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Compiler/Linker benchmark time on Gentoo MacbookPro

Macos 10.15.7 Xcode 12 clang default

Automated Executive Summary

GCC 10.1 default LD=ld.lld had the most wins, coming in first place for 77% of the tests.

Based on the geometric mean of all complete results, the fastest (GCC 10.1 default LD=ld.lld) was 1.198x the speed of the slowest (GCC 10.1 default LD=ld.bfd). LLVM 10.0 default LD=ld.bfd was 0.955x the speed of GCC 10.1 default LD=ld.lld, Macos 10.15.7 Xcode 12 clang default was 0.977x the speed of LLVM 10.0 default LD=ld.bfd, GCC 10.1 default LD=ld.bfd was 0.895x the speed of Macos 10.15.7 Xcode 12 clang default.

Test Systems:

GCC 10.1 default LD=ld.bfd

GCC 10.1 default LD=ld.lld

Processor: Intel Core i7-3615QM @ 3.30GHz (4 Cores / 8 Threads), Motherboard: Apple Mac-C3EC7CD22292981F (259.0.0.0.0 BIOS), Chipset: Intel 3rd Gen Core DRAM, Memory: 8GB, Disk: 251GB APPLE SSD SM256E, Graphics: NVIDIA GeForce GT 650M 1GB (797/2508MHz), Audio: Cirrus Logic CS4206, Monitor: Color LCD, Network: Broadcom NetXtreme BCM57786 PCIe + Broadcom BCM4331 802.11a/b/g/n

OS: Gentoo 2.6, Kernel: 5.7.6-gentoo-x86_64 (x86_64), Desktop: MATE 1.24.0, Display Server: X Server 1.20.8, Display Driver: NVIDIA 450.51, OpenGL: 4.6.0, OpenCL: OpenCL 1.2 CUDA 11.0.197, Compiler: GCC 10.1.0 + Clang 10.0.0 + LLVM 10.0.0, File-System: ext4, Screen Resolution: 2880x1800

Environment Notes: LDFLAGS=-fuse-ld=lld
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0x21
Python Notes: Python 3.7.7
Security Notes: itlb_multihit: KVM: Vulnerable + 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 swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Vulnerable: No microcode + tsx_async_abort: Not affected

LLVM 10.0 default LD=ld.bfd

Processor: Intel Core i7-3615QM @ 3.30GHz (4 Cores / 8 Threads), Motherboard: Apple Mac-C3EC7CD22292981F (259.0.0.0.0 BIOS), Chipset: Intel 3rd Gen Core DRAM, Memory: 8GB, Disk: 251GB APPLE SSD SM256E, Graphics: NVIDIA GeForce GT 650M 1GB (797/2508MHz), Audio: Cirrus Logic CS4206, Monitor: Color LCD, Network: Broadcom NetXtreme BCM57786 PCIe + Broadcom BCM4331 802.11a/b/g/n

OS: Gentoo 2.6, Kernel: 5.7.6-gentoo-x86_64 (x86_64), Desktop: MATE 1.24.0, Display Server: X Server 1.20.8, Display Driver: NVIDIA 450.51, OpenGL: 4.6.0, OpenCL: OpenCL 1.2 CUDA 11.0.197, Compiler: Clang 10.0.0 + GCC 10.1.0 + LLVM 10.0.0, File-System: ext4, Screen Resolution: 2880x1800

Compiler Notes: Optimized build; Default target: x86_64-pc-linux-gnu; Host CPU: ivybridge
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0x21
Python Notes: Python 3.7.7
Security Notes: itlb_multihit: KVM: Vulnerable + 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 swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Vulnerable: No microcode + tsx_async_abort: Not affected

