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FT-S2500-core128

Phytium FT-2000+/64 testing with a Byosoft FT2000+ (1.0.30 BIOS) and llvmpipe on Kylin Linux Advanced Server V10 via the Phoronix Test Suite.

Automated Executive Summary

FT-2000+/64 had the most wins, coming in first place for 50% of the tests.

Based on the geometric mean of all complete results, the fastest (FT-S2500) was 1.238x the speed of the slowest (FT-2000+/64).

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

OpenSSL (Algorithm: SHA256) at 4.865x
Sysbench (Test: CPU) at 1.908x
OpenSSL (Algorithm: RSA4096) at 1.907x
Coremark (CoreMark Size 666 - Iterations Per Second) at 1.875x
OpenSSL (Algorithm: RSA4096) at 1.866x
C-Ray (Total Time - 4K, 16 Rays Per Pixel) at 1.47x
John The Ripper (Test: Blowfish) at 1.323x
PostMark (Disk Transaction Performance) at 1.242x
Timed MAFFT Alignment (Multiple Sequence Alignment - LSU RNA) at 1.083x

Sample Pi Program at 1.055x.

Test Systems:

FT-S2500

Processor: Phytium S2500/64 C00 (128 Cores), Motherboard: ZD-TECH KL4.26.UEFI.S.024.210617.D, Memory: 16 x 16384 MB DDR4-3200MT/s Micron DDR4-, Disk: 240GB SAMSUNG MZ7LH240, Graphics: llvmpipe, Monitor: BenQ GL2055, Network: 4 x Intel I350

OS: Kylin Linux Advanced Server V10, Kernel: 4.19.90-23.4.v2101.ky10.aarch64 (aarch64) 20210303, Desktop: MATE, Display Server: X Server 1.20.6, OpenGL: 3.3 Mesa 18.3.6 (LLVM 7.0 128 bits), Compiler: GCC 7.3.0, File-System: xfs, Screen Resolution: 1600x900

Kernel Notes: Transparent Huge Pages: madvise
Disk Notes: MQ-DEADLINE / attr2,inode64,noquota,relatime,rw / Block Size: 4096
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Mitigation of PTI + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of __user pointer sanitization + spectre_v2: Not affected + srbds: Not affected + tsx_async_abort: Not affected

FT-2000+/64

Processor: Phytium FT-2000+/64 (64 Cores), Motherboard: Byosoft FT2000+ (1.0.30 BIOS), Memory: 8 x 16 GB DDR4-2666MT/s Micron 9ASF2G72PZ-3G2B1, Disk: 240GB SAMSUNG MZ7LH240, Graphics: llvmpipe, Monitor: BenQ GL2055, Network: 4 x Intel I350

OS: Kylin Linux Advanced Server V10, Kernel: 4.19.90-23.4.v2101.ky10.aarch64 (aarch64) 20210303, Desktop: MATE, Display Server: X Server 1.20.6, OpenGL: 3.3 Mesa 18.3.6 (LLVM 7.0 128 bits), Compiler: GCC 7.3.0, File-System: xfs, Screen Resolution: 1600x900

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	FT-S2500	FT-2000+/64
PostMark - D.T.P (TPS)	**2435**	**3024**
Normalized	80.52%	100%
Standard Deviation	0.5%	0.7%
Timed MAFFT Alignment - M.S.A - LSU RNA (sec)	**23.689**	**21.871**
Normalized	92.33%	100%
Standard Deviation	2%	1.9%
CacheBench - Read (MB/s)	**4003**	**4195**
Normalized	95.44%	100%
Standard Deviation	0%	0%
CacheBench - Write (MB/s)	**7830**	**8204**

