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ddr3-1333-vs-1866

Comparision between Corsair Vengeance Pro 2 x 8GB (C9) in stock (1333MHz) vs. XMP (1866MHz) with a i7-4790K CPU on an Asus Gryphon Z97 motherboard. RAM part number CMY16GX3M2A1866C9.

Automated Executive Summary

DDR3-1866 had the most wins, coming in first place for 92% of the tests.

Based on the geometric mean of all complete results, the fastest (DDR3-1866) was 1.031x the speed of the slowest (DDR3-1333).

Test Systems:

DDR3-1333

DDR3-1866

Processor: Intel Core i7-4790K @ 4.00GHz (8 Cores), Motherboard: ASUS GRYPHON Z97 ARMOR EDITION, Chipset:

ddr3-1333-vs-1866

Intel 4th Gen Core DRAM, Memory: 16384MB, Disk: 256GB Samsung SSD 850, Graphics: Intel Xeon E3-1200 v3/4th Gen Core IGP, Audio: C-Media CMI8788, Monitor: E2350, Network: Intel Connection

OS: CentOS 6.6, Kernel: 2.6.32-504.el6.x86_64 (x86_64), Compiler: GCC 4.4.7 20120313, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86_64-redhat-linux --disable-dssi --disable-libjava-multilib --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-checking=release --enable-gnu-unique-object --enable-java-awt=gtk --enable-java-maintainer-mode --enable-languages=c,c++,objc,obj-c++,java,fortran,ada --enable-libgcj-multifile --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=i686 --with-cloog --with-ppl --with-tune=generic
Disk Notes: CFQ / barrier=1,data=ordered,relatime,rw,seclabel
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
System Notes: Disk Scheduler: CFQ. Python 2.6.6. SELinux: Enabled.

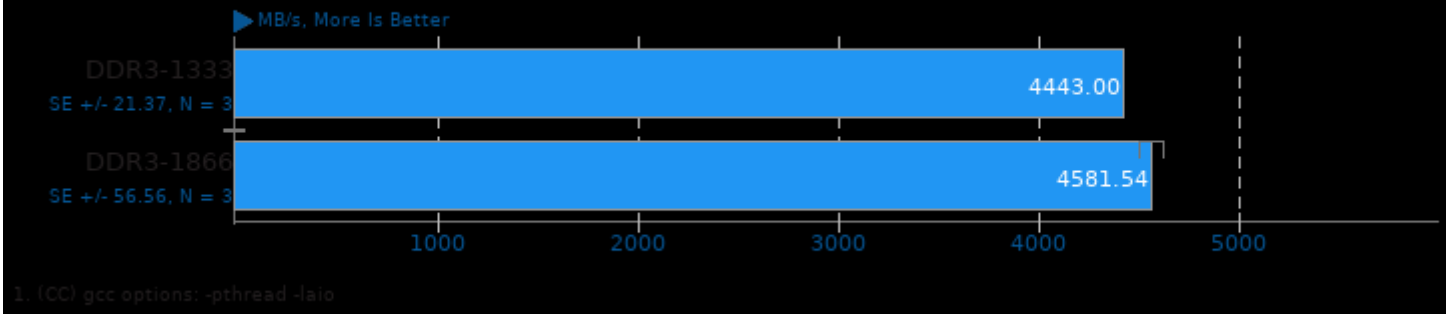
	DDR3-1333	DDR3-1866
AIO-Stress - Rand Write (MB/s)	**4443**	**4582**
Normalized	96.98%	100%
Standard Deviation	0.8%	2.1%
Apache Benchmark - S.W.P.S (Reqs/sec)	**27128**	**28816**
Normalized	94.14%	100%
Standard Deviation	0.6%	0.4%
PHPBench - P.B.S (Score)	**135950**	**136464**
Normalized	99.62%	100%
Standard Deviation	0.3%	0.3%
OpenSSL - R.4.b.P (Signs/sec)	**687.90**	**728.83**
Normalized	94.38%	100%
Standard Deviation	0.6%	0.5%
PostgreSQL pgbench - T.B.T.P.S (TPS)	**959.89**	**999.36**
Normalized	96.05%	100%
Standard Deviation	0.2%	2.4%
PyBench - T.F.A.T.T (Milliseconds)	**1724**	**1720**
Normalized	99.77%	100%
Standard Deviation	0%	0.1%
SQLite - D.T.D (sec)	**100.51**	**97.35**
Normalized	96.86%	100%
Standard Deviation	0.6%	0.1%
Unpacking The Linux Kernel - linux-2.6.32.tar.bz2	**6.91**	**6.77**
Normalized	97.97%	100%
Standard Deviation	2.8%	3%
Timed PHP Compilation - Time To Compile (sec)	**21.61**	**19.81**
Normalized	91.67%	100%
Standard Deviation	1.8%	2.4%
Parallel BZIP2 Compression - 2.F.C (sec)	**6.33**	**5.87**
Normalized	92.73%	100%
Standard Deviation	0.4%	1%
Gzip Compression - 2.F.C (sec)	**9.38**	**9.32**
Normalized	99.36%	100%
Standard Deviation	2.2%	1.5%
LAME MP3 Encoding - WAV To MP3 (sec)	10.88	10.88
Standard Deviation	0.1%	0.1%
GnuPG - 1.F.E (sec)	**6.68**	**6.65**
Normalized	99.55%	100%
Standard Deviation	1.4%	0.8%

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System XZ Decompression - P.T.S.v.4.1 (sec)	3.73	3.70
Normalized	99.2%	100%
Standard Deviation	0.2%	0.6%