Macos 10.15.7 Xcode 12 clang default

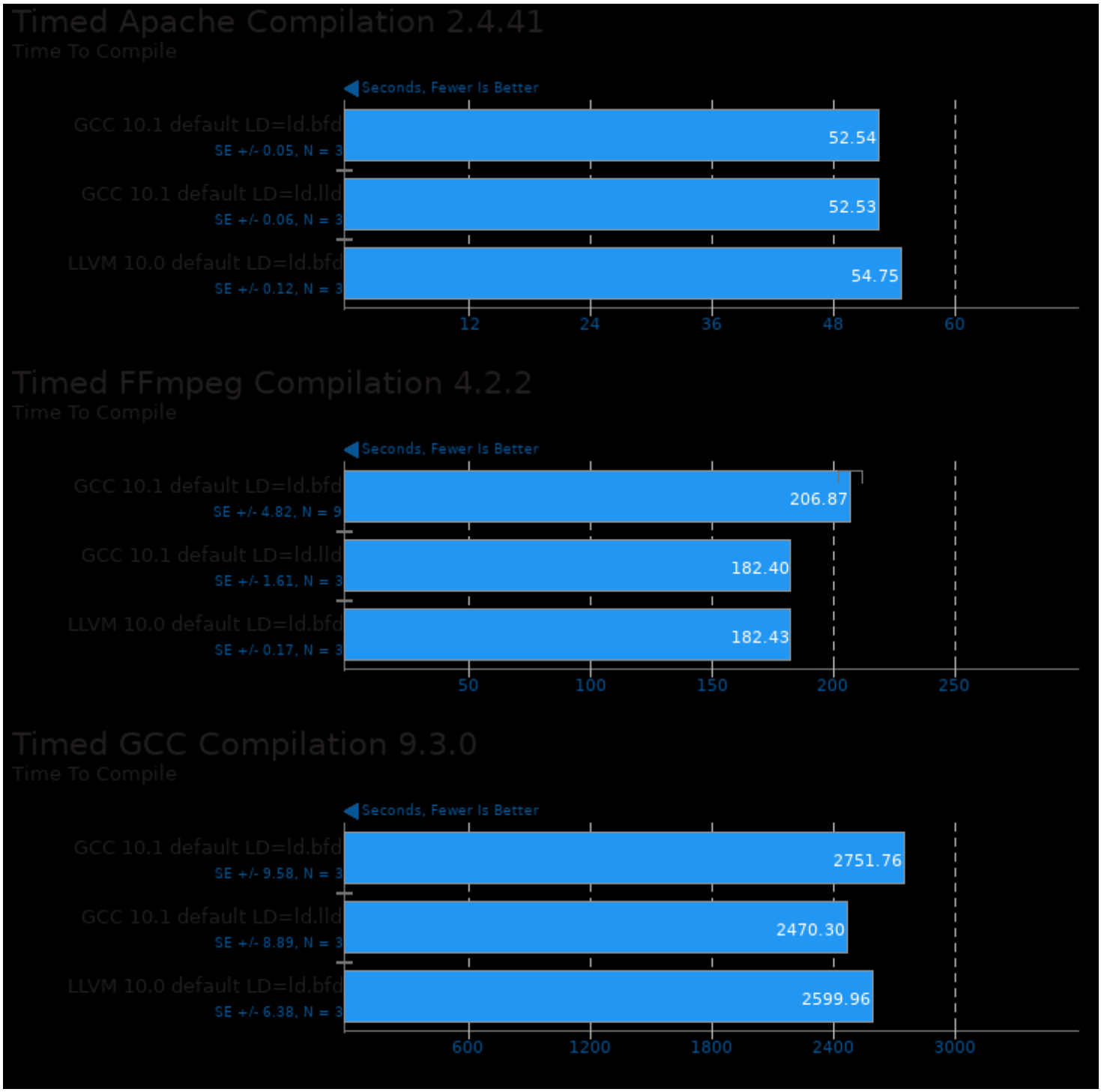
Processor: Intel Core i7-3615QM @ 2.30GHz (4 Cores / 8 Threads), Motherboard: Apple MacBook Pro, Chipset: Intel 7, Memory: 2 x 4 GB DDR3-1600MHz, Disk: 251GB APPLE SSD SM256E, Graphics: Intel HD 4000 + NVIDIA GeForce GT 650M 2GB, Monitor: Color LCD

