_uring



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

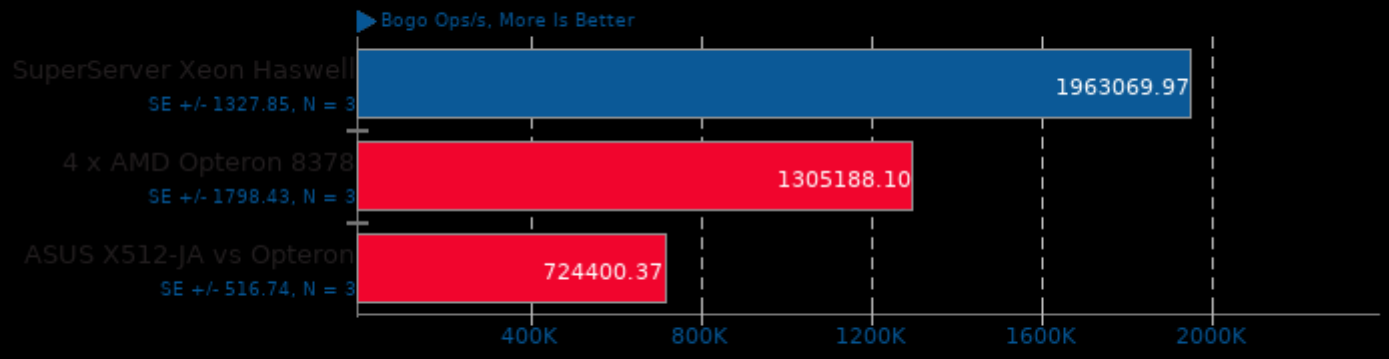
Test: Vector Math



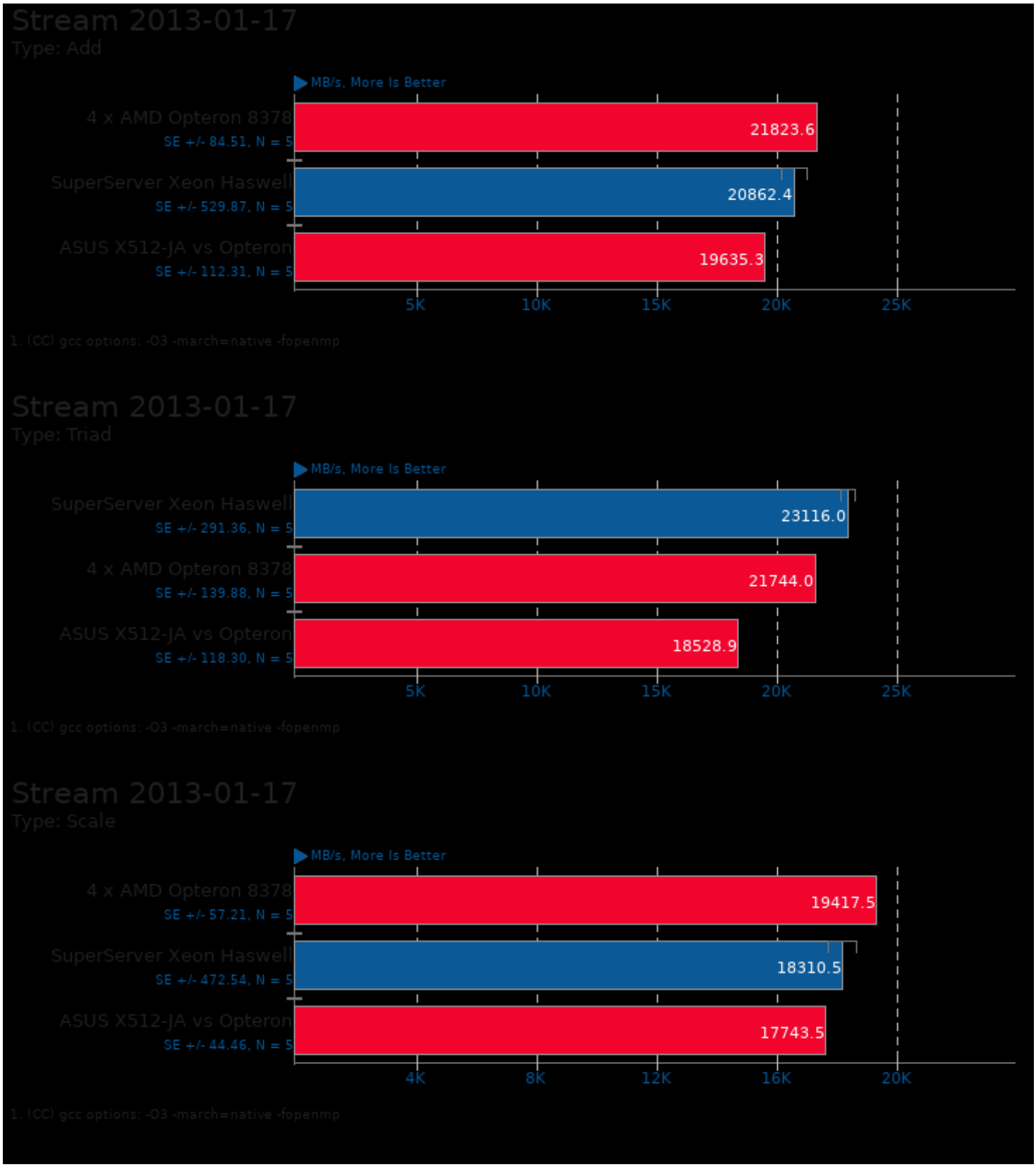
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