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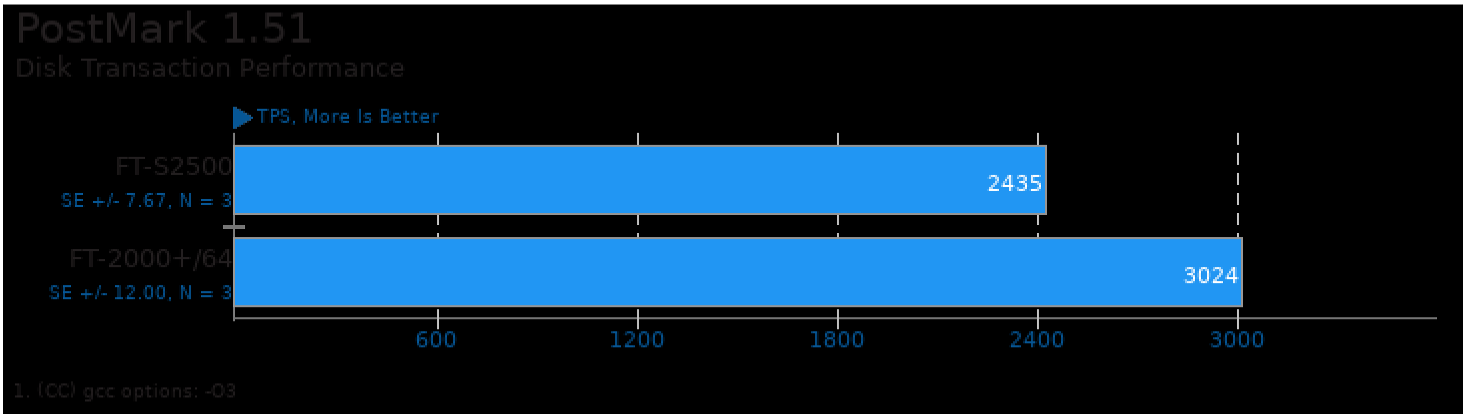
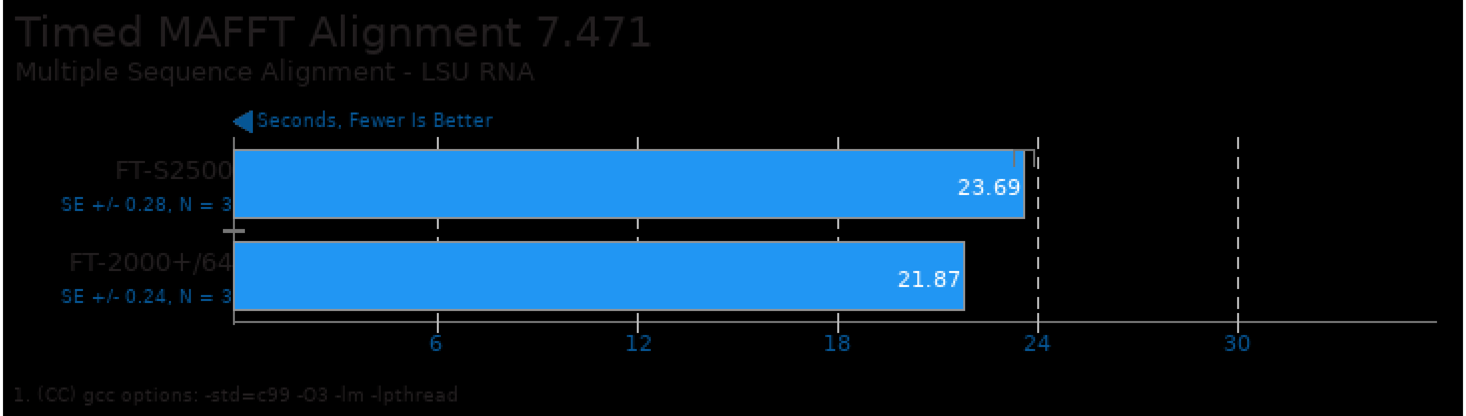
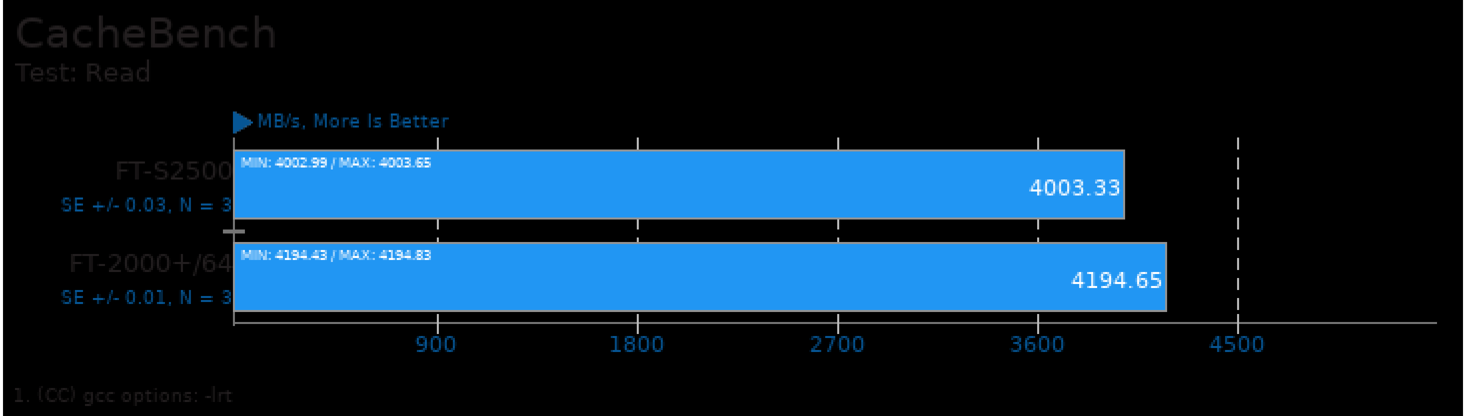
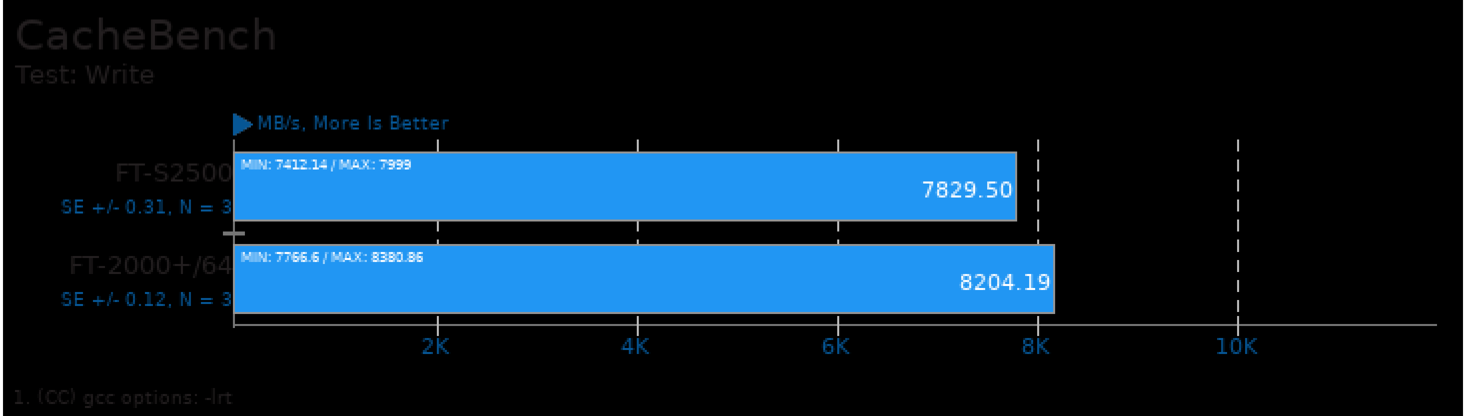
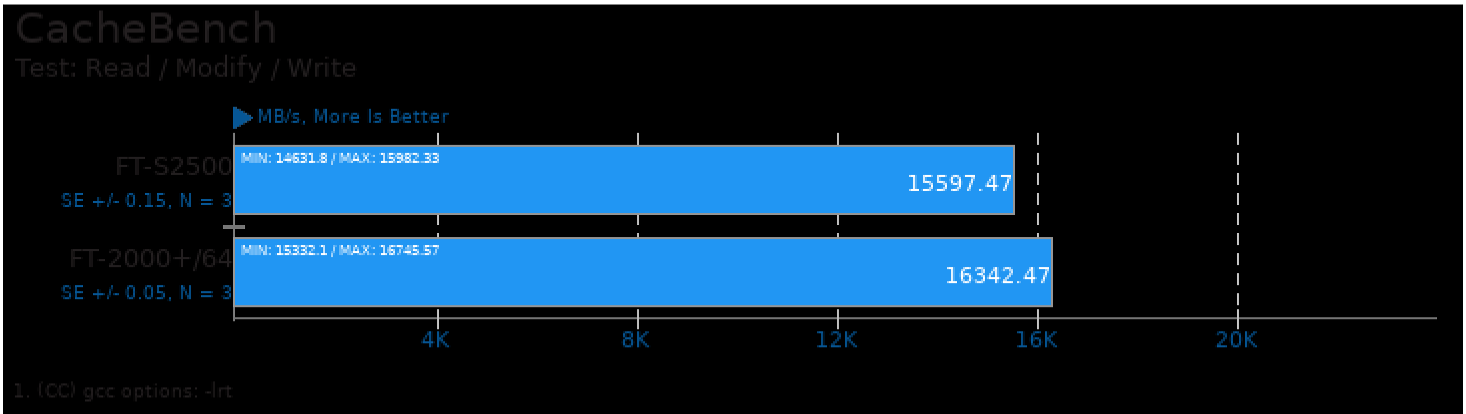
Normalized	95.43%	100%
Standard Deviation	0%	0%
CacheBench - R.M.W (MB/s)	**15597**	**16342**
Normalized	95.44%	100%
Standard Deviation	0%	0%
John The Ripper - Blowfish (Real C/S)	**35947**	**27163**
Normalized	100%	75.56%
Standard Deviation	2.1%	5%
John The Ripper - MD5 (Real C/S)	**937145**	**695018**
Normalized	100%	74.16%
Standard Deviation	19.1%	2.3%
Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)	**1411792**	**753038**
Normalized	100%	53.34%
Standard Deviation	2.5%	4.4%
C-Ray - Total Time - 4.1.R.P.P (sec)	**18.228**	**26.804**
Normalized	100%	68%
Standard Deviation	0.7%	0.5%
Sample Pi Program (sec)	**40.434**	**38.338**
Normalized	94.82%	100%
Standard Deviation	0.4%	0.1%
OpenSSL - SHA256 (byte/s)	**45822799630**	**9419704750**
Normalized	100%	20.56%
Standard Deviation	0.9%	0%
OpenSSL - RSA4096 (sign/s)	**4203**	**2252**
Normalized	100%	53.58%
Standard Deviation	0.3%	0.3%
OpenSSL - RSA4096 (verify/s)	**293376**	**153847**
Normalized	100%	52.44%
Standard Deviation	0%	0%
Sysbench - RAM / Memory (MiB/sec)	**3317**	**10313**
Normalized	32.16%	100%
Standard Deviation	8.8%	2.5%
Sysbench - CPU (Events/sec)	**275325**	**144284**
Normalized	100%	52.4%
Standard Deviation	0.1%	0.3%
PHPBench - P.B.S (Score)	**167909**	**176478**
Normalized	95.14%	100%
Standard Deviation	0.7%	0.5%