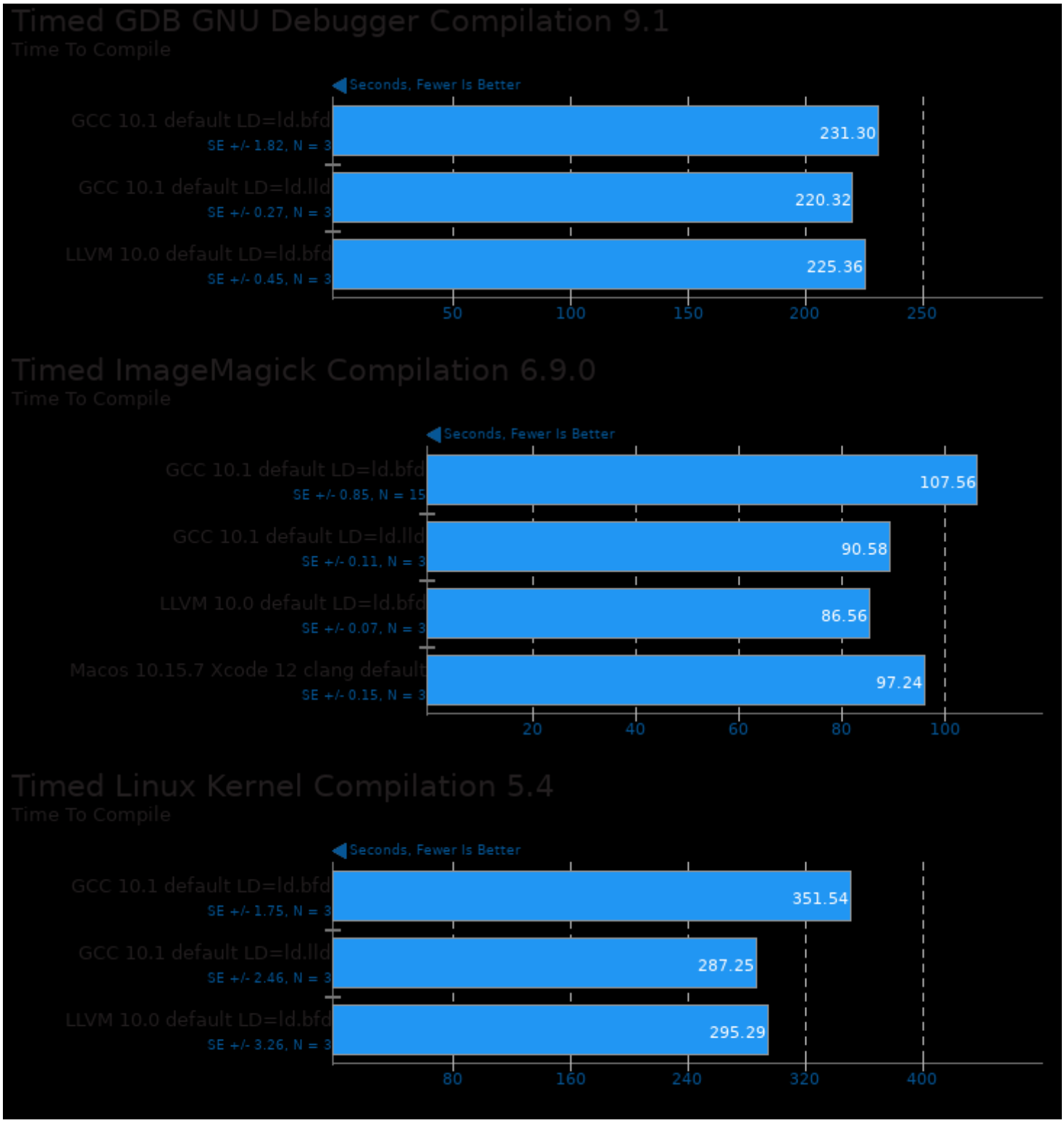
OS: macOS 10.15.7, Kernel: 19.6.0 (x86_64), Compiler: Clang 12.0.0 + GCC 12.0.0 + Xcode 12.3, File-System: APFS, Screen Resolution: 2880x1800