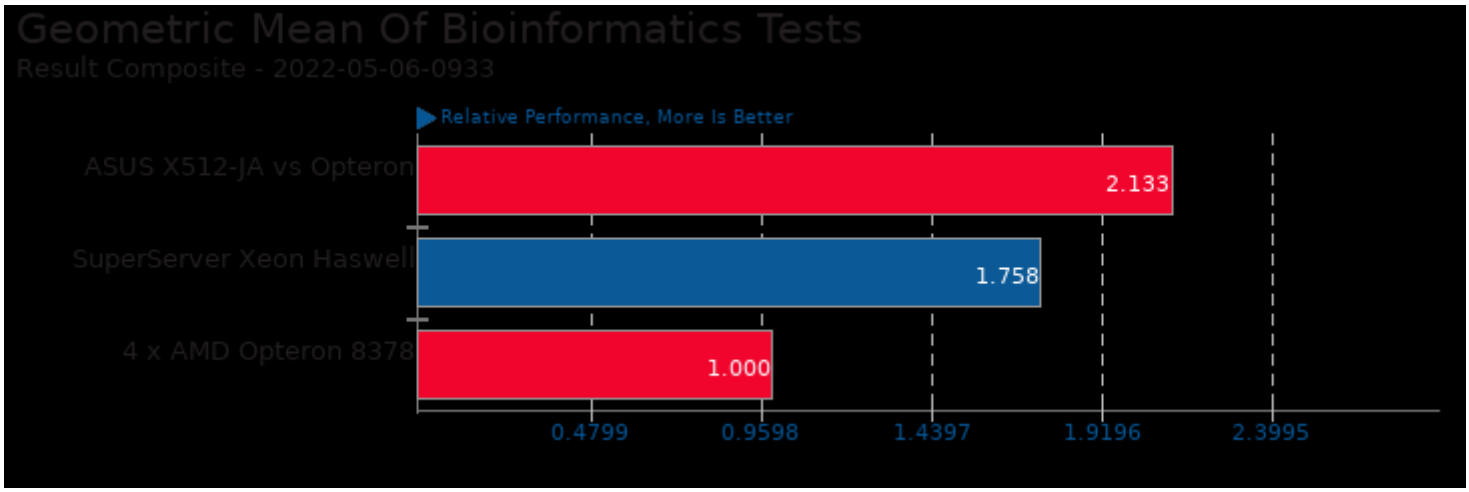
Test: Semaphores



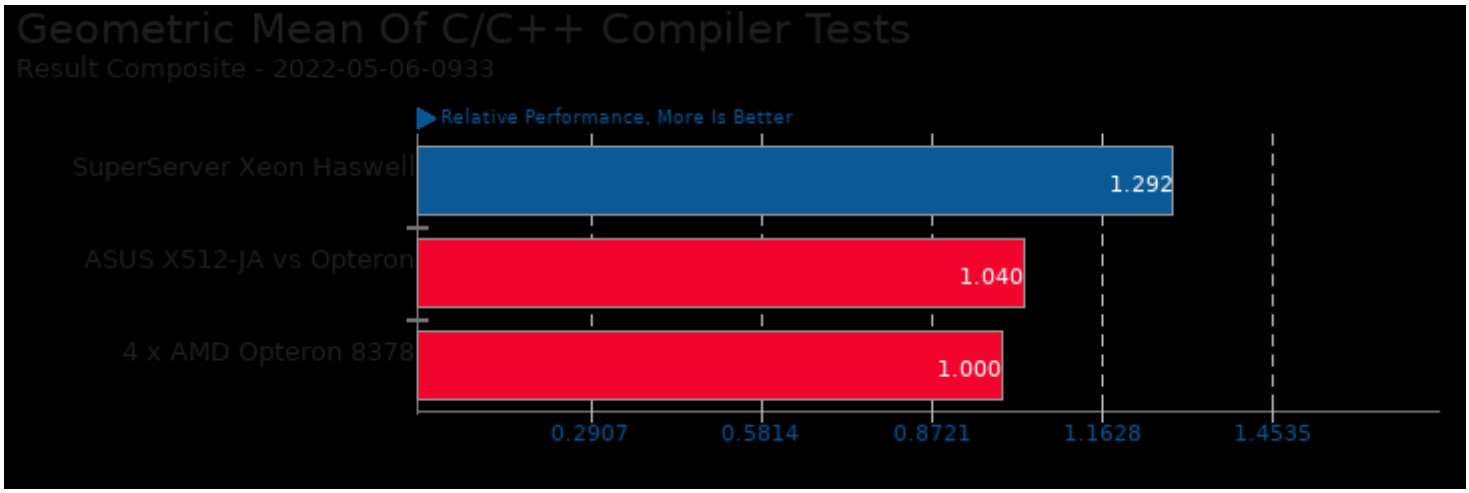
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic


Stream 2013-01-17
Type: Add
MB/s, More Is Better
4 x AMD Opteron 8378
SE +/- 84.51, N = 5
21823.6
SuperServer Xeon Haswell
SE +/- 529.87, N = 5
20862.4
ASUS X512-JA vs Opteron
SE +/- 112.31, N = 5
19635.3
5K
10K
15K
20K
25K
1. (CC) gcc options: -O3 -march=native -fopenmp
Stream 2013-01-17
Type: Triad
MB/s, More Is Better
SuperServer Xeon Haswell
SE +/- 291.36, N = 5
23116.0
4 x AMD Opteron 8378
SE +/- 139.88, N = 5
21744.0
ASUS X512-JA vs Opteron
SE +/- 118.30, N = 5
18528.9
5K
10K
15K
20K
25K
1. (CC) gcc options: -O3 -march=native -fopenmp
Stream 2013-01-17
Type: Scale
MB/s, More Is Better
4 x AMD Opteron 8378
SE +/- 57.21, N = 5
19417.5
SuperServer Xeon Haswell
SE +/- 472.54, N = 5
18310.5
ASUS X512-JA vs Opteron
SE +/- 44.46, N = 5
17743.5
4K
8K
12K
16K
20K
1. (CC) gcc options: -O3 -march=native -fopenmp