AIO-Stress 0.21

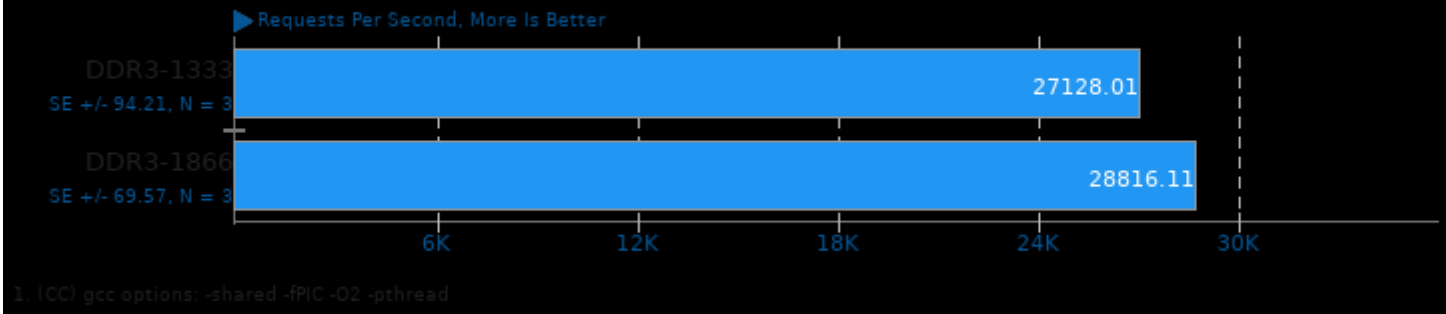
Test: Random Write



1. (CC) gcc options: -pthread -laio

Apache Benchmark 2.4.7

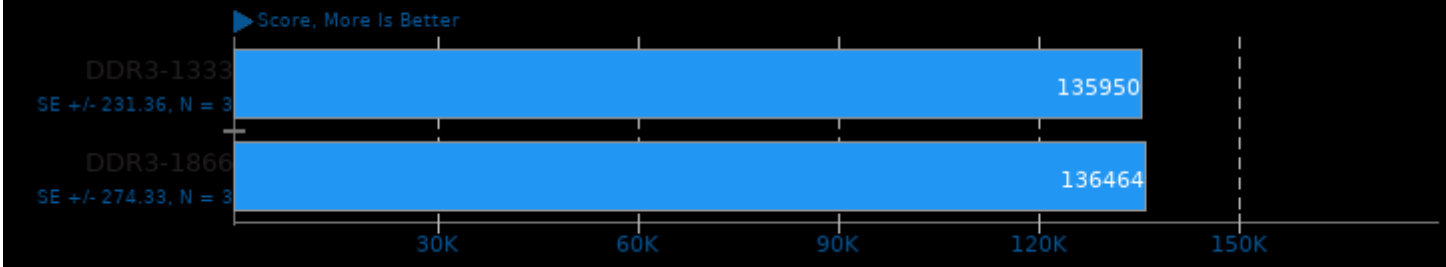
Static Web Page Serving



1. (CC) gcc options: -shared -fPIC -O2 -pthread

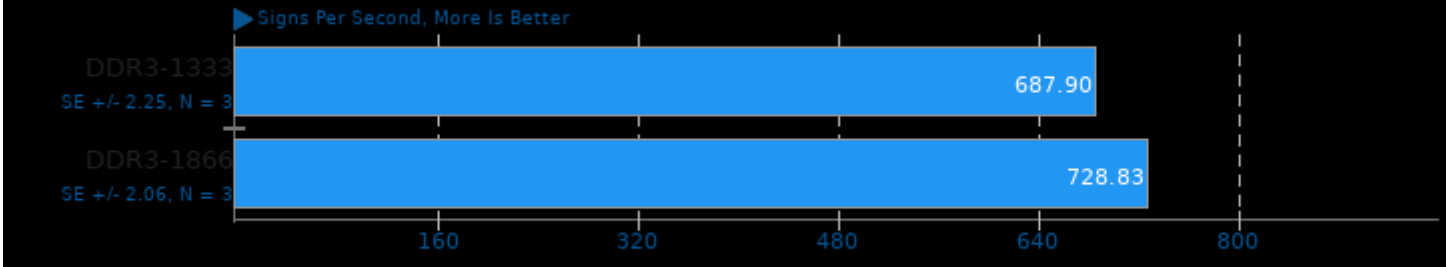
PHPBench 0.8.1

PHP Benchmark Suite

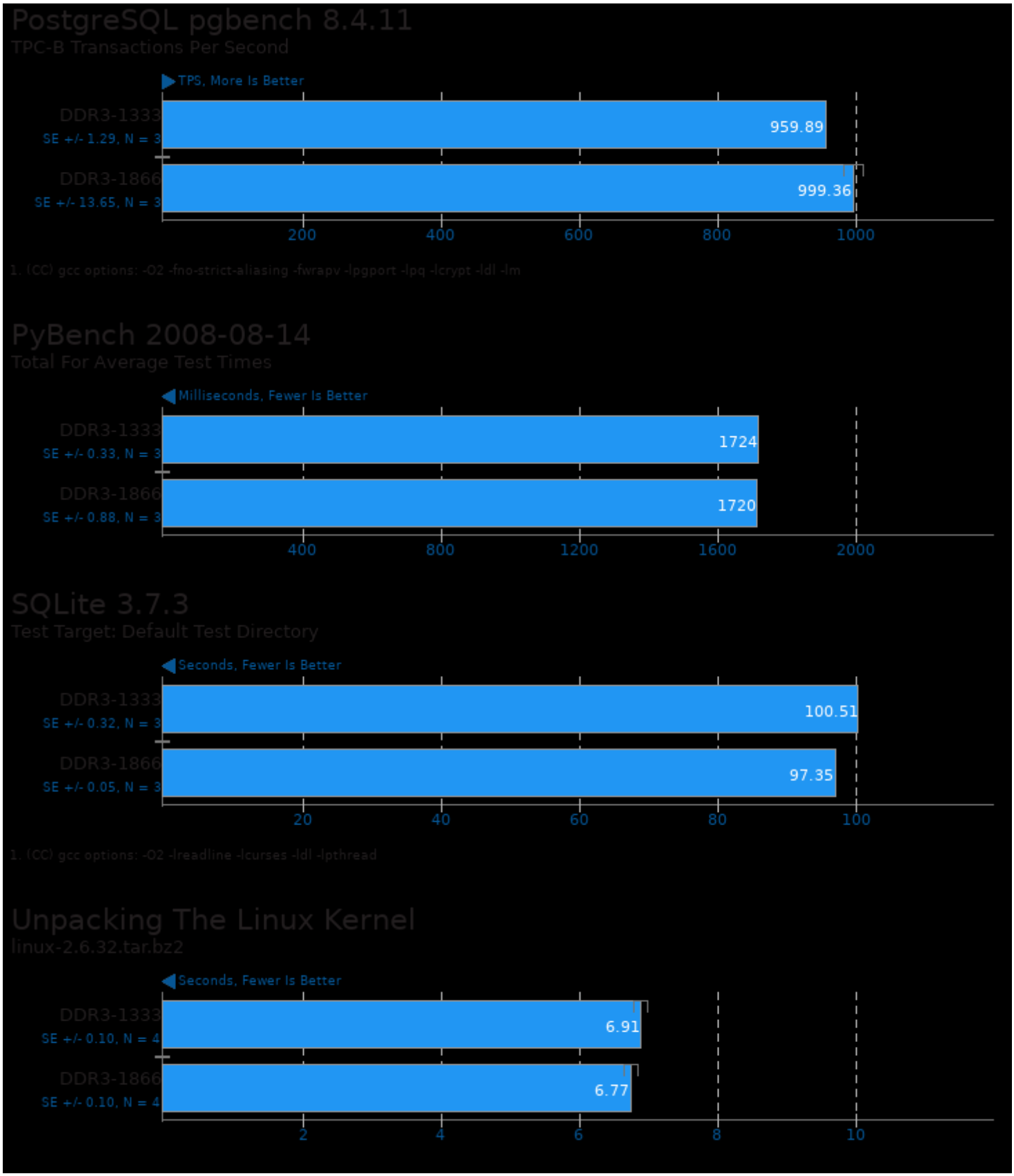


OpenSSL 1.0.1g

RSA 4096-bit Performance

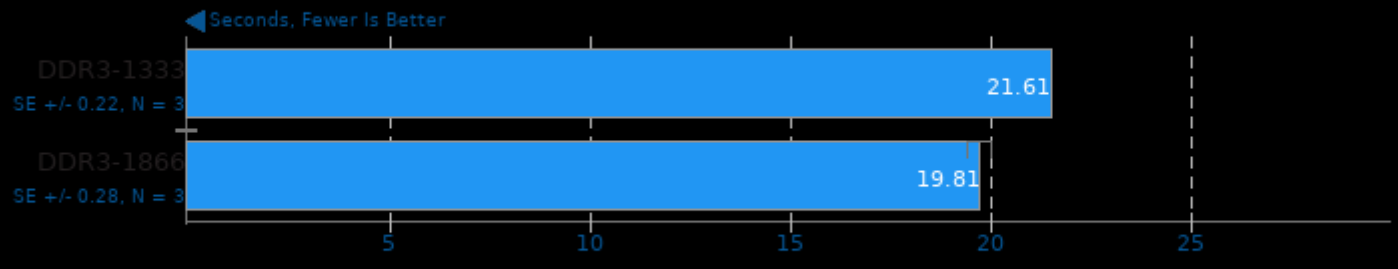


1. (CC) gcc options: -m64 -O3 -lssl -lcrypto -ldl


PostgreSQL pgbench 8.4.11
TPC-B Transactions Per Second
TPS, More Is Better
DDR3-1333
SE +/- 1.29, N = 3
959.89
DDR3-1866
SE +/- 13.65, N = 3
999.36
200
400
600
800
1000
1. (CC) gcc options: -O2 -fno-strict-aliasing -fwrapv -lpgport -lpq -lcrypt -ldl -lm
PyBench 2008-08-14
Total For Average Test Times
Milliseconds, Fewer Is Better
DDR3-1333
SE +/- 0.33, N = 3
1724
DDR3-1866
SE +/- 0.88, N = 3
1720
400
800
1200
1600
2000
SQLite 3.7.3
Test Target: Default Test Directory
Seconds, Fewer Is Better
DDR3-1333
SE +/- 0.32, N = 3
100.51
DDR3-1866
SE +/- 0.05, N = 3
97.35
20
40
60
80
100
1. (CC) gcc options: -O2 -lreadline -lcurses -ldl -lpthread
Unpacking The Linux Kernel
linux-2.6.32.tar.bz2
Seconds, Fewer Is Better
DDR3-1333
SE +/- 0.10, N = 4
6.91
DDR3-1866
SE +/- 0.10, N = 4
6.77
2
4
6
8
10

