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Notebook screening (timtaw test suite)

Screening of various notebooks and comparison with a server machine.

Automated Executive Summary

Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi] had the most wins, coming in first place for 62% of the tests.

Based on the geometric mean of all complete results, the fastest (Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi]) was 6.992x the speed of the slowest (Raspberry Pi 2 (Model B) [Ub1404InLi]).

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

John The Ripper (Test: Traditional DES) at 240.284x
PostgreSQL pgbench (Scaling: On-Disk - Test: Heavy Contention - Mode: Read Only) at 121.092x
PostMark (Disk Transaction Performance) at 117.75x
SciMark (Computational Test: Sparse Matrix Multiply) at 36.887x
FLAC Audio Encoding (WAV To FLAC) at 32.67x
Dbench (Client Count: 6) at 29.326x
Dbench (Client Count: 256) at 25.917x
Himeno Benchmark (Poisson Pressure Solver) at 24.605x
C-Ray (Total Time) at 21.09x
SQLite (Test Target: Default Test Directory) at 20.857x.

Test Systems:

Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]

Processor: 2 x Intel Xeon L5420 @ 2.50GHz (8 Cores), Motherboard: Supermicro X7DB8, Memory: 32768MB, Disk: 2 x 500GB Western Digital WD5002ABYS-0, Graphics: radeondrmfb

OS: Ubuntu 14.04, Kernel: 3.13.0-123-generic (x86_64), Compiler: GCC 4.8.4, File-System: ext4, Screen Resolution: 1024x768

Environment Notes: _PMT_DEBUG_LEVEL=0
Disk Notes: DEADLINE / data=ordered,nosuid,relatime,rw
System Notes: Chenbro RM217 (Supermicro X7DBE) Ubuntu 14.04 [Long]

Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]

Processor: Intel Xeon L5420 @ 2.50GHz (4 Cores), Motherboard: Supermicro X7DB8, Memory: 32768MB, Disk: 2 x 500GB Western Digital WD5002ABYS-0, Graphics: radeondrmfb, Monitor: DELL E173FP

OS: Ubuntu 14.04, Kernel: 3.13.0-125-generic (x86_64), Compiler: GCC 4.8.4, File-System: ext4, Screen Resolution: 1280x1024

Environment Notes: _PMT_DEBUG_LEVEL=0
Disk Notes: DEADLINE / data=ordered,nosuid,relatime,rw
System Notes: Chenbro RM217 (Supermicro X7DBE) Ubuntu 14.04 RAID1 [Long]

Intel NUC (DN2820FYKH) [Ub1404LiLi]

Processor: Intel Celeron N2820 @ 2.40GHz (2 Cores), Motherboard: Intel DN2820FYK, Chipset: Intel Atom Z36xxx/Z37xxx, Memory: 1 x 2048 MB DDR3-1066MHz CT256, Disk: 40GB INTEL SSDSA2CT04, Graphics: Intel Atom Z36xxx/Z37xxx & Display (757MHz), Audio: Realtek ALC283, Monitor: DELL S2240T, Network: Realtek RTL8111/8168/8411 + Intel Wireless 7260

OS: Ubuntu 14.04, Kernel: 4.4.0-31-generic (x86_64), Desktop: Unity 7.2.6, Display Driver: intel 2.99.917, Compiler: GCC 4.8.4, File-System: SquashFS, Screen Resolution: 1920x1080

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-libmudflap --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: intel_pstate powersave
System Notes: Intel NUC (DN2820FYKH) Ubuntu 14.04 [Live] [Light]

Lenovo ThinkPad T61 (7661-12G) [Ub1404LiLi]

Processor: Intel Core 2 Duo T7500 @ 2.20GHz (2 Cores), Motherboard: LENOVO 7661V4E, Chipset: Intel Mobile PM965/GM965/GL960 + ICH8M-E, Memory: 2 x 2048 MB DDR2-667MHz, Disk: 1000GB HGST HTS721010A9 + 750GB Western Digital WD7500BPKX-0, Graphics: Intel 965GM, Audio: Analog Devices AD1984, Network: Intel 82566MM Gigabit Connection + Intel PRO/Wireless

OS: Ubuntu 14.04, Kernel: 4.4.0-31-generic (x86_64), Desktop: Unity 7.2.6, Display Server: X Server 1.18.3, Display Driver: intel 2.99.917, OpenGL: 2.1 Mesa 11.2.0, Compiler: GCC 4.8.4, File-System: SquashFS, Screen Resolution: 1280x800

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-libmudflap --disable-werror --enable-checking=release --enable-clocale=gnu

--enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
System Notes: Lenovo ThinkPad T61 (7661-12G) Ubuntu 14.04 [Live] [Light]

Lenovo ThinkPad T61 (7661-CTO) [Ub1404LiLi]

Processor: Intel Core 2 Duo T7300 @ 2.00GHz (2 Cores), Motherboard: LENOVO 766112G, Chipset: Intel Mobile PM965/GM965/GL960 + ICH8M-E, Memory: 2 x 2048 MB DDR2-667MHz, Disk: 2 x 1000GB HGST HTE721010A9, Graphics: Intel 965GM, Audio: Analog Devices AD1984, Network: Intel 82566MM Gigabit Connection + Intel PRO/Wireless

OS: Ubuntu 14.04, Kernel: 4.4.0-31-generic (x86_64), Desktop: Unity 7.2.6, Display Server: X Server 1.18.3, Display Driver: intel 2.99.917, OpenGL: 2.1 Mesa 11.2.0, Compiler: GCC 4.8.4, File-System: SquashFS, Screen Resolution: 1280x800

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-libmudflap --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
System Notes: Lenovo ThinkPad T61 (7661-CTO) Ubuntu 14.04 [Live] [Light]

Lenovo ThinkPad T61 (7659-D44) [Ub1404LiLi]

Processor: Intel Core 2 Duo T7700 @ 2.40GHz (2 Cores), Motherboard: LENOVO 7659D44, Chipset: Intel Mobile PM965/GM965/GL960 + ICH8M-E, Memory: 2 x 2048 MB DDR2-667MHz, Disk: 1000GB HGST HTS721010A9 + 500GB Seagate ST9500423AS, Graphics: Intel 965GM, Audio: Analog Devices AD1984, Network: Intel 82566MM Gigabit Connection + Intel PRO/Wireless

OS: Ubuntu 14.04, Kernel: 4.4.0-31-generic (x86_64), Desktop: Unity 7.2.6, Display Server: X Server 1.18.3, Display Driver: intel 2.99.917, OpenGL: 2.1 Mesa 11.2.0, Compiler: GCC 4.8.4, File-System: SquashFS, Screen Resolution: 1440x900

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-libmudflap --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
System Notes: Lenovo ThinkPad T61 (7659-D44) Ubuntu 14.04 [Live] [Light]

Lenovo ThinkPad T61 (7663-CR9) [Ub1404LiLi]

Processor: Intel Core 2 Duo T7700 @ 2.40GHz (2 Cores), Motherboard: LENOVO 7663CR9, Chipset: Intel Mobile PM965/GM965/GL960 + ICH8M-E, Memory: 2 x 2048 MB DDR2-667MHz, Disk: 2 x 1000GB HGST HTS721010A9 + 3001GB 001-1ER166 + 3001GB DT01ACA300, Graphics: NVIDIA Quadro NVS 140M 128MB, Audio: Analog Devices AD1984, Network: Intel 82566MM Gigabit Connection + Intel PRO/Wireless