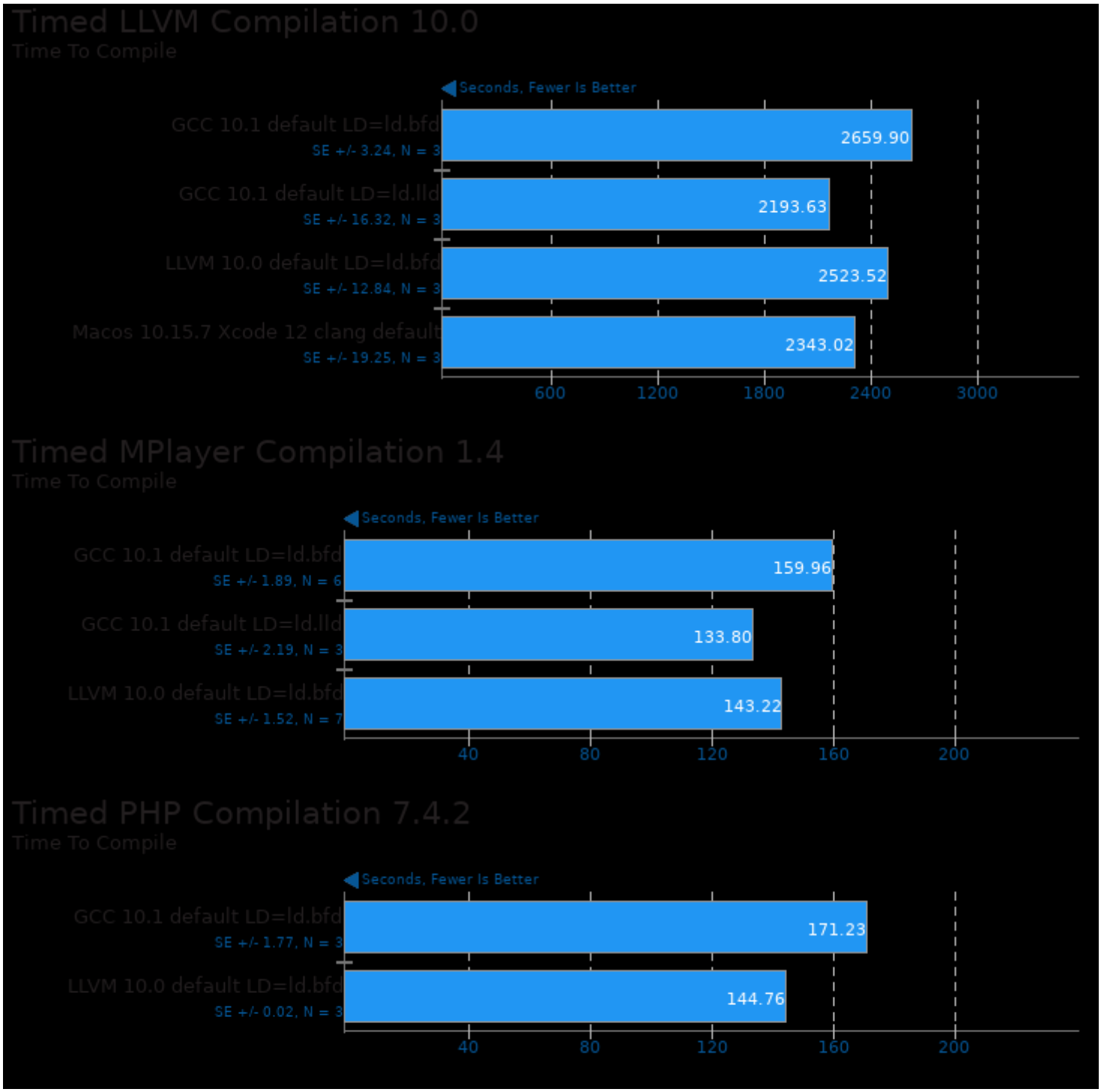
Environment Notes: XPC_FLAGS=0x0
Processor Notes: CPU Microcode: 33
Python Notes: Python 2.7.16 + Python 3.9.1