Timed PHP Compilation 5.2.9

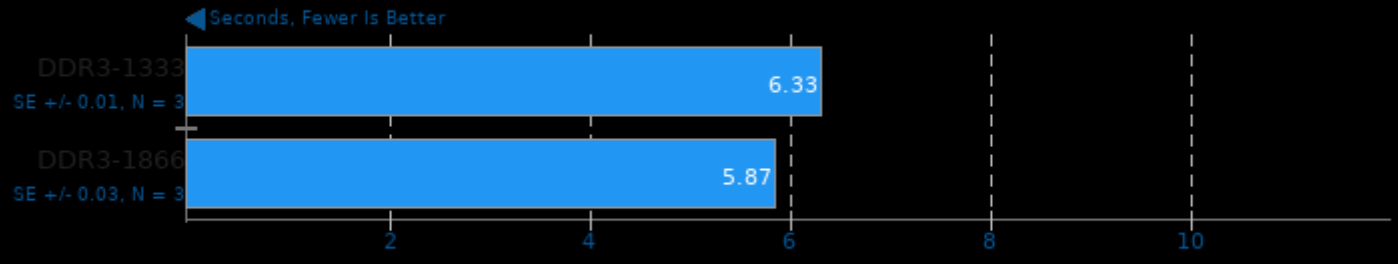
Time To Compile



1. (CC) gcc options: -O2 -pedantic -ldl -lz -lm

Parallel BZIP2 Compression 1.1.6

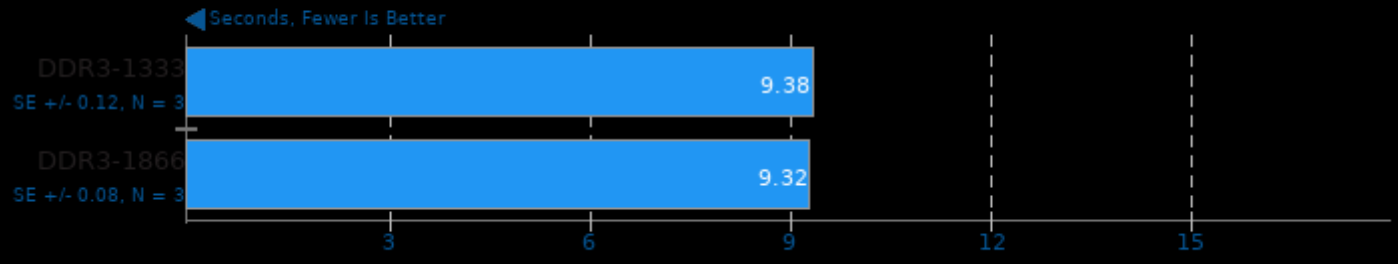
256MB File Compression



1. (CXX) g++ options: -O2 -pthread -lbz2 -lpthread

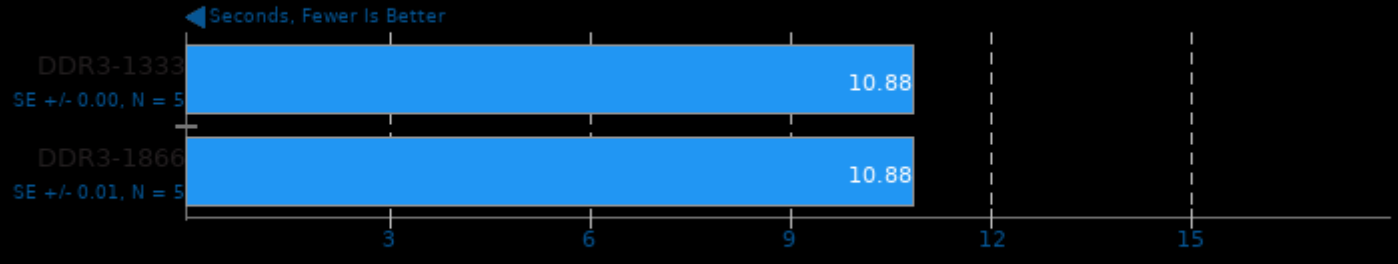
Gzip Compression

2GB File Compression

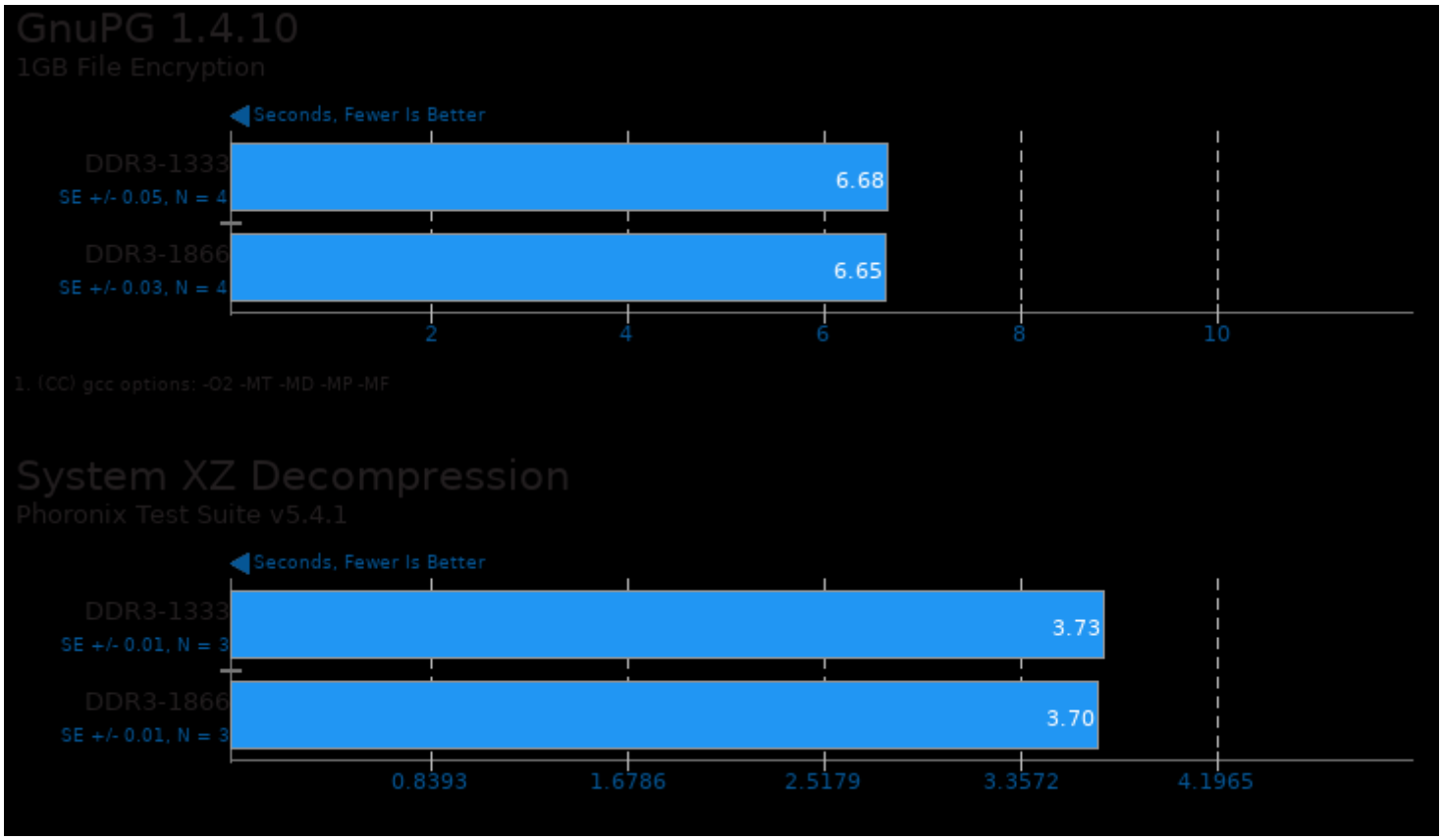


LAME MP3 Encoding 3.99.3

WAV To MP3