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



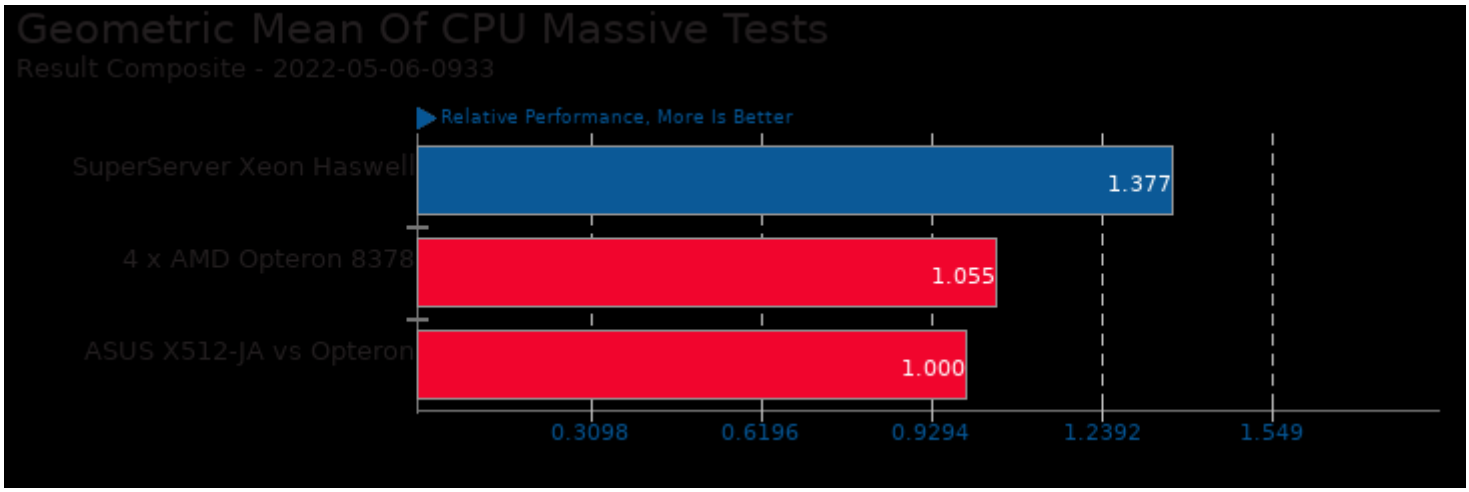
Geometric mean based upon tests: pts/mrbayes and pts/hmmer



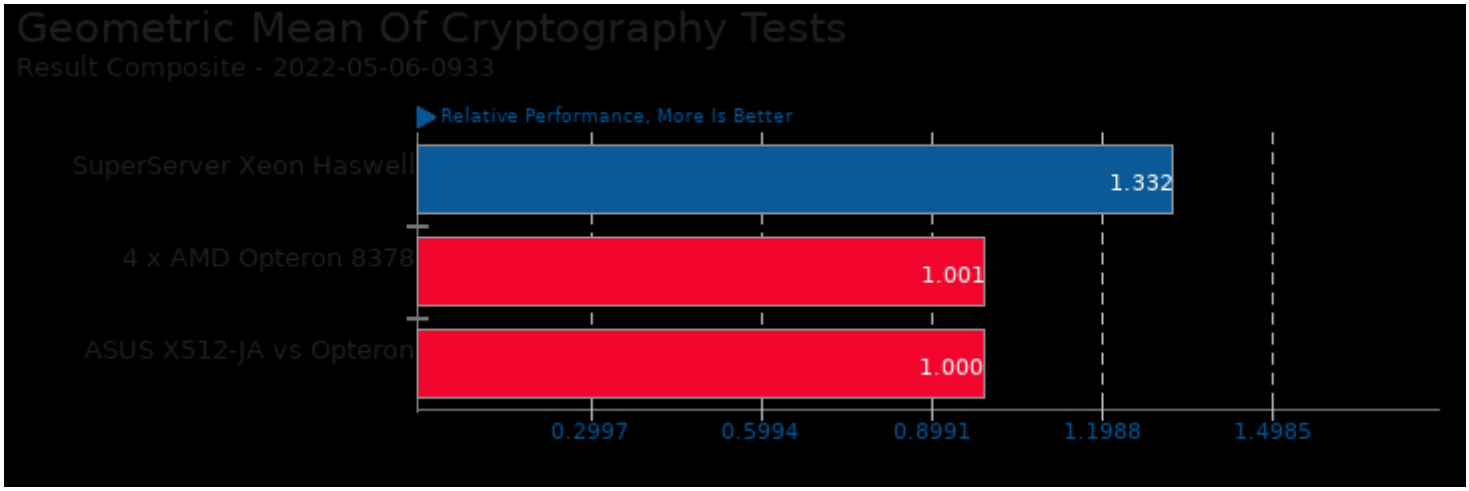
Geometric mean based upon tests: pts/hmmer, pts/compress-7zip, pts/encode-flac, pts/mrbayes, pts/openssl and pts/nginx