OS: Ubuntu 14.04, Kernel: 4.4.0-31-generic (x86_64), Desktop: Unity 7.2.6, Display Server: X Server 1.18.3, Display Driver: nouveau 1.0.12, OpenGL: 3.3 Mesa 11.2.0 Gallium 0.4, Compiler: GCC 4.8.4, File-System: SquashFS, Screen Resolution: 1440x900

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-libmudflap --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
System Notes: Lenovo ThinkPad T61 (7663-CR9) Ubuntu 14.04 [Live] [Light]

Lenovo ThinkPad T400 (6474-B84) [Ub1404LiLi]

Processor: Intel Core 2 Duo P8600 @ 2.40GHz (2 Cores), Motherboard: LENOVO 6474B84, Chipset: Intel Mobile 4 MCH + ICH9M-E, Memory: 2 x 4096 MB DDR3-1066MHz CMSO4GX3M1A1333C9, Disk: 250GB Samsung SSD 850, Graphics: Mobile Intel GM45, Audio: Conexant CX20561 (Hermosa), Monitor: DELL E173FP, Network: Intel 82567LM Gigabit Connection + Intel PRO/Wireless

OS: Ubuntu 14.04, Kernel: 4.4.0-31-generic (x86_64), Desktop: Unity 7.2.6, Display Server: X Server 1.18.3, Display Driver: intel 2.99.917, OpenGL: 2.1 Mesa 11.2.0, Compiler: GCC 4.8.4, File-System: SquashFS, Screen Resolution: 1152x864

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-libmudflap --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
System Notes: Lenovo ThinkPad T400 (6474-B84) Ubuntu 14.04 [Live] [Light]

HP ProBook 4520s (XX772EA#ABD) [Ub1404LiLi]

Processor: Intel Core i5 480M @ 2.67GHz (4 Cores), Motherboard: HP 1411, Chipset: Intel Core DRAM, Memory: 1 x 4096 MB DDR3-1333MHz, Disk: 2 x 500GB Seagate ST500LM021-1KJ15, Graphics: LLVMpipe, Audio: IDT 92HD81B1X5, Monitor: DELL E173FP, Network: Realtek RTL8111/8168/8411 + Ralink RT3090 Wireless 802.11n 1T/1R

OS: Ubuntu 14.04, Kernel: 4.4.0-31-generic (x86_64), Desktop: Unity 7.2.6, Display Server: X Server 1.18.3, Display Driver: radeon 7.7.0, OpenGL: 3.3 Mesa 11.2.0 Gallium 0.4 (LLVM 3.8 128 bits), Compiler: GCC 4.8.4, File-System: SquashFS, Screen Resolution: 1280x1024

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-libmudflap --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
System Notes: HP ProBook 4520s (XX772EA#ABD) Ubuntu 14.04 [Live] [Light]

Lenovo ThinkPad T61 (6464-CTO) [Ub1404LiLi]

Processor: Intel Core 2 Duo T7700 @ 2.40GHz (2 Cores), Motherboard: LENOVO 6464W71, Chipset: Intel Mobile PM965/GM965/GL960 + ICH8M-E, Memory: 2 x 2048 MB DDR2-667MHz, Disk: 120GB Western Digital WD1200BEVS-0, Graphics: Intel 965GM, Audio: Analog Devices AD1984, Network: Intel 82566MM Gigabit Connection + Intel PRO/Wireless

OS: Ubuntu 14.04, Kernel: 4.4.0-31-generic (x86_64), Desktop: Unity 7.2.6, Display Server: X Server 1.18.3, Display Driver: intel 2.99.917, OpenGL: 2.1 Mesa 11.2.0, Compiler: GCC 4.8.4, File-System: SquashFS, Screen Resolution: 1680x1050

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-libmudflap --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
System Notes: Lenovo ThinkPad T61 (6464-CTO) Ubuntu 14.04 [Live] [Light]

Samsung X22 [Ub1404InLo]

Processor: Intel Core 2 Duo T7500 @ 2.20GHz (2 Cores), Motherboard: SAMSUNG SX22S, Memory: 2048MB, Disk: 200GB Hitachi HTS54252, Graphics: radeondrmfb (450/500MHz), Audio: Realtek ALC262

OS: Ubuntu 14.04, Kernel: 3.13.0-125-generic (x86_64), Compiler: GCC 4.8.4, File-System: ext4, Screen Resolution: 1280x800

Environment Notes: _PMT_DEBUG_LEVEL=0
Disk Notes: DEADLINE / data=ordered,nosuid,relatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
System Notes: Samsung X22 Ubuntu 14.04 [Long]

Samsung RV515 [Ub1404lnLo]

Processor: AMD E-350 @ 1.60GHz (2 Cores), Motherboard: SAMSUNG RV415/RV415, Memory: 6144MB, Disk: 320GB Seagate ST9320423AS, Graphics: radeondrmfb (800/800MHz), Audio: Realtek ALC269VB

OS: Ubuntu 14.04, Kernel: 3.13.0-123-generic (x86_64), Compiler: GCC 4.8.4, File-System: ext4, Screen Resolution: 1366x768

Environment Notes: _PMT_DEBUG_LEVEL=0
Disk Notes: DEADLINE / data=ordered,nosuid,relatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
System Notes: Samsung RV515 Ubuntu 14.04 [Long]

Raspberry Pi 2 (Model B) [Ub1404lnLi]

Processor: ARMv7 rev 5 @ 0.90GHz (4 Cores), Motherboard: BCM2709, Memory: 923MB, Disk: 16GB SDMMC, Graphics: BCM2708

OS: Ubuntu 14.04, Kernel: 3.18.0-20-rpi2 (armv7l), Compiler: GCC 4.8.4, File-System: ext4, Screen Resolution: 1680x1050

Compiler Notes: --build=arm-linux-gnueabihf --disable-browser-plugin --disable-libitm --disable-libmudflap --disable-libquadmath --disable-sjlj-exceptions --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabihf --target=arm-linux-gnueabihf --with-arch-directory=arm --with-arch=armv7-a --with-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: BCM2835 Freq ondemand
System Notes: Raspberry Pi 2 (Model B) Ubuntu 14.04 [Light]
Disk Mount Options Notes: data=ordered,relatime,rw

Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi]

Processor: Intel Core i5-2520M @ 3.20GHz (4 Cores), Motherboard: LENOVO 4243F54, Chipset: Intel 2nd Generation Core Family DRAM, Memory: 2 x 4096 MB DDR3-1333MHz Kingston KHX1600C9S3L, Disk: 250GB Samsung SSD 850 + 2000GB Seagate ST2000LM007-1R81, Graphics: Intel Sandybridge Mobile (1300MHz), Audio: Conexant CX20590, Monitor: L1953S, Network: Intel 82579LM Gigabit Connection + Realtek RTL8188CE 802.11b/g/n

OS: Ubuntu 14.04, Kernel: 4.4.0-31-generic (x86_64), Desktop: Unity 7.2.6, Display Server: X Server 1.18.3, Display Driver: intel 2.99.917, OpenGL: 3.3 Mesa 11.2.0, Compiler: GCC 4.8.4, File-System: SquashFS, Screen Resolution: 3200x1080

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-libmudflap --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: intel_pstate powersave
System Notes: Lenovo ThinkPad T520 (4243-F54) Ubuntu 14.04 [Live] [Light]

Lenovo ThinkPad T510 (4384-GEG) [Ub1404lnLo]

Processor: Intel Core i7 620M @ 2.67GHz (4 Cores), Motherboard: LENOVO 4384GEG, Chipset: Intel Core DRAM,