Compiler/Linker benchmark time on Gentoo MacbookPro

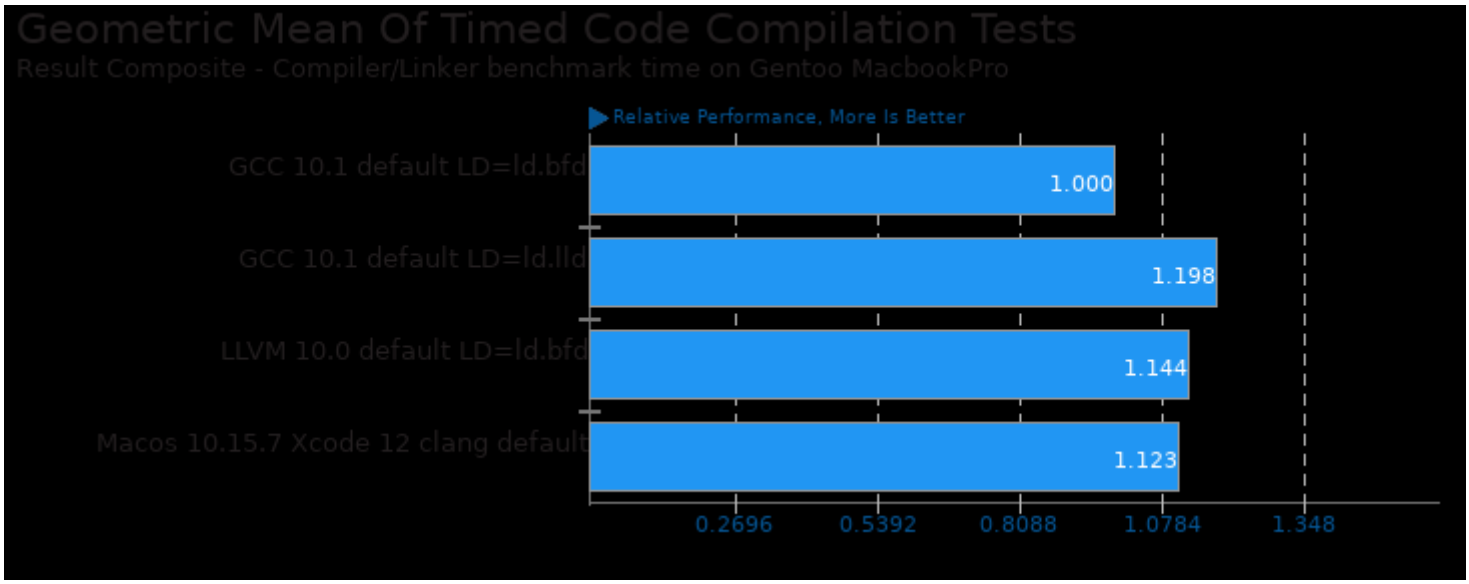
	GCC 10.1 default LD=ld.bfd	GCC 10.1 default LD=ld.lld	LLVM 10.0 default LD=ld.bfd	Macos 10.15.7 Xcode 12 clang default
Timed Apache Compilation - Time To Compile (sec)	52.542	**52.534**	**54.750**	
Normalized	99.98%	100%	95.95%	
Standard Deviation	0.2%	0.2%	0.4%	
Timed FFmpeg Compilation - Time To Compile (sec)	**206.874**	**182.396**	182.434	
Normalized	88.17%	100%	99.98%	
Standard Deviation	7%	1.5%	0.2%	
Timed GCC Compilation - Time To Compile (sec)	**2752**	**2470**	2600	
Normalized	89.77%	100%	95.01%	
Standard Deviation	0.6%	0.6%	0.4%	
Timed GDB GNU Debugger Compilation - Time To Compile (sec)	**231.295**	**220.315**	225.362	
Normalized	95.25%	100%	97.76%	
Standard Deviation	1.4%	0.2%	0.3%	
Timed ImageMagick Compilation - Time To Compile (sec)	**107.557**	90.576	**86.556**	97.243
Normalized	80.47%	95.56%	100%	89.01%
Standard Deviation	3.1%	0.2%	0.1%	0.3%
Timed Linux Kernel Compilation - Time To Compile (sec)	**351.537**	**287.251**	295.292	
Normalized	81.71%	100%	97.28%	
Standard Deviation	0.9%	1.5%	1.9%	
Timed LLVM Compilation - Time To Compile (sec)	**2660**	**2194**	2524	2343
Normalized	82.47%	100%	86.93%	93.62%
Standard Deviation	0.2%	1.3%	0.9%	1.4%
Timed MPlayer Compilation - Time To Compile (sec)	**159.962**	**133.796**	143.221	
Normalized	83.64%	100%	93.42%	
Standard Deviation	2.9%	2.8%	2.8%	
Timed PHP Compilation - Time To Compile (sec)	**171.227**		**144.763**	
Normalized	84.54%		100%	
Standard Deviation	1.8%		0%	