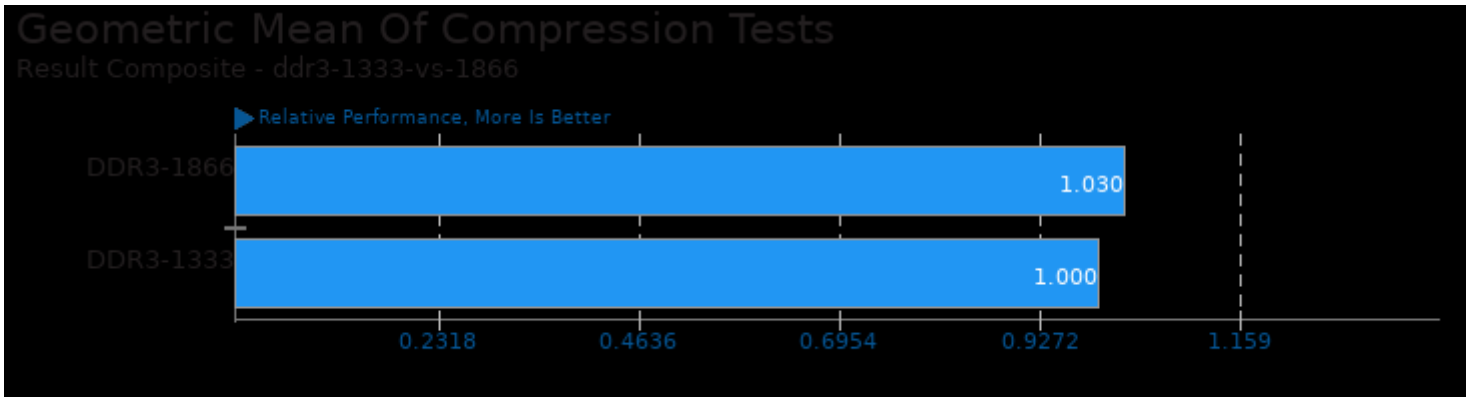
1. (CC) gcc options: -O3 -fomit-frame-pointer -ffast-math -pipe -lncurses -lm


GnuPG 1.4.10
1GB File Encryption
Seconds, Fewer Is Better
DDR3-1333
SE +/- 0.05, N = 4
6.68
DDR3-1866
SE +/- 0.03, N = 4
6.65
2
4
6
8
10
1. (CC) gcc options: -O2 -MT -MD -MP -MF
System XZ Decompression
Phoronix Test Suite v5.4.1
Seconds, Fewer Is Better
DDR3-1333
SE +/- 0.01, N = 3
3.73
DDR3-1866
SE +/- 0.01, N = 3
3.70
0.8393
1.6786
2.5179
3.3572
4.1965