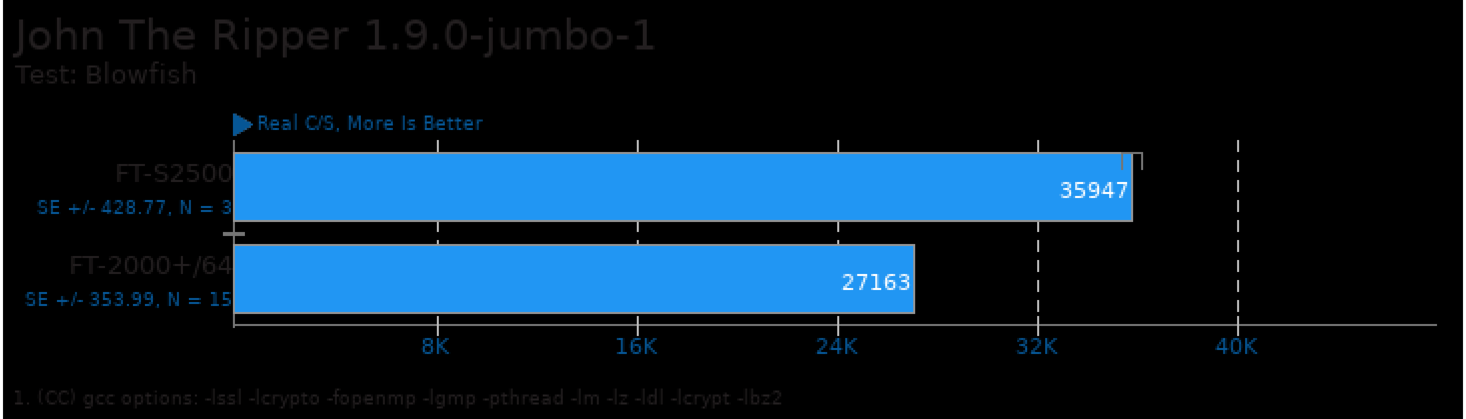

PostMark 1.51
Disk Transaction Performance
TPS, More Is Better
FT-S2500
SE +/- 7.67, N = 3
2435
FT-2000+/64
SE +/- 12.00, N = 3
3024
600
1200
1800
2400
3000
1. (CC) gcc options: -O3

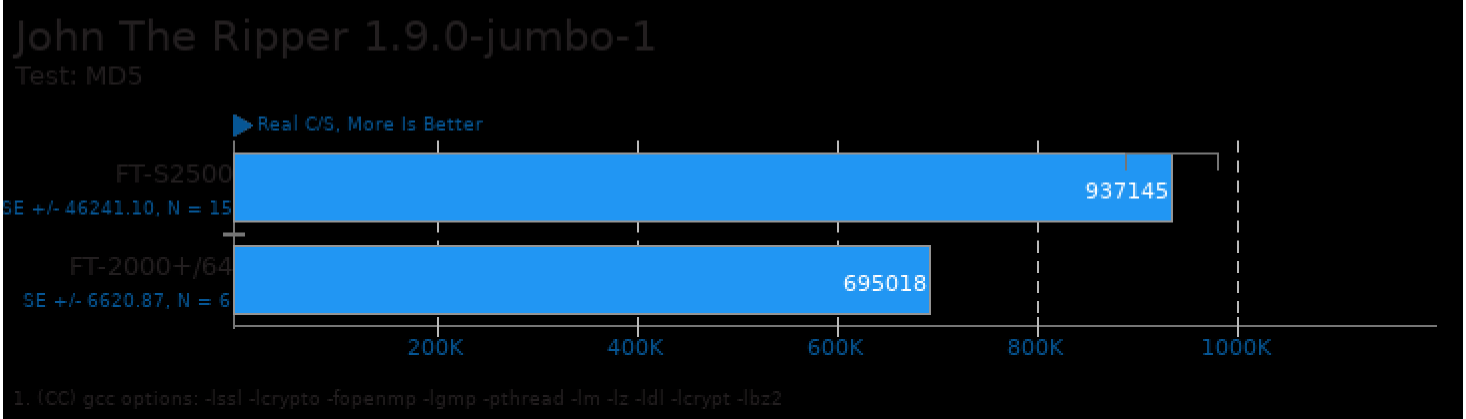

Timed MAFFT Alignment 7.471
Multiple Sequence Alignment - LSU RNA
Seconds, Fewer Is Better
FT-S2500
SE +/- 0.28, N = 3
23.69
FT-2000+/64
SE +/- 0.24, N = 3
21.87
6
12
18
24
30
1. (CC) gcc options: -std=c99 -O3 -lm -lpthread