Timed Apache Compilation 2.4.41
Time To Compile
Seconds, Fewer Is Better
GCC 10.1 default LD=ld.bfd
SE +/- 0.05, N = 3
52.54
GCC 10.1 default LD=ld.lld
SE +/- 0.06, N = 3
52.53
LLVM 10.0 default LD=ld.bfd
SE +/- 0.12, N = 3
54.75
12
24
36
48
60
Timed FFmpeg Compilation 4.2.2
Time To Compile
Seconds, Fewer Is Better
GCC 10.1 default LD=ld.bfd
SE +/- 4.82, N = 9
206.87
GCC 10.1 default LD=ld.lld
SE +/- 1.61, N = 3
182.40
LLVM 10.0 default LD=ld.bfd
SE +/- 0.17, N = 3
182.43
50
100
150
200
250
Timed GCC Compilation 9.3.0
Time To Compile
Seconds, Fewer Is Better
GCC 10.1 default LD=ld.bfd
SE +/- 9.58, N = 3
2751.76
GCC 10.1 default LD=ld.lld
SE +/- 8.89, N = 3
2470.30
LLVM 10.0 default LD=ld.bfd
SE +/- 6.38, N = 3
2599.96
600
1200
1800
2400
3000

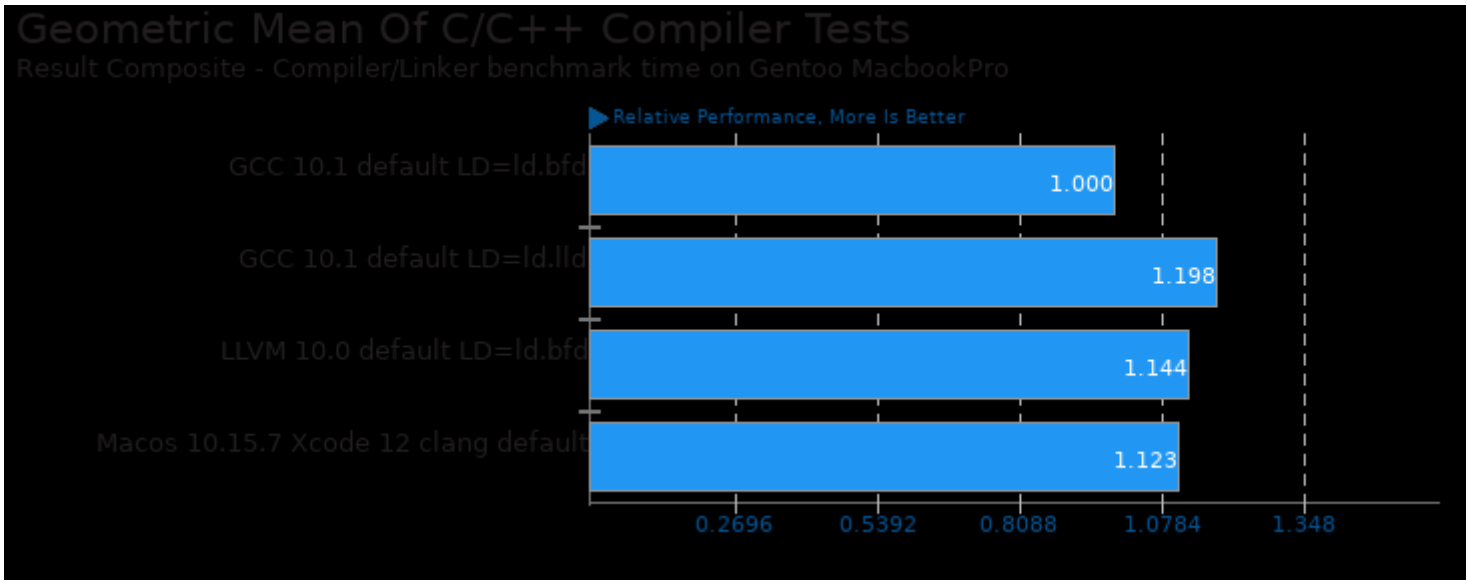

Timed GDB GNU Debugger Compilation 9.1
Time To Compile
Seconds, Fewer Is Better
GCC 10.1 default LD=ld.bfd
SE +/- 1.82, N = 3
231.30
GCC 10.1 default LD=ld.lld
SE +/- 0.27, N = 3
220.32
LLVM 10.0 default LD=ld.bfd
SE +/- 0.45, N = 3
225.36
50
100
150
200
250
Timed ImageMagick Compilation 6.9.0
Time To Compile
Seconds, Fewer Is Better
GCC 10.1 default LD=ld.bfd
SE +/- 0.85, N = 15
107.56
GCC 10.1 default LD=ld.lld
SE +/- 0.11, N = 3
90.58
LLVM 10.0 default LD=ld.bfd