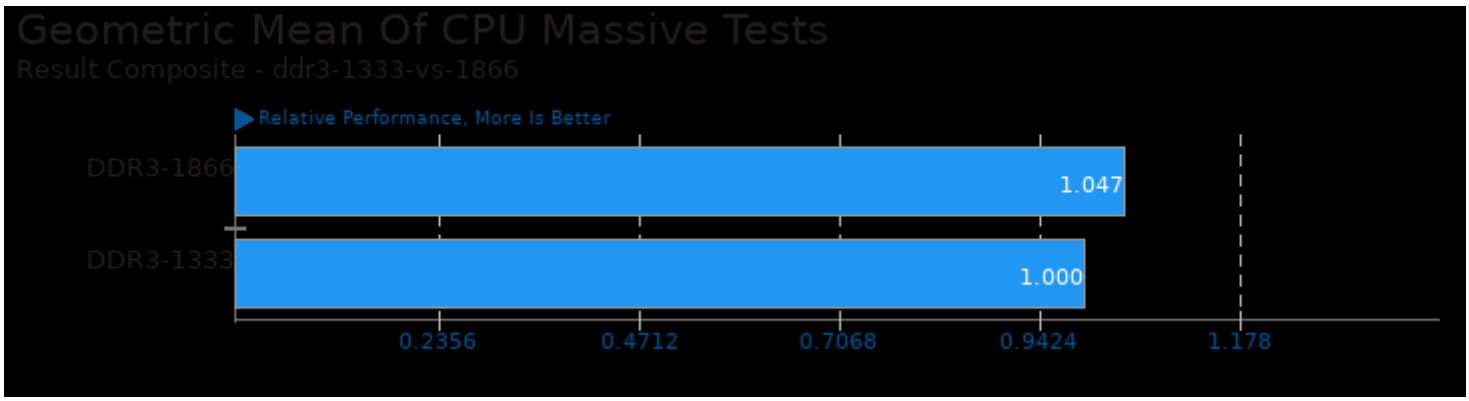
These geometric means are based upon test groupings / test suites for this result file.



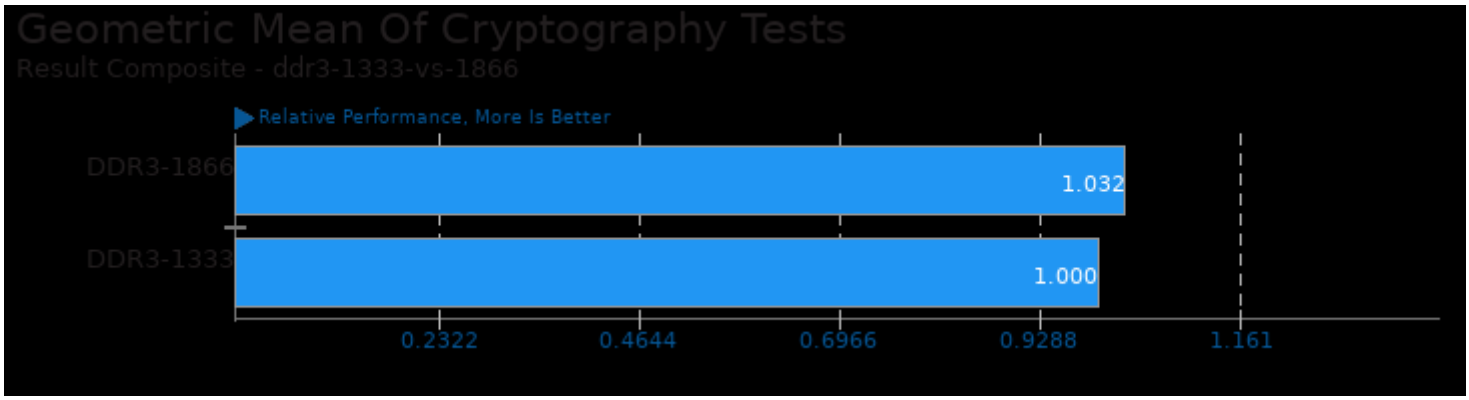
Geometric mean based upon tests: pts/build-php, pts/encode-mp3, pts/pgbench, pts/apache and pts/openssl



Geometric mean based upon tests: pts/compress-gzip, pts/compress-pbzip2 and pts/system-decompress-xz



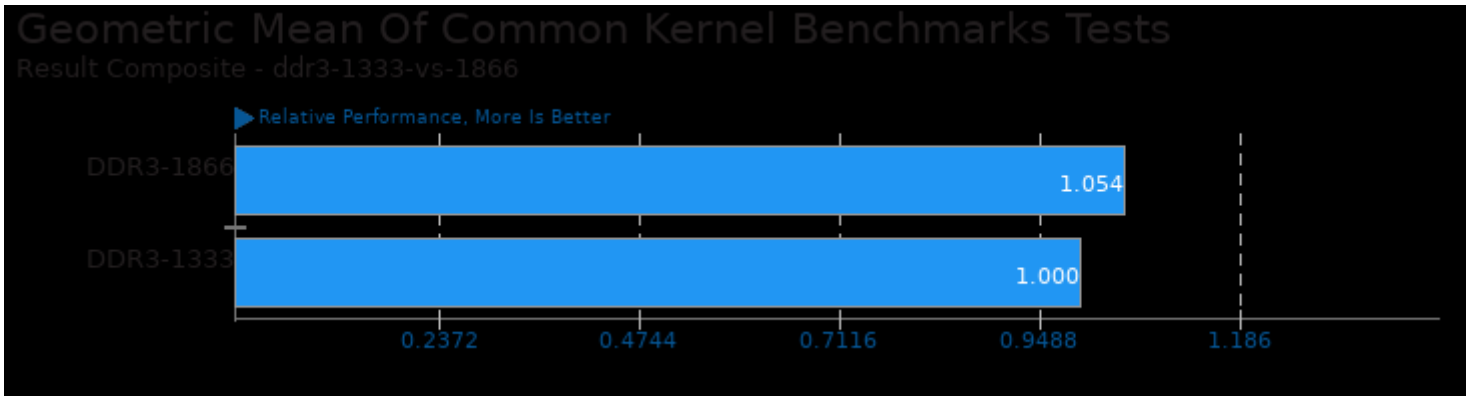
Geometric mean based upon tests: pts/apache, pts/build-php, pts/compress-pbzip2, pts/encode-mp3, pts/openssl, pts/pgbench and pts/phpbench