Memory: 2 x 4096 MB DDR3-1334MHz, Disk: 500GB Seagate ST9500420AS, Graphics: Intel Core IGP, Audio: Conexant CX20585, Network: Intel 82577LM Gigabit Connection + Intel Centrino Ultimate-N 6300

OS: Ubuntu 14.04, Kernel: 4.4.0-91-generic (x86_64), Display Driver: intel 2.99.917, Compiler: GCC 4.8.4, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-libmudflap --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Disk Notes: DEADLINE / data=ordered,errors=remount-ro,relatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
System Notes: Lenovo ThinkPad T510 (4384-GEG) Ubuntu 14.04 [Long]

Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404lnLo]

Processor: Intel Core i7 620M @ 2.67GHz (4 Cores), Motherboard: LENOVO 4384GEG, Chipset: Intel Core DRAM, Memory: 2 x 4096 MB DDR3-1334MHz, Disk: 120GB Intenso SSD, Graphics: Intel Core IGP, Audio: Conexant CX20585, Network: Intel 82577LM Gigabit Connection + Intel Centrino Ultimate-N 6300

OS: Ubuntu 14.04, Kernel: 4.4.0-31-generic (x86_64), Desktop: Unity 7.2.6, Display Driver: intel 2.99.917, Compiler: GCC 4.8.4, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-libmudflap --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Disk Notes: DEADLINE / data=ordered,errors=remount-ro,relatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
System Notes: Lenovo ThinkPad T510 (4384-GEG) Ubuntu 14.04 SSD [Long]

Lenovo ThinkPad T61 (7661-A58) [Ub1404LiLi]

Processor: Intel Core 2 Duo T7100 @ 1.80GHz (2 Cores), Motherboard: LENOVO 7661A58, Chipset: Intel Mobile PM965/GM965/GL960 + ICH8M-E, Memory: 2 x 1024 MB DDR2-667MHz, Disk: 1000GB HGST HTS721010A9, Graphics: Intel 965GM, Audio: Analog Devices AD1984, Network: Intel 82566MM Gigabit Connection + Intel PRO/Wireless

OS: Ubuntu 14.04, Kernel: 4.4.0-31-generic (x86_64), Desktop: Unity 7.2.6, Display Server: X Server 1.18.3, Display Driver: intel 2.99.917, OpenGL: 2.1 Mesa 11.2.0, Compiler: GCC 4.8.4, File-System: SquashFS, Screen Resolution: 1280x800

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-libmudflap --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
System Notes: Lenovo ThinkPad T61 (7661-A58) Ubuntu 14.04 [Live] [Light]

Notebook screening (timtaw test suite)

	Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]	Chenbro RM217 (Supermicro X7DBE) RAID 1 [Ub1404InLo]	Intel NUC (DN2820FYKH) [Ub1404LiLi]	Lenovo ThinkPad T61 (7661-12G) [Ub1404LiLi]	Lenovo ThinkPad T61 (7661-CTO) [Ub1404LiLi]	Lenovo ThinkPad T61 (7659-D44) [Ub1404LiLi]	Lenovo ThinkPad T61 (7663-CR9) [Ub1404LiLi]	Lenovo ThinkPad T400 (6474-B84) [Ub1404LiLi]	HP ProBook 4520s (XX772EA#ABD) [Ub1404LiLi]	Lenovo ThinkPad T61 (6464-CTO) [Ub1404LiLi]	Samsung X22 [Ub1404InLo]	Samsung RV515 [Ub1404InLo]	Raspberry Pi 2 (Model B) [Ub1404InLi]	Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi]	Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]	Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]	Lenovo ThinkPad T61 (7661-A58) [Ub1404LiLi]
SQLite - D.T.D (sec)	490.64	405.29									**581.90**	577.92			463.52	**27.90**	
Normalized	5.69%	6.88%									4.79%	4.83%			6.02%	100%	
Standard Deviation	0.3%	5.4%									16.8%	3.4%			10.1%	0.2%	
Flexible IO Tester - Rand Read - POSIX AIO - Yes - No - 4KB	170	**173**									**109**	120			131		
Normalized	98.27%	100%									63.01%	69.36%			75.72%		
Standard Deviation		0.7%									1.1%	1%			0.9%		
Flexible IO Tester - Rand Write - POSIX AIO - Yes - No - 4KB	91.44	89.23									**21.73**	111.31			42.81	**249.21**	
Normalized	36.69%	35.81%									8.72%	44.67%			17.18%	100%	
Standard Deviation	0.5%	0.1%									2.4%	52.2%			33.3%	1.2%	
Flexible IO Tester - Rand Write - POSIX AIO - Yes - No - 4KB	22857	22305									**5430**	27824			10698	**62298**	
Normalized	36.69%	35.8%									8.72%	44.66%			17.17%	100%	
Standard Deviation	0.5%	0.1%									2.4%	52.2%			33.4%	1.2%	

Notebook screening (timtaw test suite)

Flexible IO Tester - Seq Read - POSIX AIO - Yes - No - 4KB (MB/s)	101.63	109.56	44.25	50.75	**15.53**	87.50	**222.46**
Normalized	45.68%	49.25%	19.89%	22.81%	6.98%	39.33%	100%
Standard Deviation	0.2%	1%	11.8%	52.8%	6.6%	44.1%	1.5%
Flexible IO Tester - Seq Read - POSIX AIO - Yes - No - 4KB (IOPS)	25403	27387	11059	12684	**3879**	21871	**55610**
Normalized	45.68%	49.25%	19.89%	22.81%	6.98%	39.33%	100%
Standard Deviation	0.2%	1%	11.8%	52.8%	6.6%	44.1%	1.5%
Flexible IO Tester - Seq Write - POSIX AIO - Yes - No - 4KB (MB/s)	105.86	90.49	47.42	58.26	**7.17**	93.42	**256.22**
Normalized	41.32%	35.32%	18.51%	22.74%	2.8%	36.46%	100%
Standard Deviation	31.5%	1.2%	8.5%	40.7%	50.7%	6.2%	0.2%
Flexible IO Tester - Seq Write - POSIX AIO - Yes - No - 4KB (IOPS)	26463	22618	11852	14563	**1788**	23351	**64052**
Normalized	41.31%	35.31%	18.5%	22.74%	2.79%	36.46%	100%
Standard Deviation	31.5%	1.2%	8.5%	40.7%	50.9%	6.2%	0.2%
FS-Mark - 1.F.1.S (Files/s)	21.00	23.70	**14.23**	14.50		18.47	**65.67**
Normalized	31.98%	36.09%	21.67%	22.08%		28.13%	100%
Standard Deviation	0.5%	0.7%	1.1%	0%		0.3%	39.7%
FS-Mark - 5.F.1.S.4.T (Files/s)	44.00	45.87	25.20	**22.13**		34.40	**51.60**

Notebook screening (timtaw test suite)