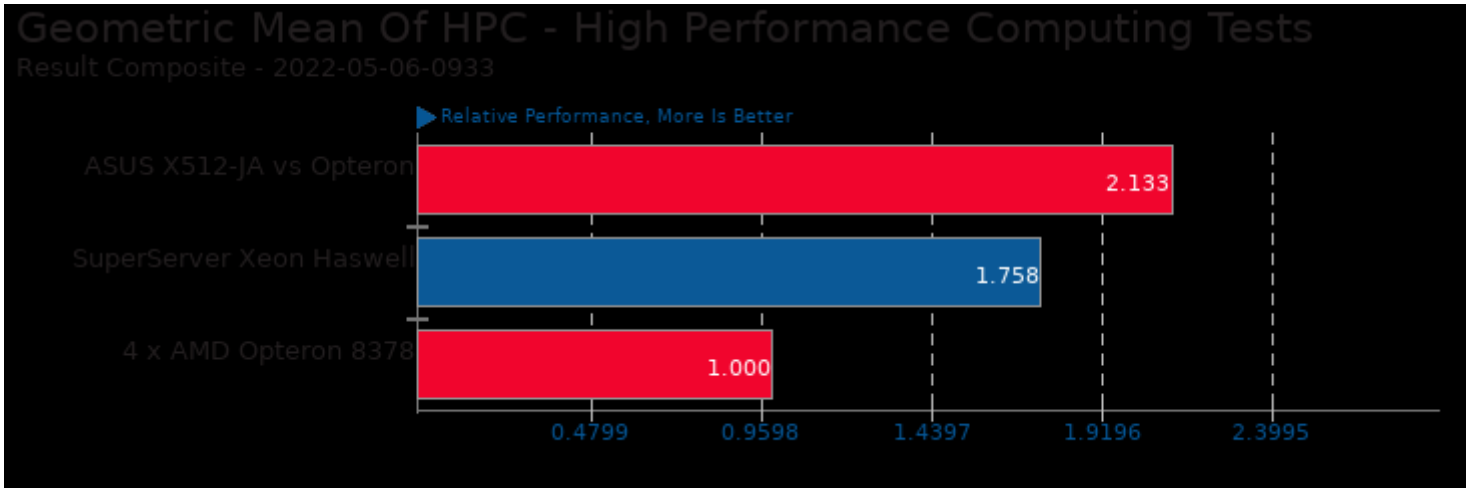
Geometric mean based upon tests: pts/compress-7zip and pts/compress-pbzip2



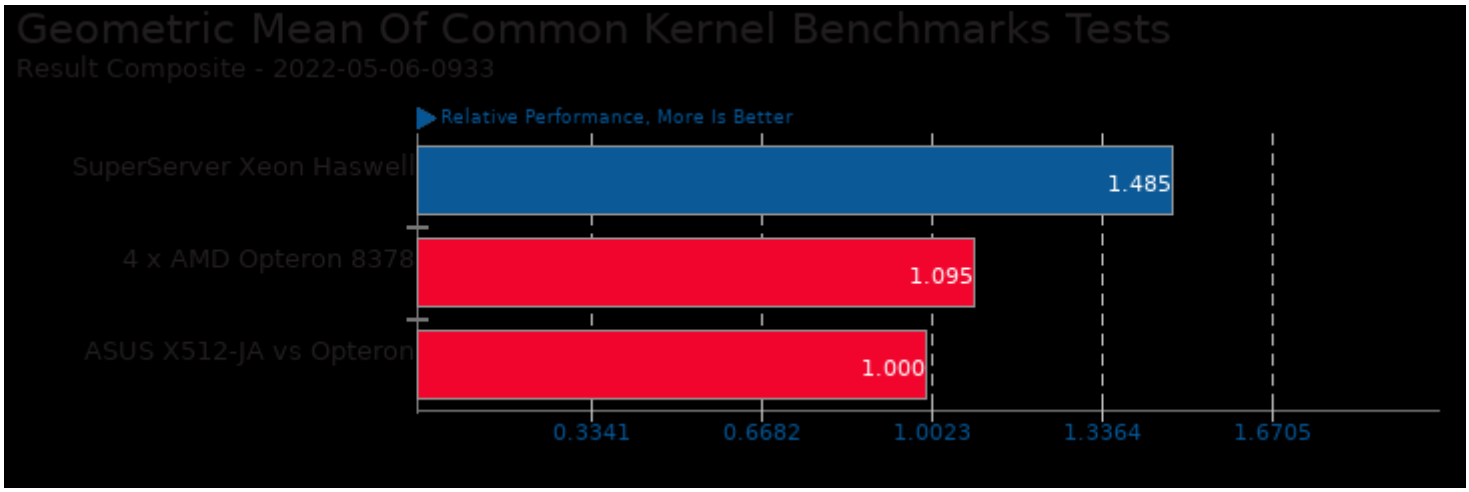
Geometric mean based upon tests: pts/compress-7zip, pts/compress-pbzip2, pts/encode-flac, pts/hmmer, pts/openssl, pts/mrbayes, pts/nginx, pts/stream and pts/stress-ng