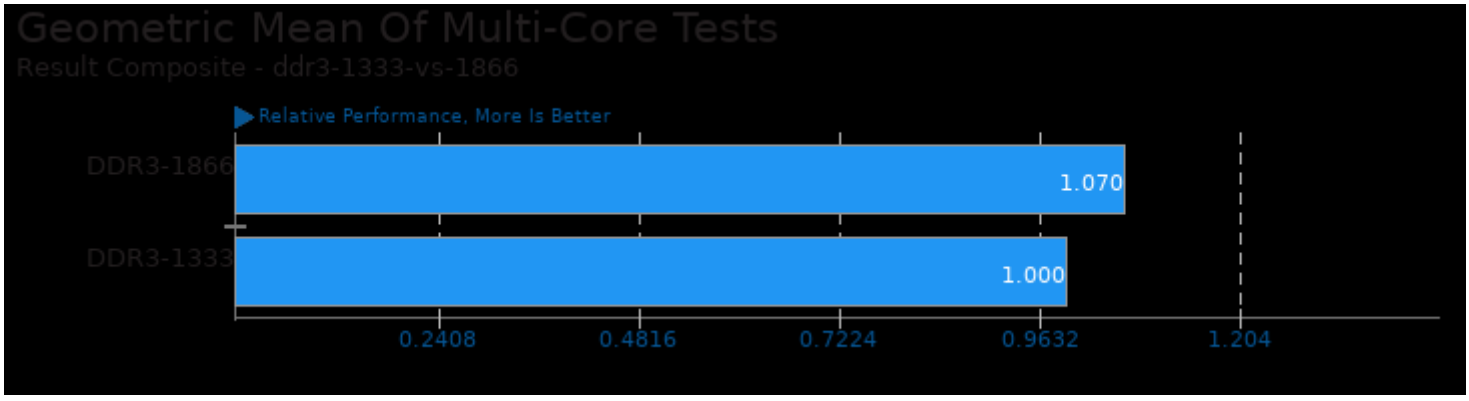
Geometric mean based upon tests: pts/gnupg and pts/openssl



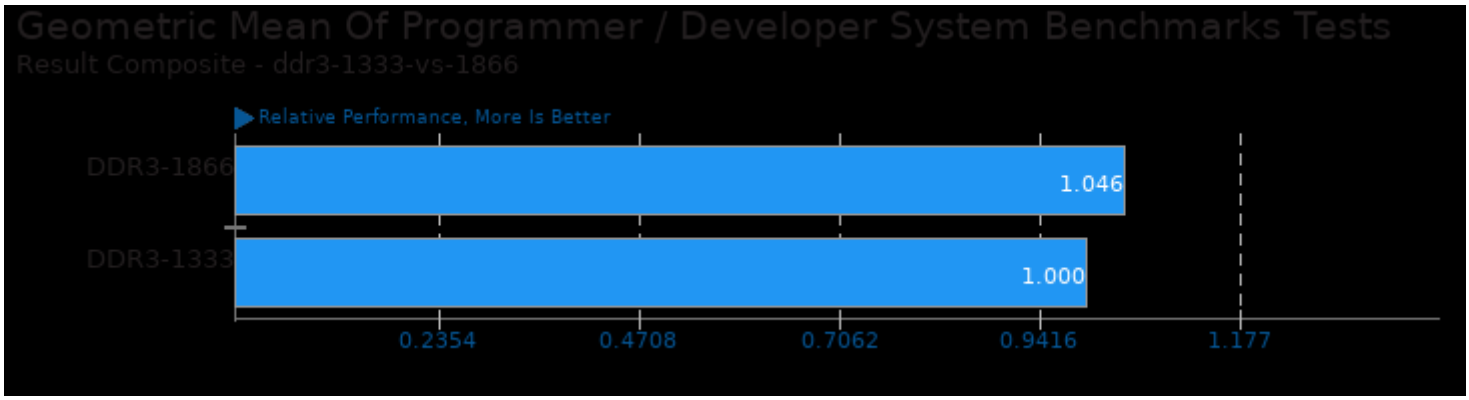
Geometric mean based upon tests: pts/sqlite and pts/pgbench