Normalized	85.27	88.9%		48.84	42.89		66.67	100%			
Standard Deviation	% 1.8%	% 7.1%		% 2.7%	% 8.1%		% 7.6%	% 2.1%			
FS-Mark - 4.F.3.S.D.1. S (Files/s)	21.67	23.53		**13.17**	15.10		14.37	**43.07**			
Normalized	50.31	54.63		30.58	35.06		33.36	100%			
Standard Deviation	% 1.2%	% 2.2%		% 2.3%	% 0.7%		% 1.1%	% 2.1%			
FS-Mark - 1.F.1.S.N.S. F (Files/s)	**808.10**	790.68		**58.13**	237.20		190.57	289.18			
Normalized	100%	97.84%		7.19%	29.35%		23.58%	35.79%			
Standard Deviation	1%	3.3%		3.4%	2.4%		10.6%	38.8%			
BlogBench - Read (Final	3330 99	2728 58		2176 98	**1715 08**		**6900 03**	3438 22			
Normalized	48.28	39.54		31.55	24.86		100%	49.83			
Standard Deviation	% 2%	% 0.9%		% 12.5%	% 2%		1.1%	% 2.3%			
BlogBench - Write (Final	2869	2690		**632**	1064		1069	**3863**			
Normalized	74.27	69.63		16.36	27.54		27.67	100%			
Standard Deviation	% 1.7%	% 1.3%		% 2.2%	% 1.4%		% 3%	% 3.3%			
Dbench - 6 (MB/s)	29.00	36.18		**18.80**	21.93		25.01	**551.32**			
Normalized	5.26%	6.56%		3.41%	3.98%		4.54%	100%			
Standard Deviation	0.6%	1.4%		3.4%	1.1%		2.2%	0.8%			
Dbench - 256 (MB/s)	102.48			**25.77**	54.20		59.24	**667.89**			
Normalized	15.34			3.86%	8.12%		8.87%	100%			
Standard Deviation	% 2.7%			% 2.7%	% 2.4%		% 2.2%	% 3.1%			
PostMark - D.T.P (TPS)	2038	2094		578	886	**32**	3589	**3768**			
Normalized	54.09	55.57		15.34	23.51	0.85%	95.25	100%			
Standard Deviation	% 1.3%	% 0.5%		% 1.9%	% 0.6%		% 1.6%	% 0.9%			

RAMspeed SMP - Add - Integer (MB/s)	4276	3764	**2736**	2901	6647	**6662**
Normalized	64.18 %	56.49 %	41.08 %	43.54 %	99.78 %	100%
RAMspeed SMP - Copy - Integer (MB/s)	5304	3948	**2810**	3152	**6951**	6948
Normalized	76.3%	56.8%	40.42 %	45.35 %	100%	99.96 %
RAMspeed SMP - Scale - Integer (MB/s)	3794	3953	**2801**	3144	**6952**	6934
Normalized	54.57 %	56.86 %	40.29 %	45.22 %	100%	99.73 %
RAMspeed SMP - Triad - Integer (MB/s)	5289	3727	**2733**	2886	**6686**	6658
Normalized	79.1%	55.74 %	40.87 %	43.16 %	100%	99.58 %
RAMspeed SMP - Average - Integer (MB/s)	5304	3853	**2773**	3038	**6823**	6807
Normalized	77.74 %	56.47 %	40.65 %	44.53 %	100%	99.77 %
RAMspeed SMP - Add - Floating Point	5486	4094	3235	**3230**	**7305**	7265
Normalized	75.1%	56.04 %	44.29 %	44.22 %	100%	99.46 %
RAMspeed SMP - Copy - Floating Point	4041	3935	**2816**	3180	**6938**	6930
Normalized	58.25 %	56.71 %	40.59 %	45.82 %	100%	99.88 %
RAMspeed SMP - Scale - Floating Point	4195	3934	**2816**	3129	**6957**	6909
Normalized	60.29 %	56.55 %	40.48 %	44.97 %	100%	99.31 %

Notebook screening (timtaw test suite)

RAMspeed SMP - Triad - Floating Point	3911	4083								3234	3227		7327	7246		
Normalized	53.38%	55.73%								44.14%	44.05%		100%	98.9%		
RAMspeed SMP - Average - Floating Point	5300	3731								3027	3187		7106	7111		
Normalized	74.53%	52.46%								42.56%	44.81%		99.93%	100%		
Stream - Copy	5486	3920		2909	2800	2874	2945	3573	4511	2860		3100	10135	7103	7087	
Normalized	54.14%	38.68%		28.7%	27.63%	28.36%	29.06%	35.26%	44.51%	28.22%		30.59%	100%	70.08%	69.92%	
Standard Deviation	0%	0.4%		0.2%	1%	0.4%	0.2%	0.6%	0.1%	0.3%		1%	0.1%	0.3%	0.1%	
Stream - Scale (MB/s)	5483	3910		2967	2868	2955	3001	3715	4435	2939		3254	10130	7088	7083	
Normalized	54.12%	38.6%		29.29%	28.31%	29.17%	29.63%	36.67%	43.78%	29.01%		32.13%	100%	69.97%	69.92%	
Standard Deviation	0%	0.4%		0.3%	0.8%	0.4%	0.1%	0.3%	0.2%	0.2%		0.6%	0.1%	0.1%	0.2%	
Stream - Triad	5788	4218		3494	3333	3462	3528	4418	4841	3435		3450	11222	7540	7523	
Normalized	51.58%	37.59%		31.14%	29.7%	30.85%	31.44%	39.37%	43.14%	30.61%		30.74%	100%	67.2%	67.04%	
Standard Deviation	0%	0.6%		0.3%	0.7%	0.4%	0.2%	0.3%	0.3%	0.2%		0.8%	0.3%	0.1%	0.1%	
Stream - Add (MB/s)	5785	4203		3521	3355	3492	3558	4445	4831	3471		3555	11252	7561	7554	
Normalized	51.41%	37.36%		31.29%	29.81%	31.03%	31.62%	39.5%	42.93%	30.85%		31.59%	100%	67.19%	67.13%	
Standard Deviation	0%	0.8%		0.2%	0.6%	0.8%	0.2%	0.4%	0.4%	0.5%		1.3%	0.6%	0.1%	0.2%	
Loopback TCP Network Performance - T.T.T.1.V.L (sec)	23.84	23.22	42.40	24.47	30.20	23.02	25.20	22.50	17.81	22.92	22.62	74.55	170.82	14.11	16.70	16.77	31.51
Normalized	59.19%	60.77%	33.28%	57.66%	46.72%	61.29%	55.99%	62.71%	79.23%	61.56%	62.38%	18.93%	8.26%	100%	84.49%	84.14%	44.78%
Standard Deviation	1.3%	0.4%	0.8%	1.9%	3.6%	2%	3.2%	2.9%	1.6%	2.6%	0.4%	0.8%	0.1%	3.2%	1%	0.4%	1.2%

Notebook screening (timtaw test suite)