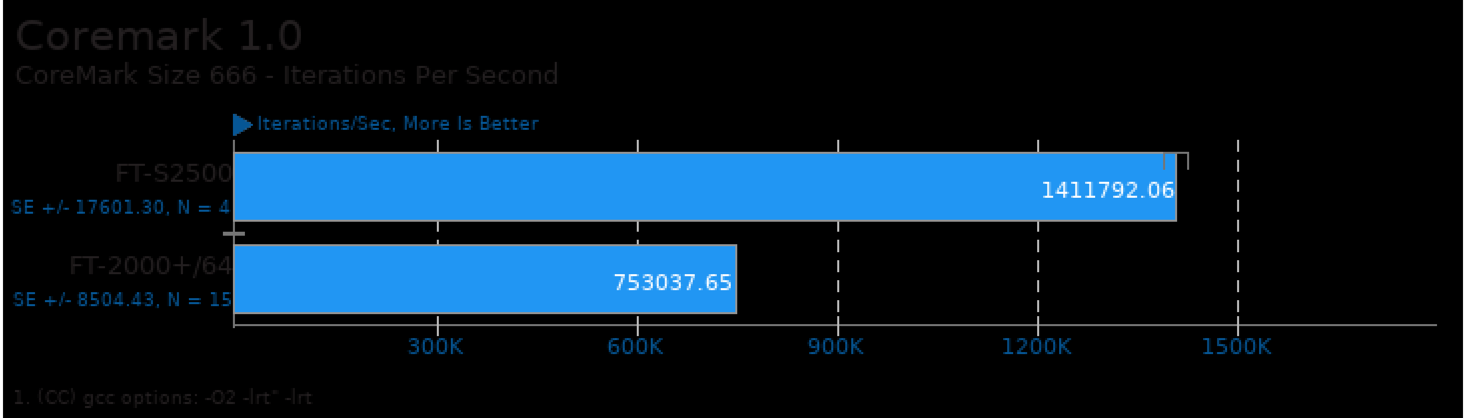

CacheBench
Test: Read
MB/s, More Is Better
FT-S2500
SE +/- 0.03, N = 3
MIN: 4002.99 / MAX: 4003.65
4003.33
FT-2000+/64
SE +/- 0.01, N = 3
MIN: 4194.43 / MAX: 4194.83
4194.65
900
1800
2700
3600
4500
1. (CC) gcc options: -lrt

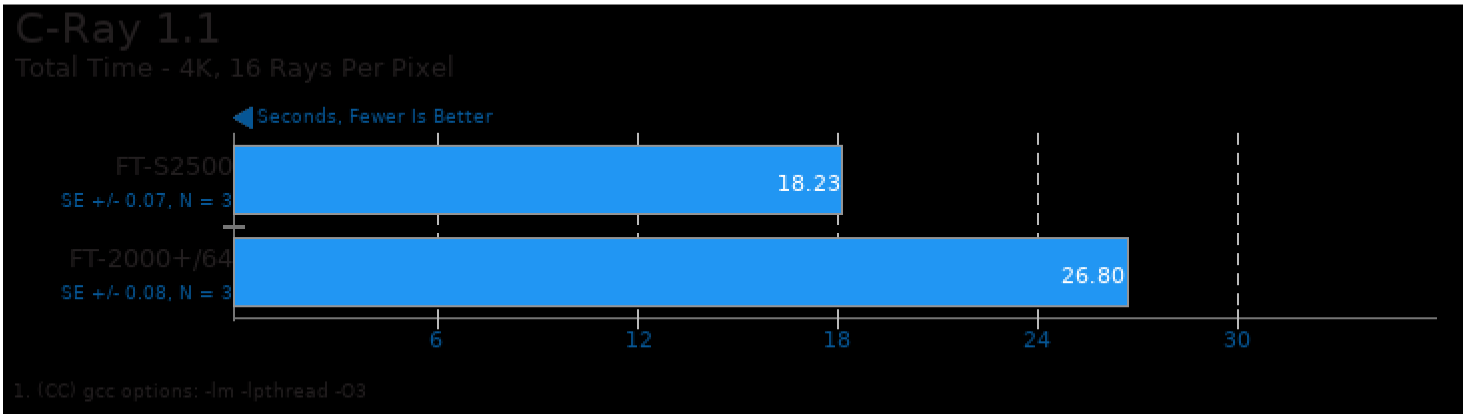

CacheBench
Test: Write
MB/s, More Is Better
FT-S2500
SE +/- 0.31, N = 3
MIN: 7412.14 / MAX: 7999
7829.50
FT-2000+/64
SE +/- 0.12, N = 3
MIN: 7766.6 / MAX: 8380.86
8204.19
2K
4K
6K
8K
10K
1. (CC) gcc options: -lrt

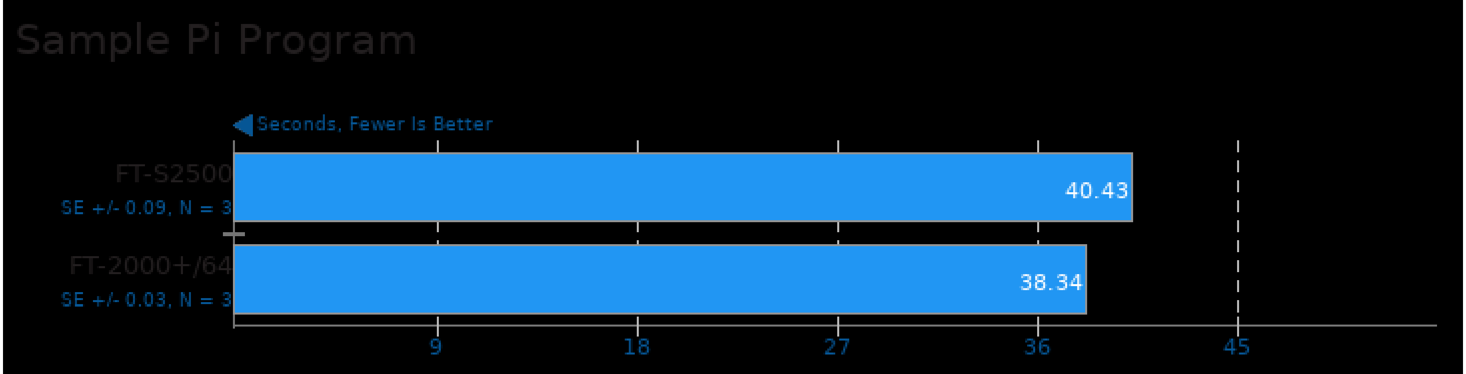

CacheBench
Test: Read / Modify / Write
MB/s, More Is Better
FT-S2500
SE +/- 0.15, N = 3
MIN: 14631.8 / MAX: 15982.33
15597.47
FT-2000+/64
SE +/- 0.05, N = 3
MIN: 15332.1 / MAX: 16745.57
16342.47
4K
8K
12K
16K
20K
1. (CC) gcc options: -lrt