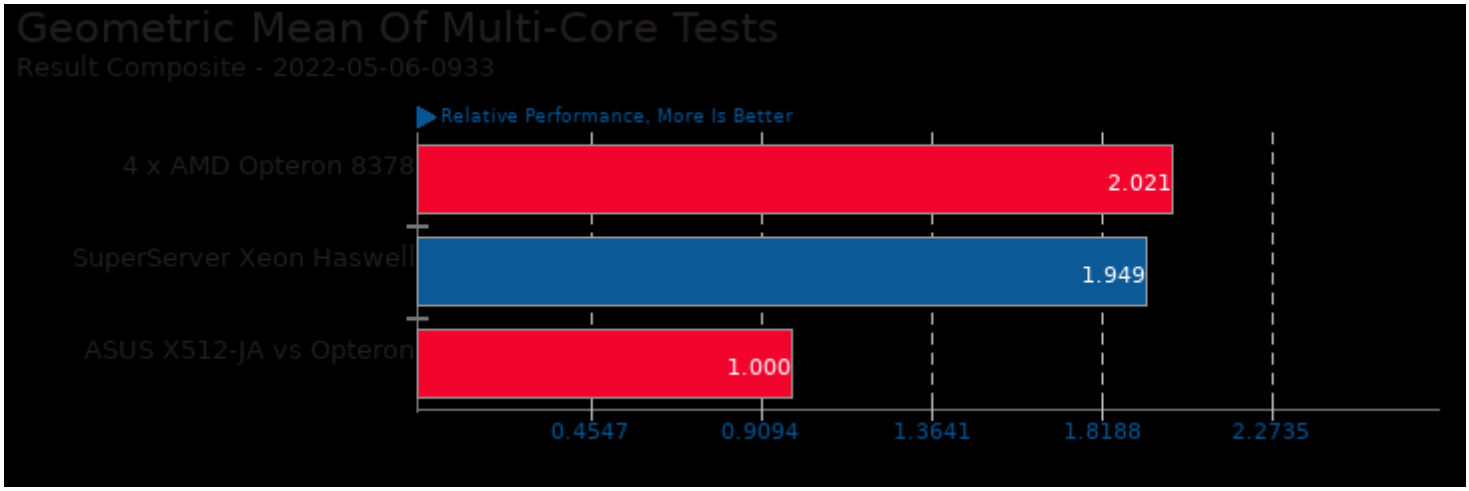
Geometric mean based upon tests: pts/openssl and pts/gcrypt



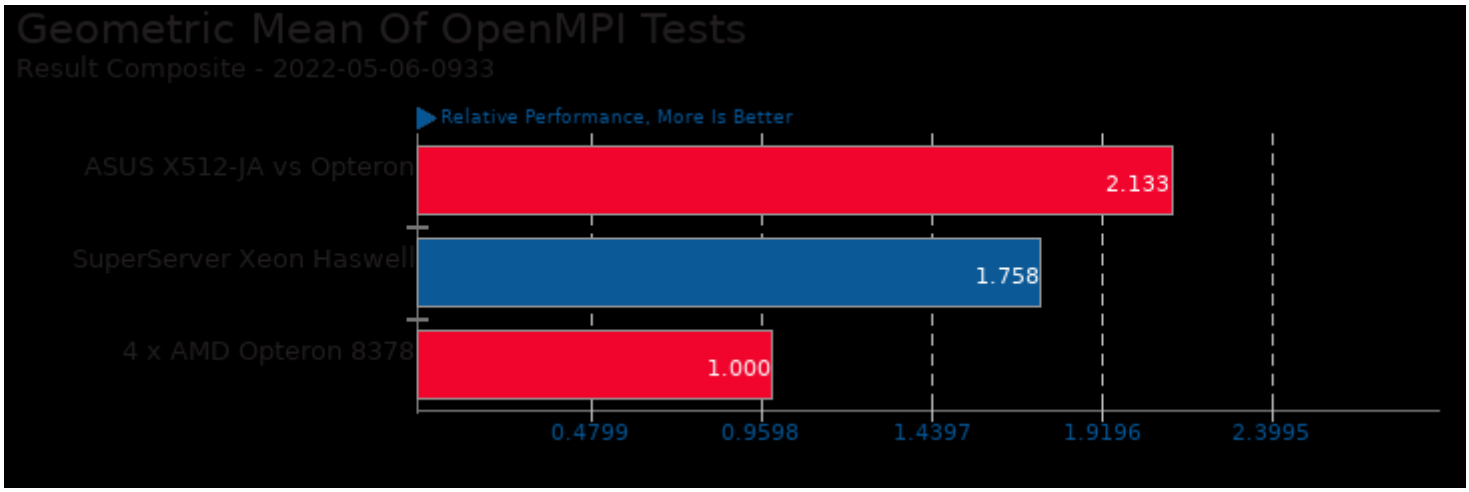
Geometric mean based upon tests: pts/mrbayes and pts/hmmer