CLOMP - Static OMP Speedup (Speedup)	2.84	2.67								1.69	1.71	3.24	2.89	2.68	2.63	
Normalized	87.65%	82.41%								52.16%	52.78%	100%	89.2%	82.72%	81.17%	
Standard Deviation	0.6%	0.5%								0%	0%	1.8%	0.3%	2%	1.9%	
FFTE - N.6.1.C.F.R (MFLOPS)	3281	3312		3114	2468	3414	3099	2920	3910	3428	2911	1123	335.17	4703	4486	4497	2644
Normalized	69.78%	70.42%		66.21%	52.48%	72.59%	65.9%	62.09%	83.14%	72.89%	61.91%	23.87%	7.13%	100%	95.4%	95.62%	56.23%
Standard Deviation	0.9%	0.1%		2.8%	4.3%	0.8%	9.3%	1.5%	1.6%	0.3%	1%	0.3%	0.4%	0.2%	0.3%	0.2%	0.1%
BLAKE2 - P.T.S.v.2.1 (Cycles/Byte)	6.92	6.91	12.65	8.91	9.55	8.94	8.94	6.55	6.02	8.95	9.69	15.86		3.95	5.32	5.46	8.71
Normalized	57.08%	57.16%	31.23%	44.33%	41.36%	44.18%	44.18%	60.31%	65.61%	44.13%	40.76%	24.91%		100%	74.25%	72.34%	45.35%
Standard Deviation	0.2%	0%	0%	0.5%	3.7%	0%	0%	0.1%	0.9%	0.1%	0.2%	0%		0%	0.5%	6.8%	0.9%
CacheBench - Read (MB/s)	2112	2110	1909	2008	1637	2178	2104	2122	2229	2177	1849	809.12	1658	2500	2533	2532	1676
Normalized	83.36%	83.3%	75.37%	79.26%	64.61%	85.97%	83.04%	83.75%	87.98%	85.93%	73.01%	31.94%	65.46%	98.68%	100%	99.93%	66.15%
Standard Deviation	0%	0.1%	0.4%	0.1%	0.1%	0.1%	1%	0.1%	0.1%	0.1%	0.1%	0%	0.4%	11.9%	0%	0%	0%
CacheBench - Write (MB/s)	16864	16863	8458	16140	12734	17487	14684	15199	10863	17469	14853	5702	2239	20881	12341	12336	13449
Normalized	80.76%	80.76%	40.51%	77.3%	60.98%	83.75%	70.32%	72.79%	52.02%	83.66%	71.13%	27.31%	10.72%	100%	59.1%	59.08%	64.41%
Standard Deviation	0%	0%	0.1%	0%	0.3%	0%	0.7%	1.1%	0.1%	0%	0%	0%	0.1%	3.2%	0%	0%	0%
CacheBench - R.M.W (MB/s)	15966	15966	11289	15220	12369	16482	12128	12894	21405	16471	13982	3995	1917	18036	24332	24323	12365
Normalized	65.62%	65.62%	46.39%	62.55%	50.83%	67.74%	49.84%	52.99%	87.97%	67.69%	57.46%	16.42%	7.88%	74.12%	100%	99.96%	50.82%
Standard Deviation	0%	0%	0%	0%	0%	0%	1.6%	0.5%	0.1%	0.1%	0%	0%	0.3%	0.1%	0%	0%	2.7%
SciMark - Composite (Mflops)	531.82	521.32	347.94	479.26	414.63	496.72	435.49	451.23	597.67	498.39	467.64	248.45	60.17	866.14	708.87	707.62	378.96
Normalized	61.4%	60.19%	40.17%	55.33%	47.87%	57.35%	50.28%	52.1%	69%	57.54%	53.99%	28.68%	6.95%	100%	81.84%	81.7%	43.75%
Standard Deviation	1.3%	0.8%	0%	0.6%	0.6%	0.9%	1.9%	1.7%	0.2%	1%	0.4%	0.9%	0.7%	0.2%	0.1%	0.2%	0.5%

Notebook screening (timtaw test suite)

SciMark - Monte Carlo	325.02	324.50	177.40	309.34	252.42	335.03	236.81	254.23	375.58	334.87	284.76	125.13	37.07	432.55	426.70	426.75	244.56
Normalized	75.14%	75.02%	41.01%	71.52%	58.36%	77.45%	54.75%	58.77%	86.83%	77.42%	65.83%	28.93%	8.57%	100%	98.65%	98.66%	56.54%
Standard Deviation	0.2%	0.1%	0%	0%	0%	0.1%	1.6%	3.7%	0.1%	0.2%	0%	0%	0.4%	0.1%	0%	0%	3.6%
SciMark - F.F.T (Mflops)	46.65	41.36	48.71	63.93	58.06	64.25	65.06	71.24	89.53	63.95	63.59	60.01	15.61	155.44	110.17	110.14	52.39
Normalized	30.01%	26.61%	31.34%	41.13%	37.35%	41.33%	41.86%	45.83%	57.6%	41.14%	40.91%	38.61%	10.04%	100%	70.88%	70.86%	33.7%
Standard Deviation	5.6%	4%	0.2%	0.1%	10.8%	0.2%	0.5%	0.1%	0.6%	0.2%	0.3%	0.6%	0.5%	2.7%	0.2%	0.4%	0.1%
SciMark - S.M.M (Mflops)	527.06	600.46	489.23	592.85	521.04	583.81	514.55	590.43	853.90	583.06	593.78	331.41	37.10	1369	910.41	911.40	533.29
Normalized	38.51%	43.88%	35.75%	43.32%	38.07%	42.66%	37.6%	43.14%	62.4%	42.61%	43.39%	24.22%	2.71%	100%	66.53%	66.6%	38.97%
Standard Deviation	0.4%	0.8%	0.2%	1.2%	0.5%	2.1%	1.5%	3.2%	0.4%	2.2%	0.6%	1.5%	0.5%	0.2%	0.2%	0.2%	0.2%
SciMark - D.L.M.F (Mflops)	1023	903.37	403.32	729.91	667.68	743.07	645.28	605.02	857.72	753.92	747.70	353.32	80.58	1431	1176	1169	482.06
Normalized	71.48%	63.12%	28.18%	51%	46.65%	51.92%	45.09%	42.27%	59.93%	52.68%	52.24%	24.69%	5.63%	100%	82.17%	81.69%	33.68%
Standard Deviation	3.5%	2%	0%	1%	1.3%	1.5%	1.2%	1.6%	0.2%	2%	0.9%	3.1%	0.9%	0.2%	0.1%	0.8%	0.2%
SciMark - J.S.O.R (Mflops)	737.36	736.91	621.03	700.29	573.96	757.46	715.74	735.24	811.58	756.15	648.34	372.36	130.52	942.99	921.14	920.71	582.47
Normalized	78.19%	78.15%	65.86%	74.26%	60.87%	80.33%	75.9%	77.97%	86.06%	80.19%	68.75%	39.49%	13.84%	100%	97.68%	97.64%	61.77%
Standard Deviation	0.1%	0%	0%	0.2%	0.1%	0.1%	3.4%	0%	0.1%	0.1%	0.1%	0.3%	0.9%	0.2%	0%	0.1%	0.1%
Gcrypt Library - C.E.C (us)	4140	4147									4727	7503			3160	3157	
Normalized	76.26%	76.13%									66.79%	42.08%			99.91%	100%	
Standard Deviation	0.2%	0.5%									0.3%	0.5%			0.3%	0.2%	
John The Ripper - Blowfish (Real C/S)	5551	2778	1038	1216	858	1327	959	962	1881	1324	1216	811	388	2024	1877	1876	995
Normalized	100%	50.05%	18.7%	21.91%	15.46%	23.91%	17.28%	17.33%	33.89%	23.85%	21.91%	14.61%	6.99%	36.46%	33.81%	33.8%	17.92%
Standard Deviation	0.1%		0.1%		3.5%		2.7%	3.3%	0.3%					2.7%		0.3%	0.1%

Notebook screening (timtaw test suite)