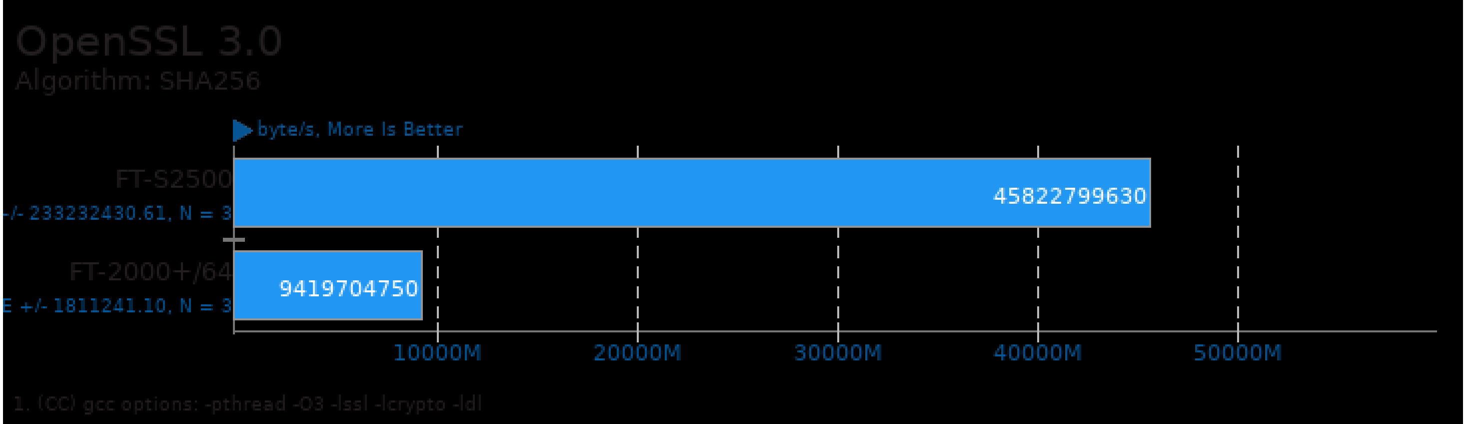

John The Ripper 1.9.0-jumbo-1
Test: Blowfish
Real C/S, More Is Better
FT-S2500
SE +/- 428.77, N = 3
35947
FT-2000+/64
SE +/- 353.99, N = 15
27163
8K
16K
24K
32K
40K
1. (CC) gcc options: -lssl -lcrypto -fopenmp -lgmp -pthread -lm -lz -ldl -lcrypt -lbz2

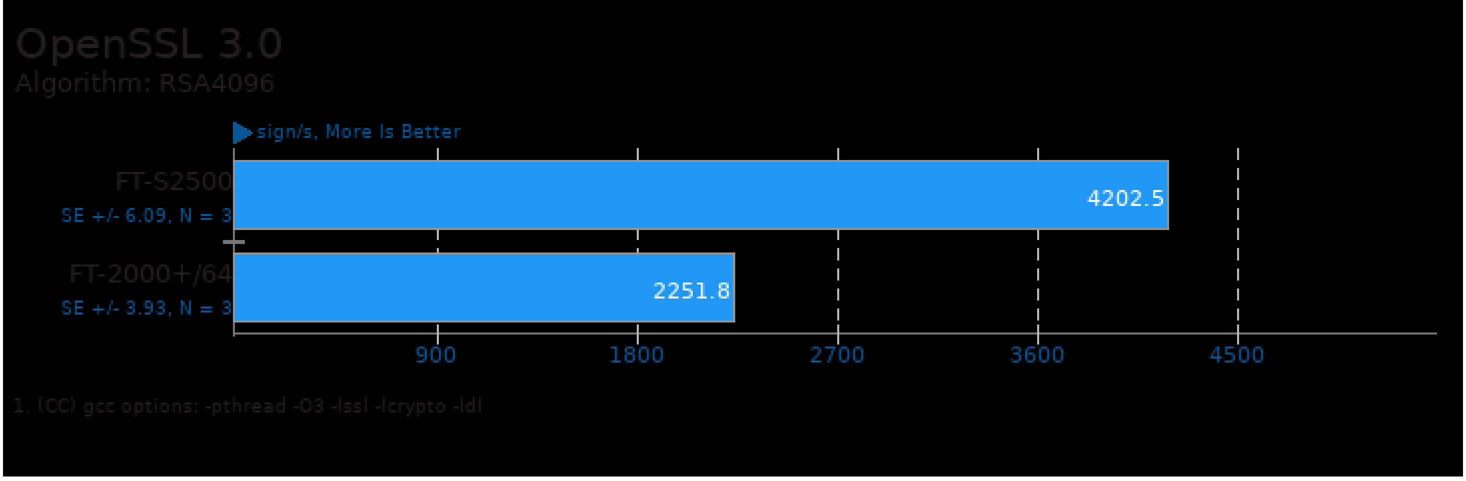

John The Ripper 1.9.0-jumbo-1
Test: MD5
Real C/S, More Is Better
FT-S2500
SE +/- 46241.10, N = 15
937145
FT-2000+/64
SE +/- 6620.87, N = 6
695018
200K
400K
600K
800K
1000K
1. (CC) gcc options: -lssl -lcrypto -fopenmp -lgmp -pthread -lm -lz -ldl -lcrypt -lbz2


Coremark 1.0
CoreMark Size 666 - Iterations Per Second
Iterations/Sec, More Is Better
FT-S2500
SE +/- 17601.30, N = 4
1411792.06
FT-2000+/64
SE +/- 8504.43, N = 15
753037.65
300K
600K
900K
1200K
1500K
1. (CC) gcc options: -O2 -lrt" -lrt


C-Ray 1.1
Total Time - 4K, 16 Rays Per Pixel
Seconds, Fewer Is Better
FT-S2500
SE +/- 0.07, N = 3
18.23
FT-2000+/64
SE +/- 0.08, N = 3
26.80
6
12
18
24
30
1. (CC) gcc options: -lm -lpthread -O3


Sample Pi Program
Seconds, Fewer Is Better
FT-S2500
SE +/- 0.09, N = 3
40.43
FT-2000+/64
SE +/- 0.03, N = 3
38.34
9
18
27
36
45


OpenSSL 3.0
Algorithm: SHA256
byte/s, More Is Better
FT-S2500
-/- 233232430.61, N = 3
45822799630
FT-2000+/64
E +/- 1811241.10, N = 3
9419704750
10000M
20000M
30000M
40000M
50000M
1. (CC) gcc options: -pthread -O3 -lssl -lcrypto -ldl


OpenSSL 3.0
Algorithm: RSA4096
sign/s, More Is Better
FT-S2500
SE +/- 6.09, N = 3
4202.5
FT-2000+/64
SE +/- 3.93, N = 3
2251.8
900
1800
2700
3600
4500
1. (CC) gcc options: -pthread -O3 -lssl -lcrypto -ldl

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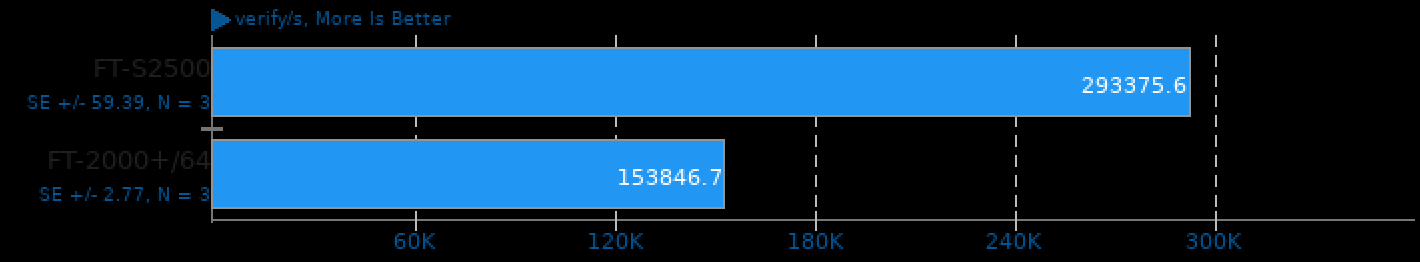
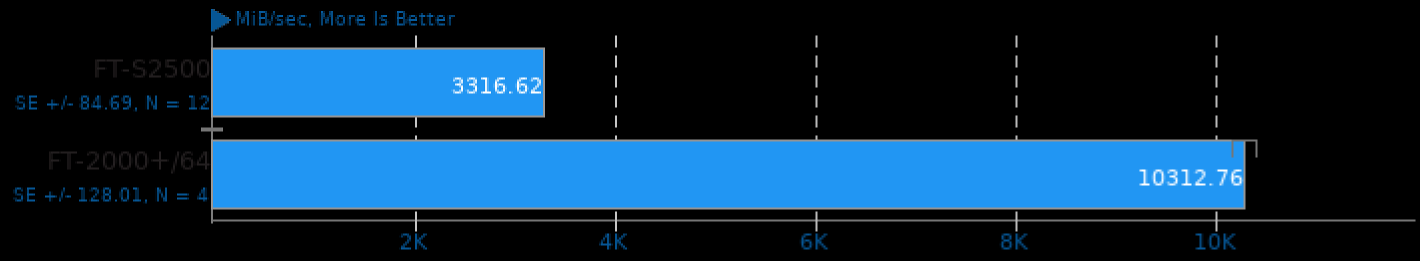
OpenSSL 3.0
Algorithm: RSA4096