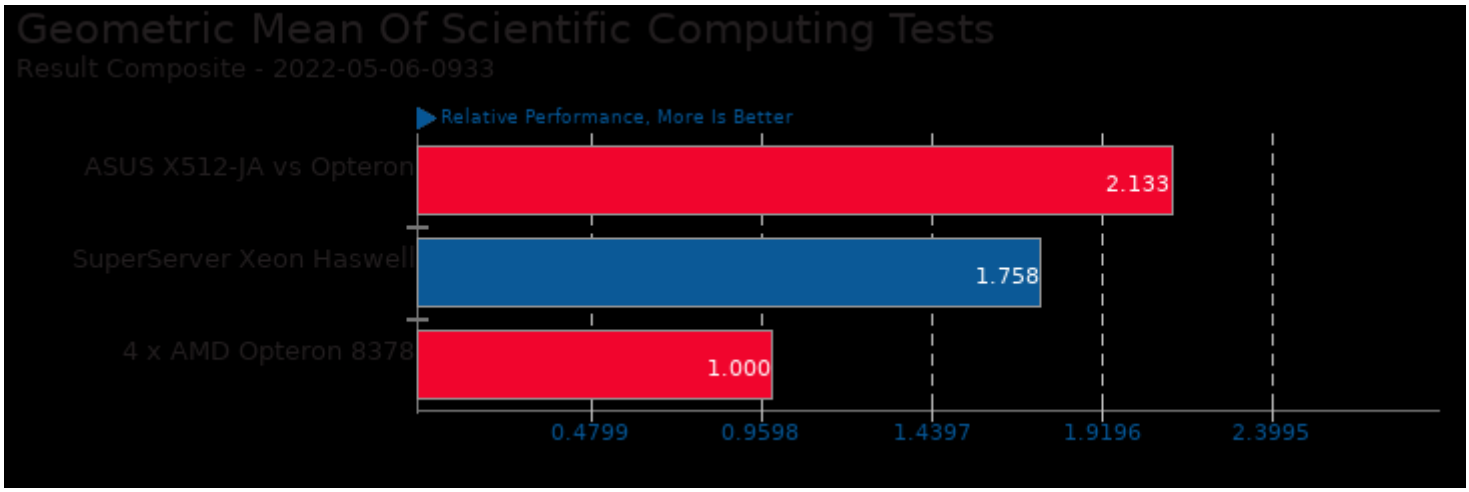
Geometric mean based upon tests: pts/openssl and pts/stress-ng