John The Ripper - Traditional DES (Real C/S)	21650667	10847667	3441333	4553333	3474333	4913250	3614333	3525667	3164667	5190000	4784000	1325333	31845633 3	3379000	3380000	3386667	3876667
Normalized	6.8%	3.41%	1.08%	1.43%	1.09%	1.54%	1.13%	1.11%	0.99%	1.63%	1.5%	0.42%	100%	1.06%	1.06%	1.06%	1.22%
Standard Deviation	0%	0.2%	0%	7.1%	0.3%	3.3%	5.5%	9.5%	1.7%	0.1%	0%	0.1%	0.3%	3.3%	0.3%	0.3%	0.4%
John The Ripper - MD5 (Real C/S)	860116	42983	12391	15952	13087	20541	14988	14910	25327	20541	18843	10825	6027	28451	25481	25498	14545
Normalized	100%	49.97%	14.41%	18.55%	15.21%	23.88%	17.42%	17.33%	29.44%	23.88%	21.91%	12.58%	7.01%	33.08%	29.62%	29.64%	16.91%
Standard Deviation		0.1%	0.9%	27.7%	0.2%		1.4%	1.1%	0.1%		0.1%	0.1%	0.2%	0.2%	0.1%		14.5%
x264 - H.2.V.E (FPS)	102.59	55.53									28.00	10.75			47.72	48.24	
Normalized	100%	54.13%									27.29%	10.48%			46.52%	47.02%	
Standard Deviation	0.4%	0.8%									1.4%	0.3%			3.4%	0.8%	
GraphicsMagick - Blur (Iterations/min)	73	60									38	25			76	76	
Normalized	96.05%	78.95%									50%	32.89%			100%	100%	
GraphicsMagick - Sharpen (Iterations/min)	55	36									19	16			43	43	
Normalized	100%	65.45%									34.55%	29.09%			78.18%	78.18%	
GraphicsMagick - Resizing (Iterations/min)	93	78									51	34			94	94	
Normalized	98.94%	82.98%									54.26%	36.17%			100%	100%	

Notebook screening (timtaw test suite)

GraphicsMagick - HWB Color Space (Iterations/	110	101									67	46			121	120	
Normalized	90.91%	83.47%									55.37%	38.02%			100%	99.17%	
GraphicsMagick - L.A.T (Iterations/	51	51									36	17			70	70	
Normalized	72.86%	72.86%									51.43%	24.29%			100%	100%	
Himeno Benchmark - P.P.S (MFLOPS)	800.73	849.01	595.10	846.36	706.43	916.67	746.50	774.89	1089	912.23	793.13	243.33	53.71	1322	1226	1225	721.69
Normalized	60.59%	64.24%	45.03%	64.04%	53.46%	69.36%	56.49%	58.64%	82.43%	69.03%	60.02%	18.41%	4.06%	100%	92.79%	92.71%	54.61%
Standard Deviation	0.5%	1.2%	0.1%	0.2%	0.1%	0.2%	2.2%	3.3%	0.2%	1%	0.7%	1.1%	3.2%	0.7%	0.1%	0.1%	1.1%
7-Zip Compression - C.S.T (MIPS)	16464	8656									3608	2033			7541	7463	
Normalized	100%	52.58%									21.91%	12.35%			45.8%	45.33%	
Standard Deviation	0.3%	1.1%									0.4%	0.3%			1.5%	1.9%	
ebizzy - P.T.S.v.2.1 (Records/s)	24035	15808									8123	2345	2940	15092	17635	18135	
Normalized	100%	65.77%									33.8%	9.76%	12.23%	62.79%	73.37%	75.45%	
Standard Deviation	0.1%	0.1%									0.1%		0.2%	1.5%	1.2%	2%	
C-Ray - Total Time (sec)	23.10	45.99	250.84	110.85	138.62	102.97	148.14	131.64	71.94	101.63	112.50	297.79	487.19	74.90	71.57	71.51	137.10
Normalized	100%	50.23%	9.21%	20.84%	16.66%	22.43%	15.59%	17.55%	32.11%	22.73%	20.53%	7.76%	4.74%	30.84%	32.28%	32.3%	16.85%
Standard Deviation	0.2%	0.1%	0%	0%	0.8%	0%	0.9%	0.5%	0.3%	0.1%	1.4%	0%	0.1%	0.1%	0.2%	0.2%	1.2%
Primesieve - 1.P.N.G (sec)	87.12	173.75									398.43	681.76			261.04	261.02	
Normalized	100%	50.14%									21.87%	12.78%			33.37%	33.38%	
Standard Deviation	0.1%	0.1%									0.9%	0.2%			0.1%	0.1%	

Notebook screening (timtaw test suite)

Smallpt - G.I.R.1.S (sec)	117	232	777	607	753	557	726	667	304	557	606	1026	2197	248	305	305	742
Normalized	100%	50.43%	15.06%	19.28%	15.54%	21.01%	16.12%	17.54%	38.49%	21.01%	19.31%	11.4%	5.33%	47.18%	38.36%	38.36%	15.77%
Standard Deviation					0.3%	0.1%	0.3%	1.1%	0.2%	0.1%		1.5%	0.1%	0.2%	0.2%	0.2%	
Gzip Compression - 2.F.C (sec)	20.53	20.53									43.19	40.21			17.16	16.75	
Normalized	81.59%	81.59%									38.78%	41.66%			97.61%	100%	
Standard Deviation	0.3%	0.1%									4%	1.3%			6.1%	0.2%	
FLAC Audio Encoding - WAV To	23.02	23.03	25.88	26.24	33.93	24.23	27.75	27.52	11.94	24.25	28.52	54.34	329.97	10.10	10.37	10.34	31.49
Normalized	43.87%	43.86%	39.03%	38.49%	29.77%	41.68%	36.4%	36.7%	84.59%	41.65%	35.41%	18.59%	3.06%	100%	97.4%	97.68%	32.07%
Standard Deviation	0%	0.2%	0.1%	0%	1.2%	0%	4.1%	1.1%	0.5%	0%	0.5%	0.2%	0.3%	0.7%	0.5%	0.3%	0.1%
LAME MP3 Encoding - WAV To MP3 (sec)	26.66	26.65	42.65	30.12	37.12	27.82	34.62	31.61	21.70	27.84	32.73	57.27	161.01	17.00	18.98	18.98	36.18
Normalized	63.77%	63.79%	39.86%	56.44%	45.8%	61.11%	49.1%	53.78%	78.34%	61.06%	51.94%	29.68%	10.56%	100%	89.57%	89.57%	46.99%
Standard Deviation	0.2%	0.1%	0.1%	0%	0.7%	0.1%	3.3%	1.4%	0.4%	0.1%	0.1%	0.1%	0.4%	0.1%	0.2%	0.2%	0.1%
GnuPG - 1.F.E (sec)	14.43	14.34									16.56	33.77			11.78	10.87	
Normalized	75.33%	75.8%									65.64%	32.19%			92.28%	100%	
Standard Deviation	0.3%	0.3%									5.6%	3.4%			21.5%	0.1%	
Hierarchical INTegration - FLOAT	1968	1938	1111	1772	1441	1925	1733	1843	2278	1913	1626	8146	3358	2575	2585	2591	1478
Normalized	75.94%	74.78%	42.89%	68.4%	55.64%	74.28%	66.88%	71.15%	87.9%	73.82%	62.75%	31.43%	12.96%	99.38%	99.77%	100%	57.06%
Standard Deviation	0.9%	0.6%	0.1%	0.3%	0.2%	0.1%	1.3%	2.2%	0.2%	0.3%	0.7%	0%	0.4%	0.1%	0.8%	0.2%	0.5%
Apache Benchmark - S.W.P.S (Reqs/sec)	13579	15877									7738	3193			16734	15621	
Normalized	81.15%	94.88%									46.24%	19.08%			100%	93.35%	
Standard Deviation	0.1%	0.5%									0.5%	0.5%			0.5%	0.4%	

Notebook screening (timtaw test suite)