SE +/- 0.07, N = 3
86.56
Macos 10.15.7 Xcode 12 clang default
SE +/- 0.15, N = 3
97.24
20
40
60
80
100
Timed Linux Kernel Compilation 5.4
Time To Compile
Seconds, Fewer Is Better
GCC 10.1 default LD=ld.bfd
SE +/- 1.75, N = 3
351.54
GCC 10.1 default LD=ld.lld
SE +/- 2.46, N = 3
287.25
LLVM 10.0 default LD=ld.bfd
SE +/- 3.26, N = 3
295.29
80
160
240
320
400


Timed LLVM Compilation 10.0
Time To Compile
Seconds, Fewer Is Better
GCC 10.1 default LD=ld.bfd
SE +/- 3.24, N = 3
2659.90
GCC 10.1 default LD=ld.lld
SE +/- 16.32, N = 3
2193.63
LLVM 10.0 default LD=ld.bfd
SE +/- 12.84, N = 3
2523.52
Macos 10.15.7 Xcode 12 clang default
SE +/- 19.25, N = 3
2343.02
600
1200
1800
2400
3000
Timed MPlayer Compilation 1.4
Time To Compile
Seconds, Fewer Is Better
GCC 10.1 default LD=ld.bfd
SE +/- 1.89, N = 6
159.96
GCC 10.1 default LD=ld.lld
SE +/- 2.19, N = 3
133.80
LLVM 10.0 default LD=ld.bfd
SE +/- 1.52, N = 7
143.22
40
80
120
160
200
Timed PHP Compilation 7.4.2
Time To Compile
Seconds, Fewer Is Better
GCC 10.1 default LD=ld.bfd
SE +/- 1.77, N = 3
171.23
LLVM 10.0 default LD=ld.bfd
SE +/- 0.02, N = 3
144.76
40
80
120
160
200

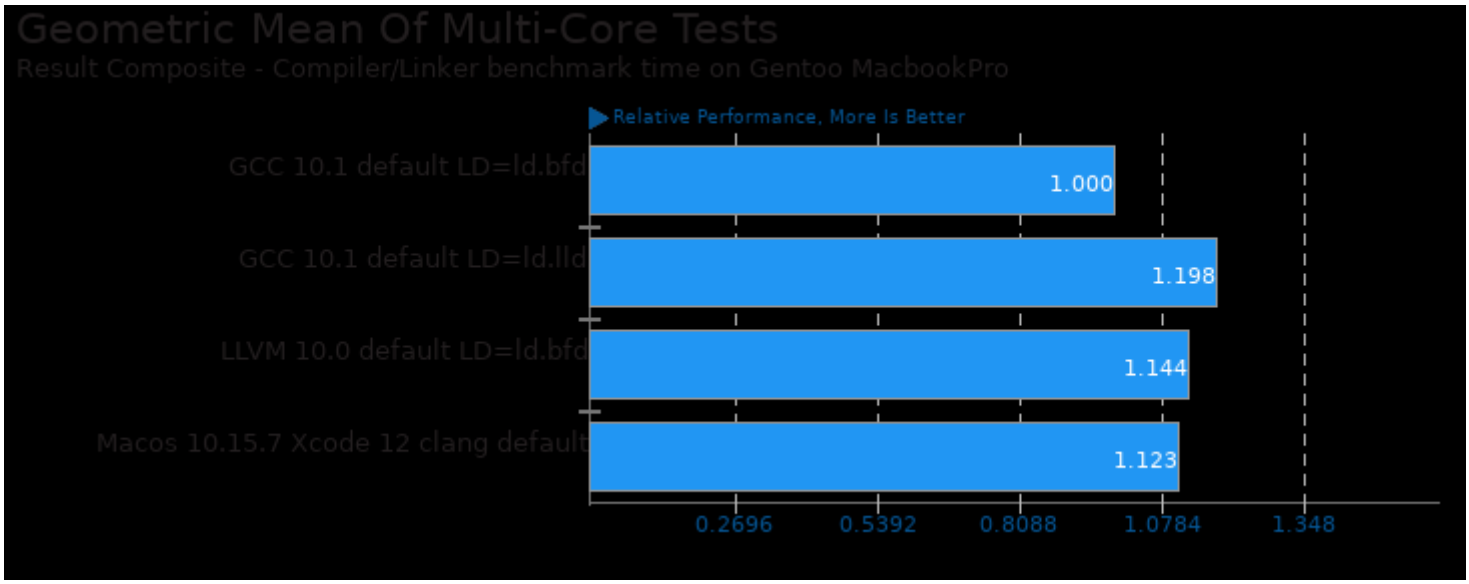
These geometric means are based upon test groupings / test suites for this result file.