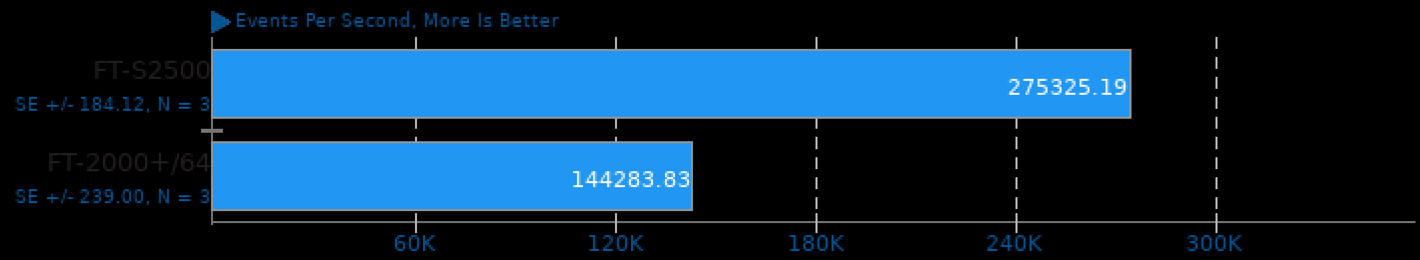
1. (CC) gcc options: -pthread -O3 -lssl -lcrypto -ldl

Sysbench 1.0.20
Test: RAM / Memory



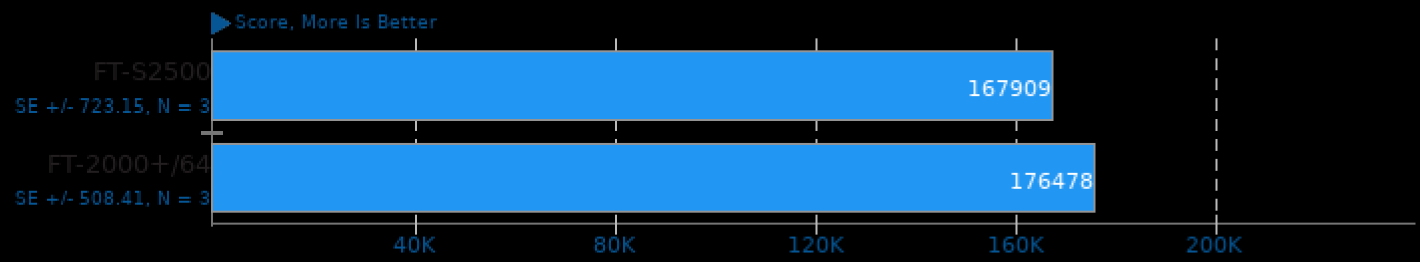
1. (CC) gcc options: -pthread -O2 -funroll-loops -rdynamic -ldl -laio -lm