Stockfish - Total Time (ms)	14125	60400	4527	4508	4496
Normalized	31.83%	7.44%	99.32%	99.73%	100%
Standard Deviation	0.4%	0.9%	0.8%	0.2%	0.1%
Flexible IO Tester - Rand Read - POSIX AIO - Yes - No - 4KB		5.66			18.28
Normalized		30.96%			100%
Standard Deviation		0.3%			0.7%
Flexible IO Tester - Rand Read - POSIX AIO - Yes - No - 4KB		1411			4568
Normalized		30.89%			100%
Standard Deviation		0.3%			0.7%
Flexible IO Tester - Rand Write - POSIX AIO - Yes - No - 4KB		878			
Standard Deviation		44.7%			
Flexible IO Tester - Rand Write - POSIX AIO - Yes - No - 4KB		4.07			
Standard Deviation		23.2%			
NAS Parallel Benchmarks - BT.A				1219	1273
Normalized				95.74%	100%
Standard Deviation				4.7%	0.2%

Notebook screening (timtaw test suite)

NAS Parallel Benchmarks - EP.C	**82.07**	**80.44**
Normalized	100%	98.01%
Standard Deviation	0.6%	0.8%
NAS Parallel Benchmarks - FT.A	**1858**	**1861**
Normalized	99.84%	100%
Standard Deviation	0.1%	0.2%
NAS Parallel Benchmarks - LU.A	**3720**	**3715**
Normalized	100%	99.86%
Standard Deviation	0.3%	0.3%
NAS Parallel Benchmarks - SP.A	**895.44**	**896.69**
Normalized	99.86%	100%
Standard Deviation	0.5%	0.5%
HPC Challenge - G-HPL (GFLOPS)	**14.52927**	**14.53073**
Normalized	99.99%	100%
Standard Deviation	0.1%	0.2%
High Performance Conjugate Gradient - P.T.S.v.2.1	**0.62**	**0.61**
Normalized	100%	98.39%
Standard Deviation	0.1%	1.1%

Notebook screening (timtaw test suite)

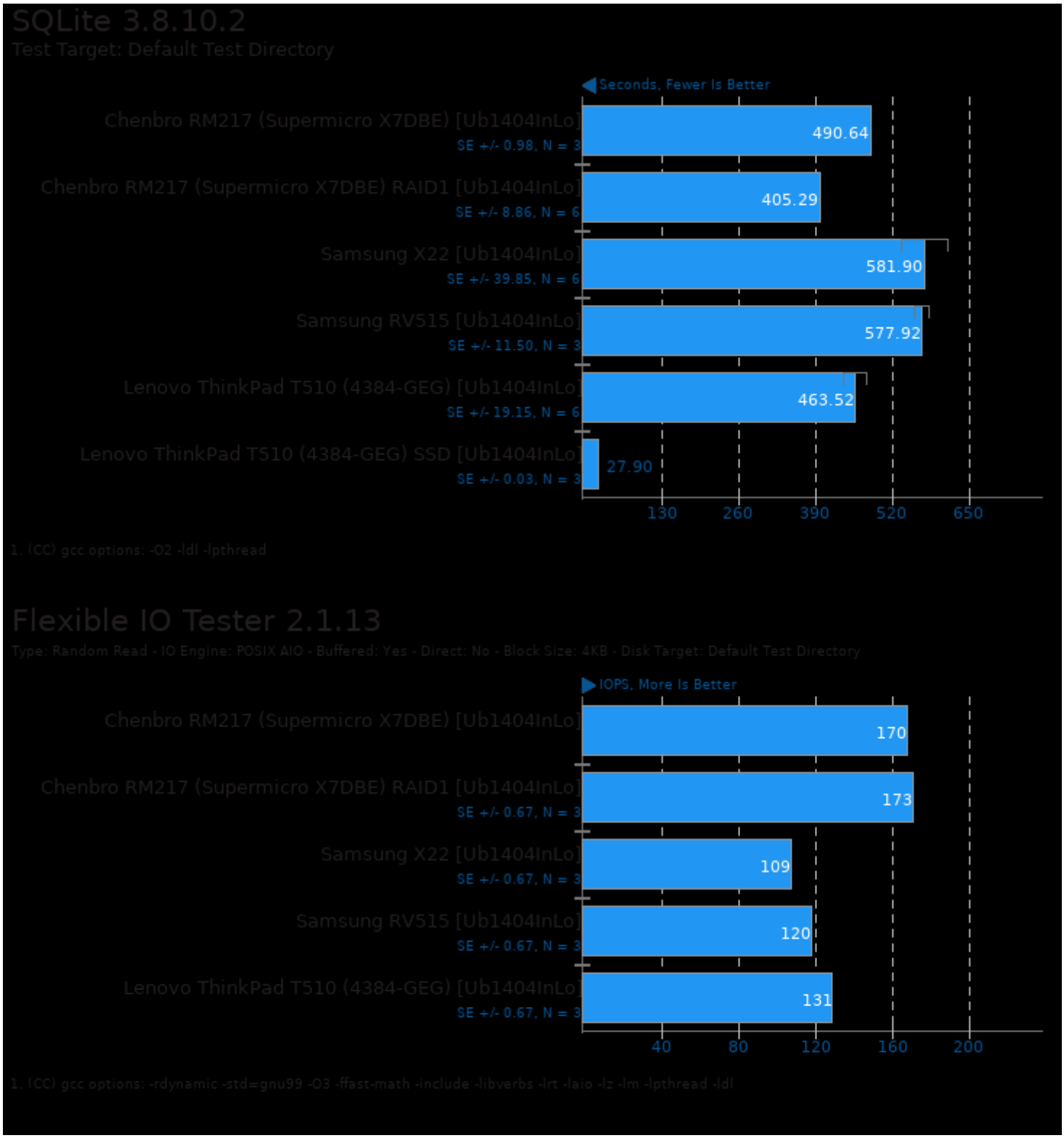
PostgreSQL pgbench - On-Disk - Normal Load - Read Only	118.08	14996
Normalized	0.79%	100%
Standard Deviation	6.2%	0.1%
PostgreSQL pgbench - On-Disk - Normal Load - Read Write	62.77	1028
Normalized	6.11%	100%
Standard Deviation	1.5%	5%
PostgreSQL pgbench - Mostly RAM - Normal Load -	28472	27973
Normalized	100%	98.25%
Standard Deviation	0.2%	0.3%
PostgreSQL pgbench - Buffer Test - Normal Load - Read Only	31005	30669
Normalized	100%	98.92%
Standard Deviation	0.1%	0.2%
PostgreSQL pgbench - Mostly RAM - Normal Load -	207.37	1228
Normalized	16.89%	100%
Standard Deviation	0.5%	2.5%