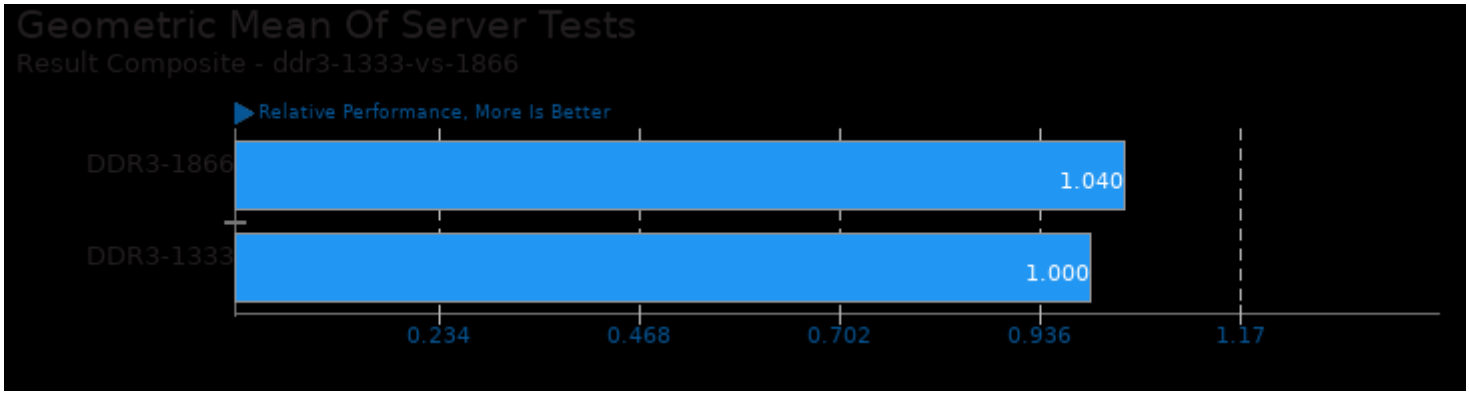
Geometric mean based upon tests: pts/apache, pts/pgbench and pts/openssl



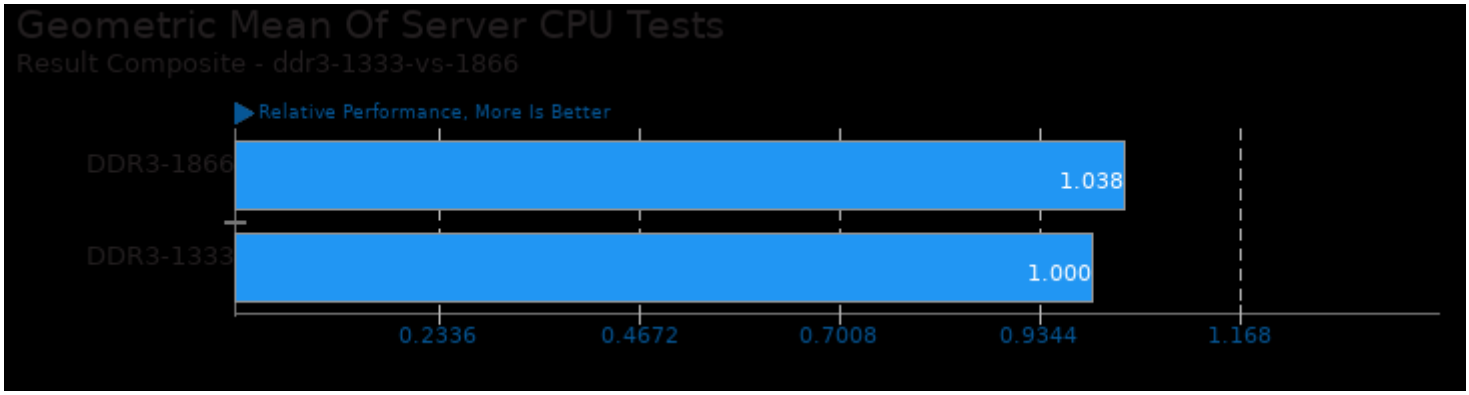
Geometric mean based upon tests: pts/compress-pbzip2, pts/build-php and pts/pgbench



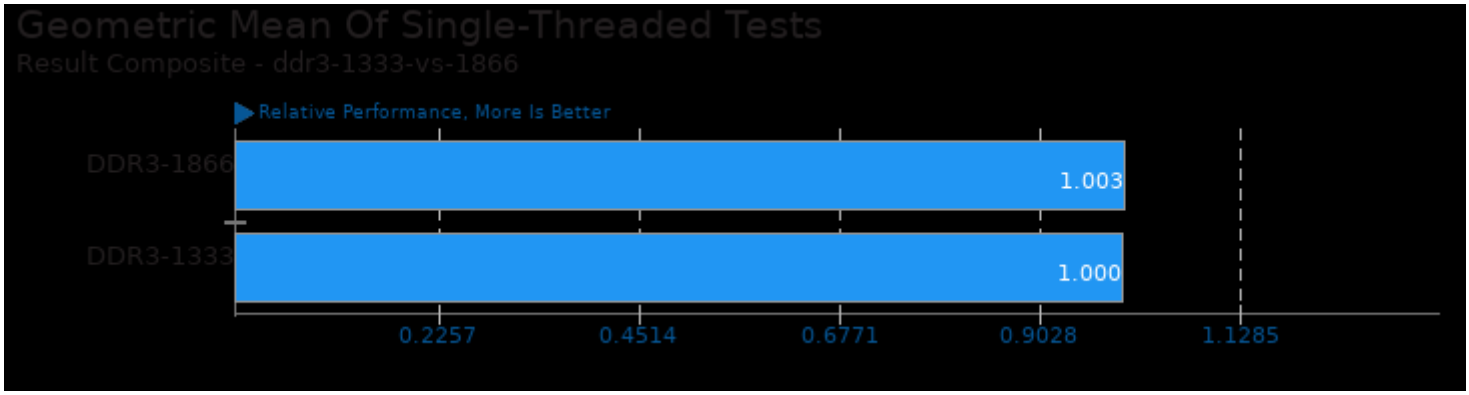
Geometric mean based upon tests: pts/pybench and pts/build-php



Geometric mean based upon tests: pts/apache, pts/pgbench, pts/phpbench, pts/openssl and pts/sqlite



Geometric mean based upon tests: pts/build-php, pts/openssl, pts/pybench and pts/phpbench



Geometric mean based upon tests: pts/compress-gzip, pts/encode-mp3, pts/gnupg, pts/pybench and pts/phpbench

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