Sysbench 1.0.20
Test: CPU

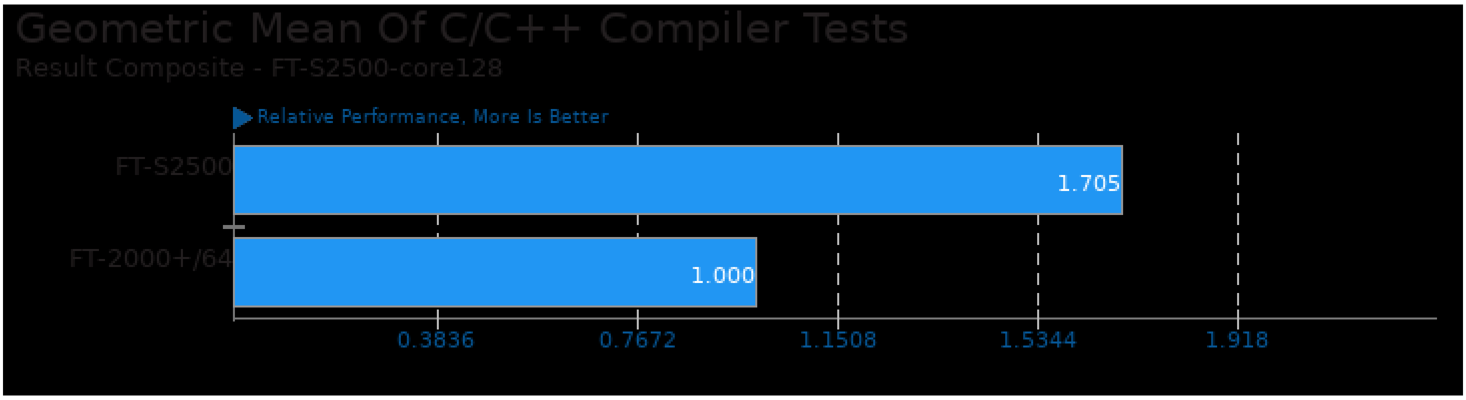


1. (CC) gcc options: -pthread -O2 -funroll-loops -rdynamic -ldl -laio -lm

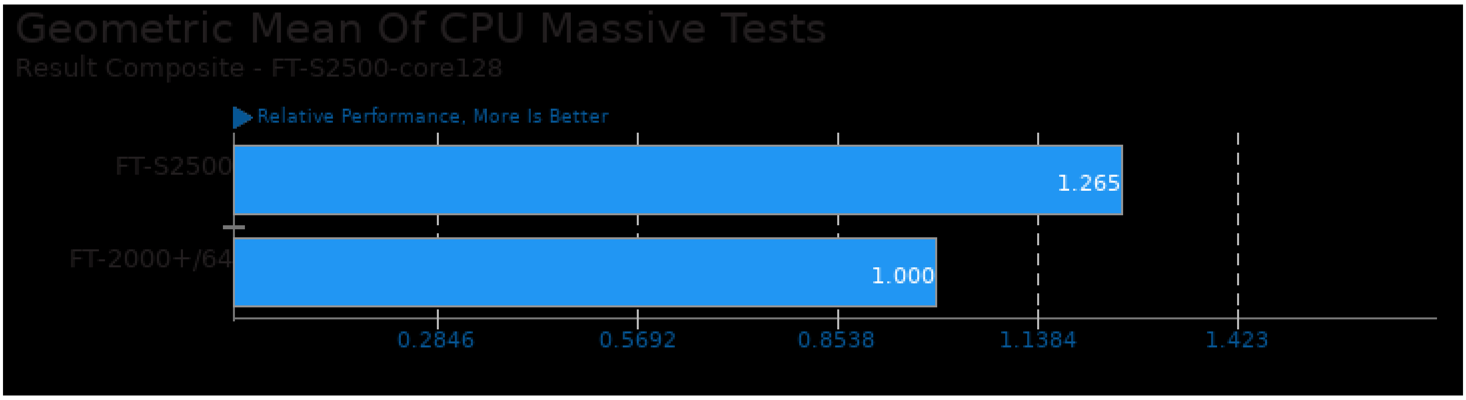
PHPBench 0.8.1
PHP Benchmark Suite



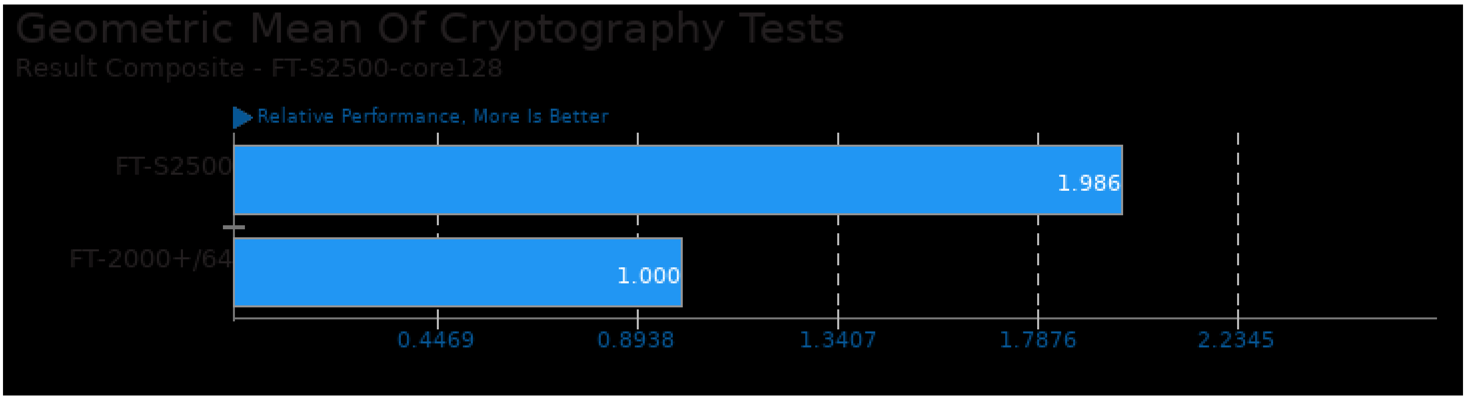
These geometric means are based upon test groupings / test suites for this result file.



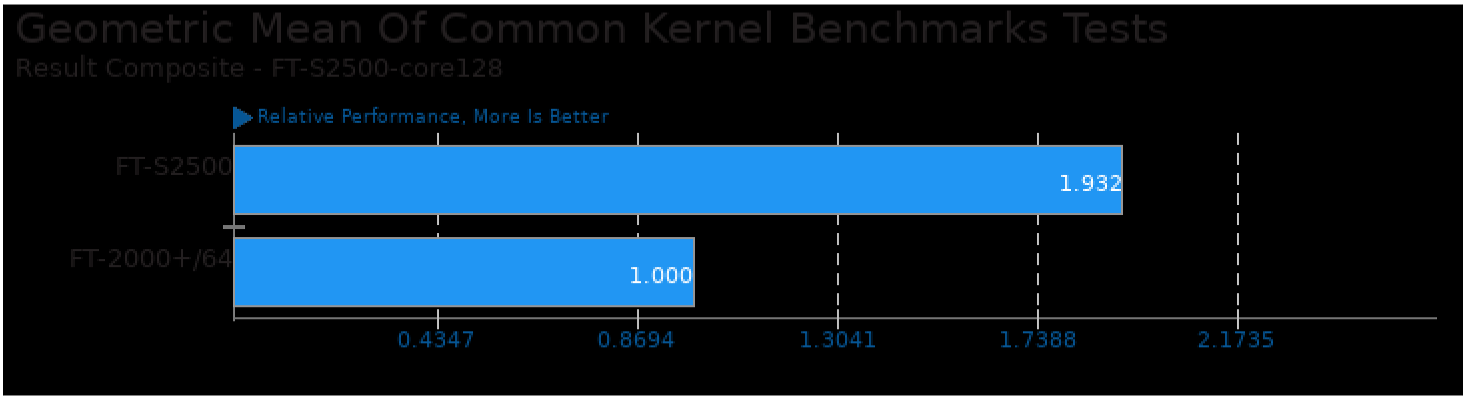
Geometric mean based upon tests: pts/mafft, pts/c-ray, pts/apache, pts/john-the-ripper and pts/openssl



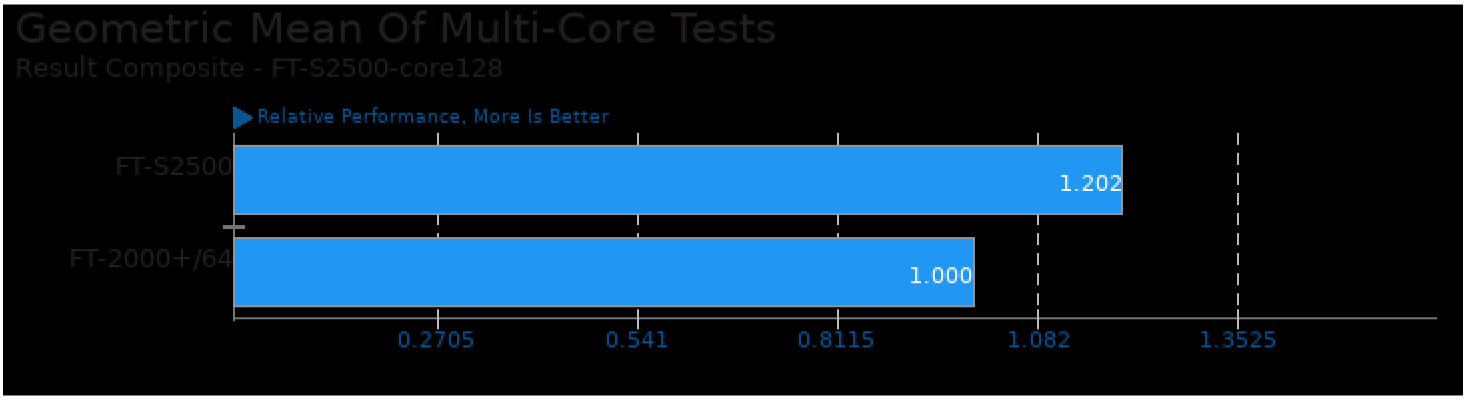
Geometric mean based upon tests: pts/apache, pts/c-ray, pts/cachebench, pts/john-the-ripper, pts/openssl, pts/mafft, pts/phpbench and pts/sysbench