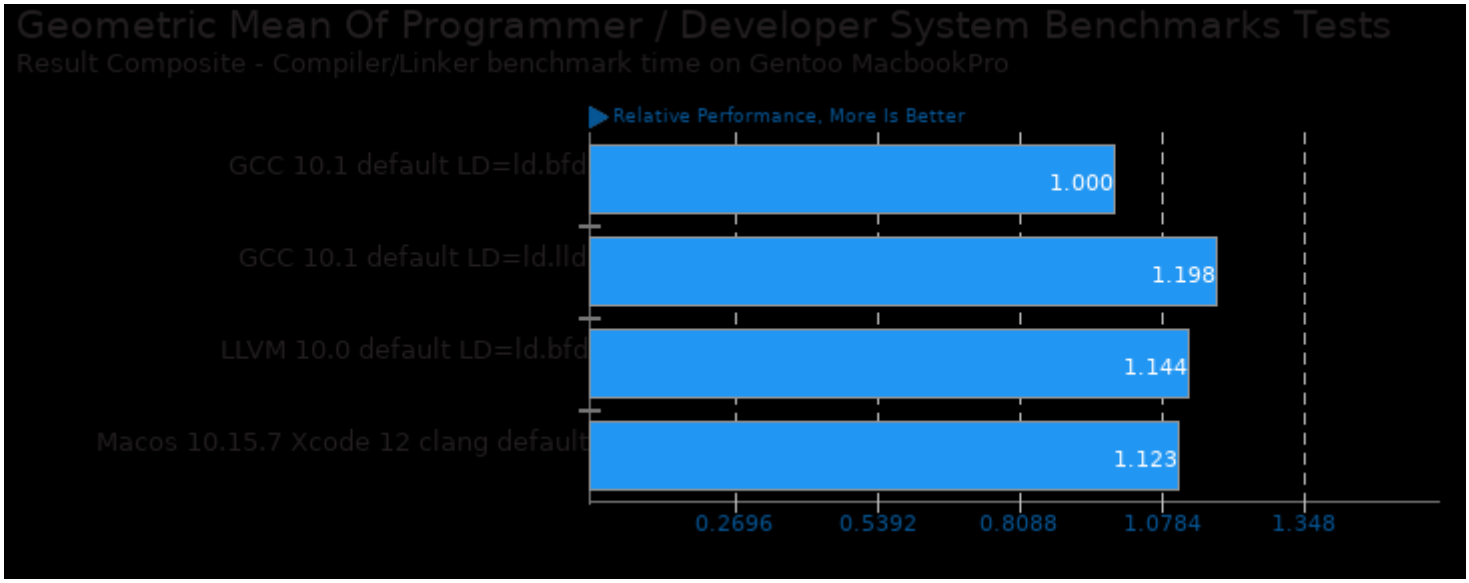
Geometric mean based upon tests: pts/build-apache, pts/build-php, pts/build-linux-kernel, pts/build-imagemagick, pts/build-gcc, pts/build-gdb, pts/build-llvm, pts/build-ffmpeg and pts/build-mplayer



Geometric mean based upon tests: pts/build-php, pts/build-imagemagick, pts/build-llvm, pts/build-gdb, pts/build-ffmpeg, pts/build-apache and pts/build-mplayer



Geometric mean based upon tests: pts/build-apache, pts/build-php, pts/build-linux-kernel, pts/build-imagemagick, pts/build-gcc, pts/build-gdb, pts/build-llvm, pts/build-ffmpeg and pts/build-mplayer



Geometric mean based upon tests: pts/build-apache, pts/build-php, pts/build-linux-kernel, pts/build-imagemagick, pts/build-gcc, pts/build-gdb, pts/build-llvm, pts/build-ffmpeg and pts/build-mplayer

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 02:08.