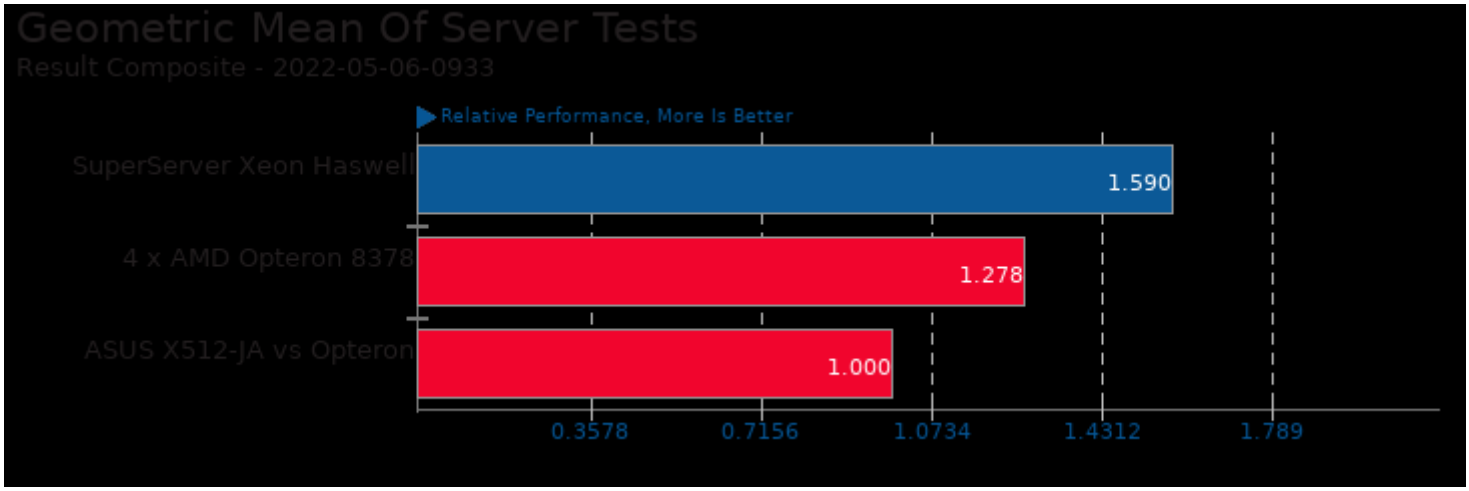
Geometric mean based upon tests: pts/compress-7zip and pts/compress-pbzip2



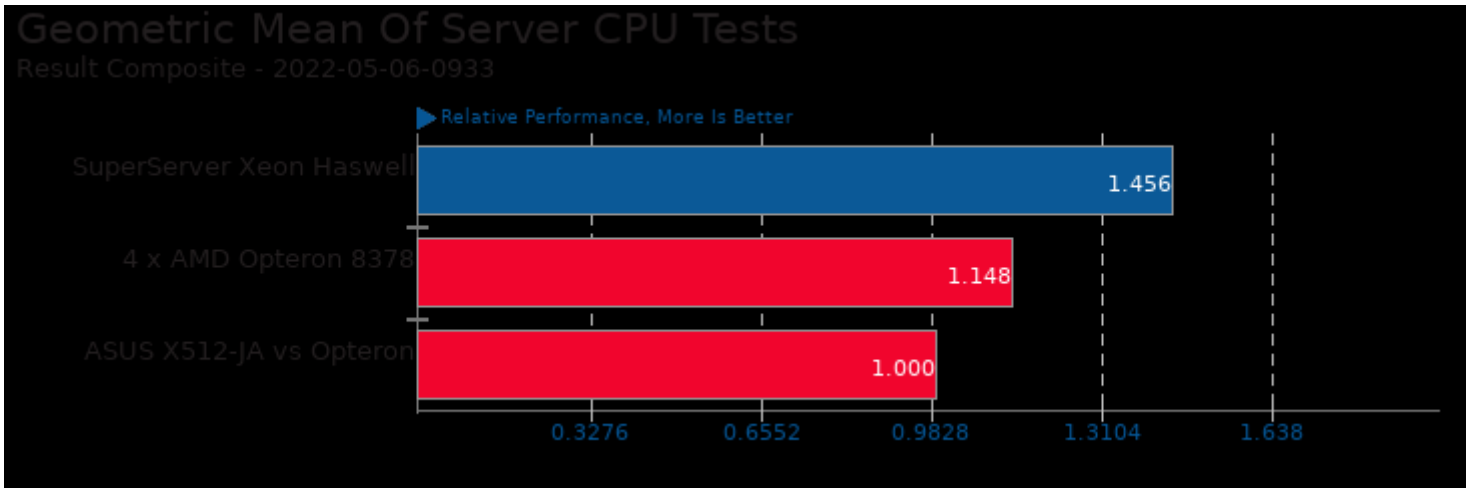
Geometric mean based upon tests: pts/mrbayes and pts/hmmer



Geometric mean based upon tests: pts/mrbayes and pts/hmmer



Geometric mean based upon tests: pts/nginx and pts/openssl



Geometric mean based upon tests: pts/compress-7zip, pts/openssl, pts/stress-ng and pts/stream

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 10:17.