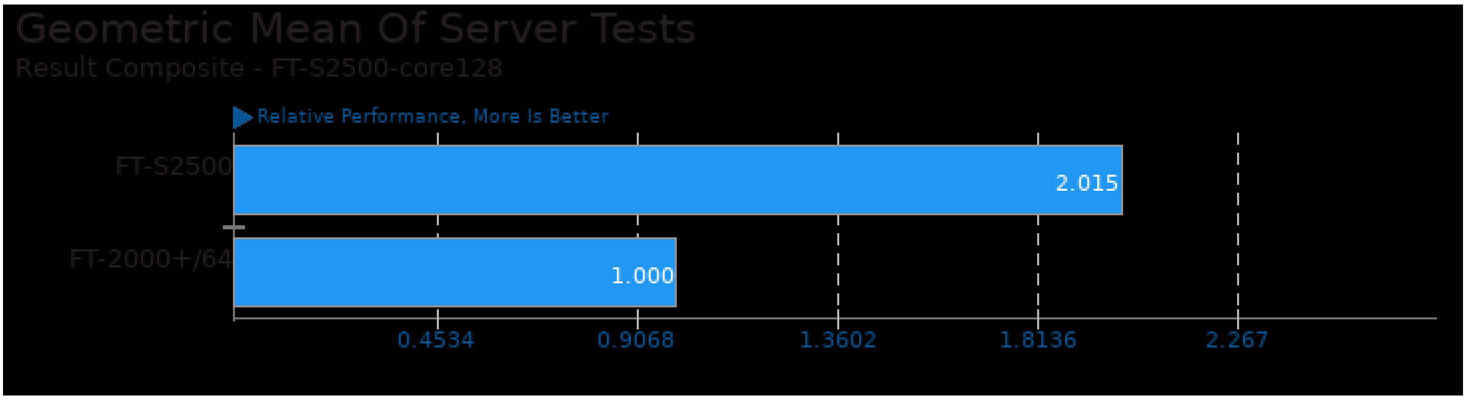
Geometric mean based upon tests: pts/openssl and pts/john-the-ripper



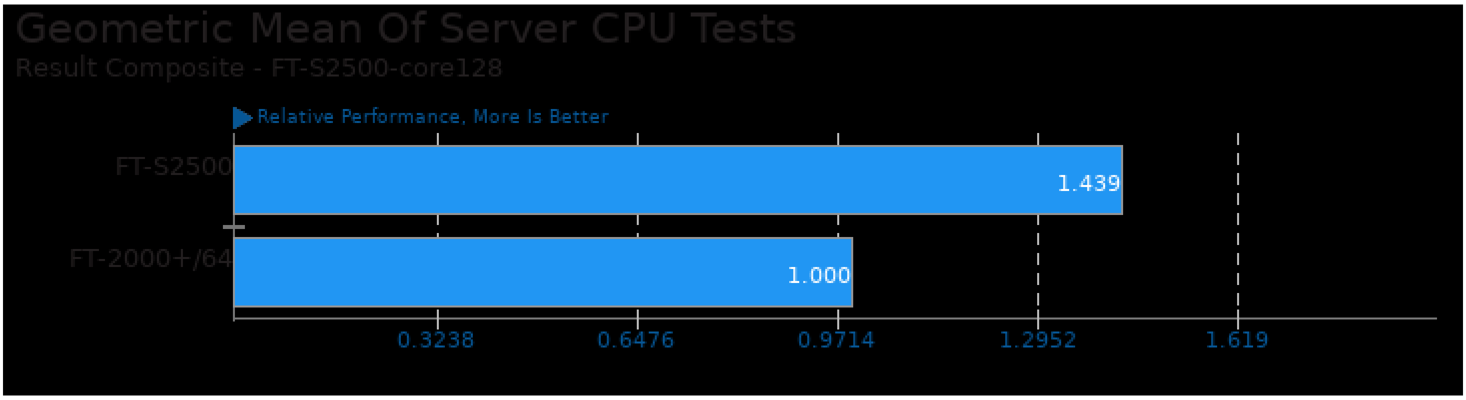
Geometric mean based upon tests: pts/apache, pts/postmark and pts/openssl



Geometric mean based upon tests: pts/sysbench, pts/c-ray, pts/coremark and pts/john-the-ripper

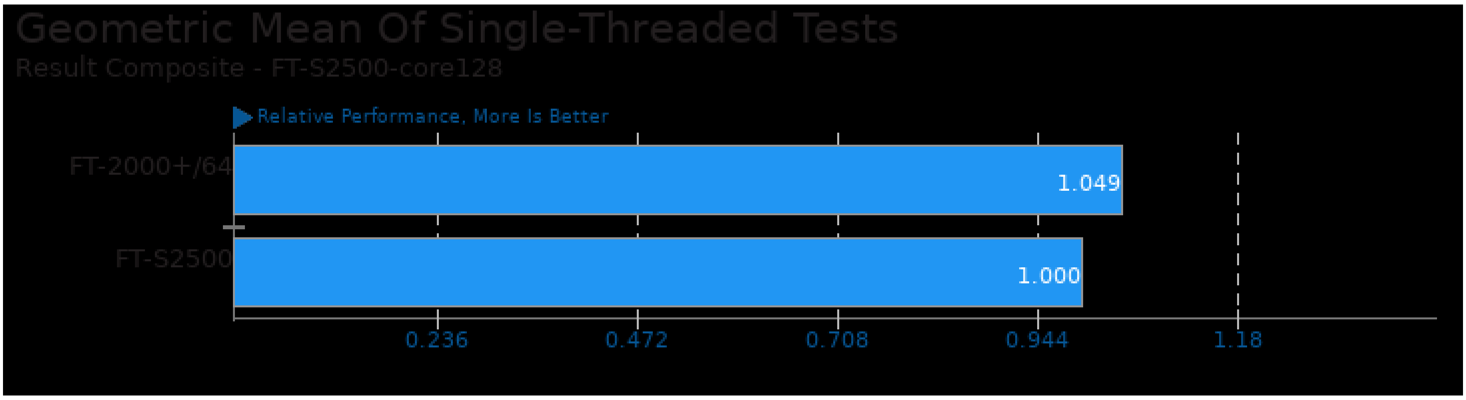


Geometric mean based upon tests: pts/apache, pts/phpbench and pts/openssl



Geometric mean based upon tests: pts/john-the-ripper, pts/c-ray, pts/openssl, pts/sysbench and pts/phpbench

FT-S2500-core128



Geometric mean based upon tests: pts/cachebench and pts/phpbench

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 05:30.