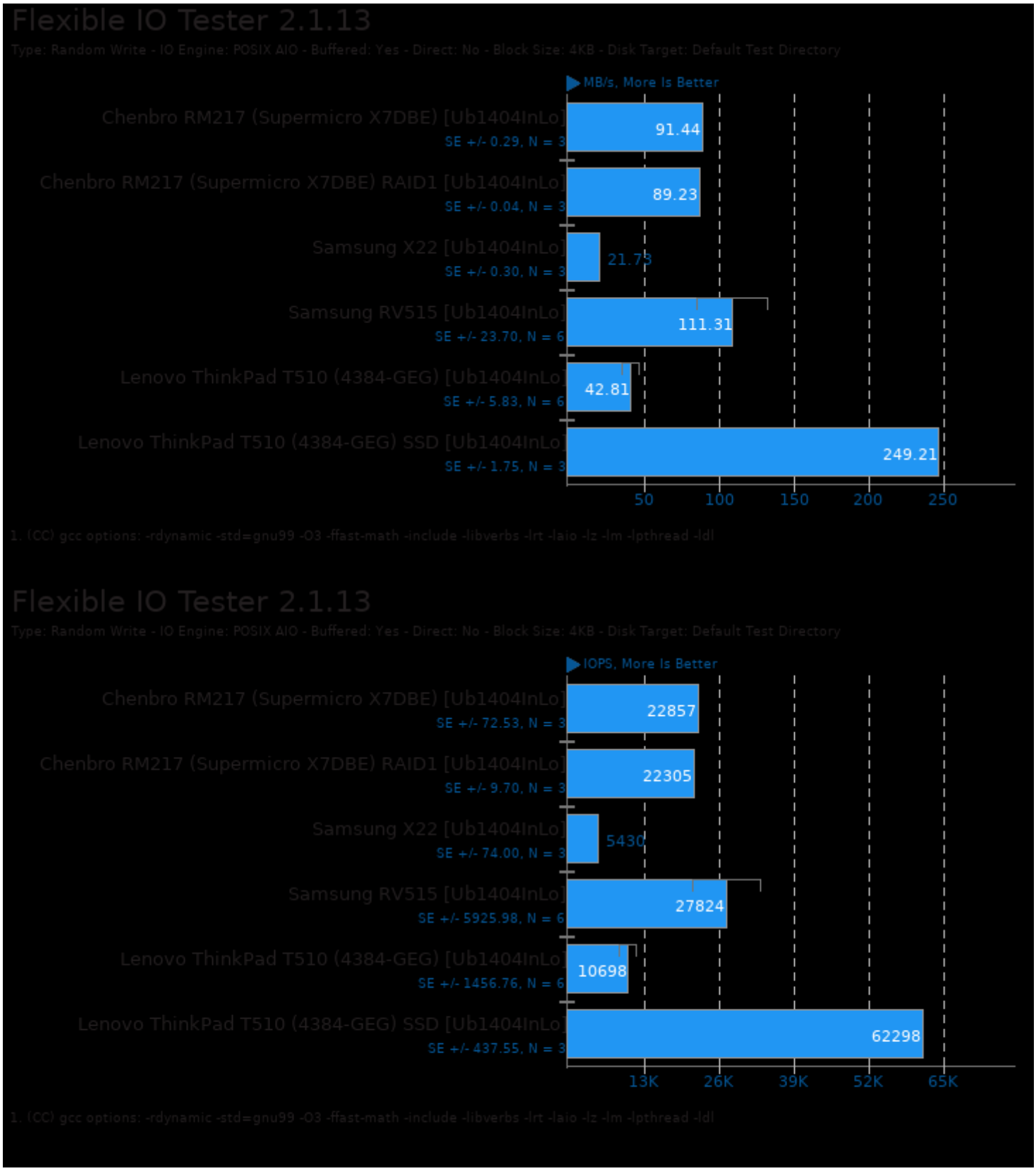
Notebook screening (timtaw test suite)

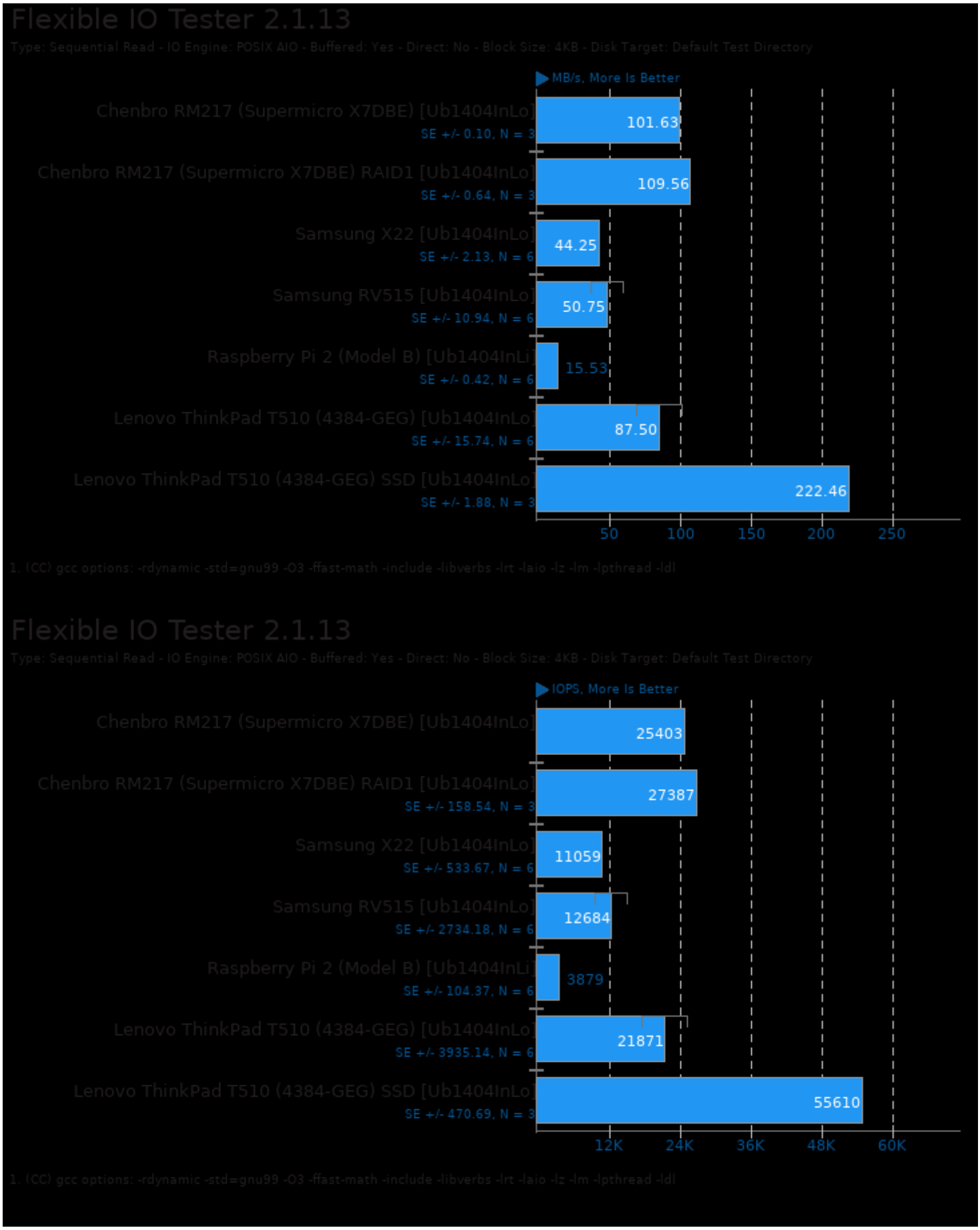
PostgreSQL pgbench - Buffer Test - Normal Load - Read Write	**307.56**	**2549**
Normalized	12.06%	100%
Standard Deviation	0.7%	1.2%
PostgreSQL pgbench - On-Disk - Heavy Contention - Read Only (TPS)	**127.16**	**15398**
Normalized	0.83%	100%
Standard Deviation	4.4%	0.6%
PostgreSQL pgbench - On-Disk - Heavy Contention - Read Write (TPS)	**92.96**	**1089**
Normalized	8.53%	100%
Standard Deviation	15.9%	4.4%
PostgreSQL pgbench - Mostly RAM - Heavy Contention - Read Only	**20749**	**20701**
Normalized	100%	99.77%
Standard Deviation	2%	0.5%

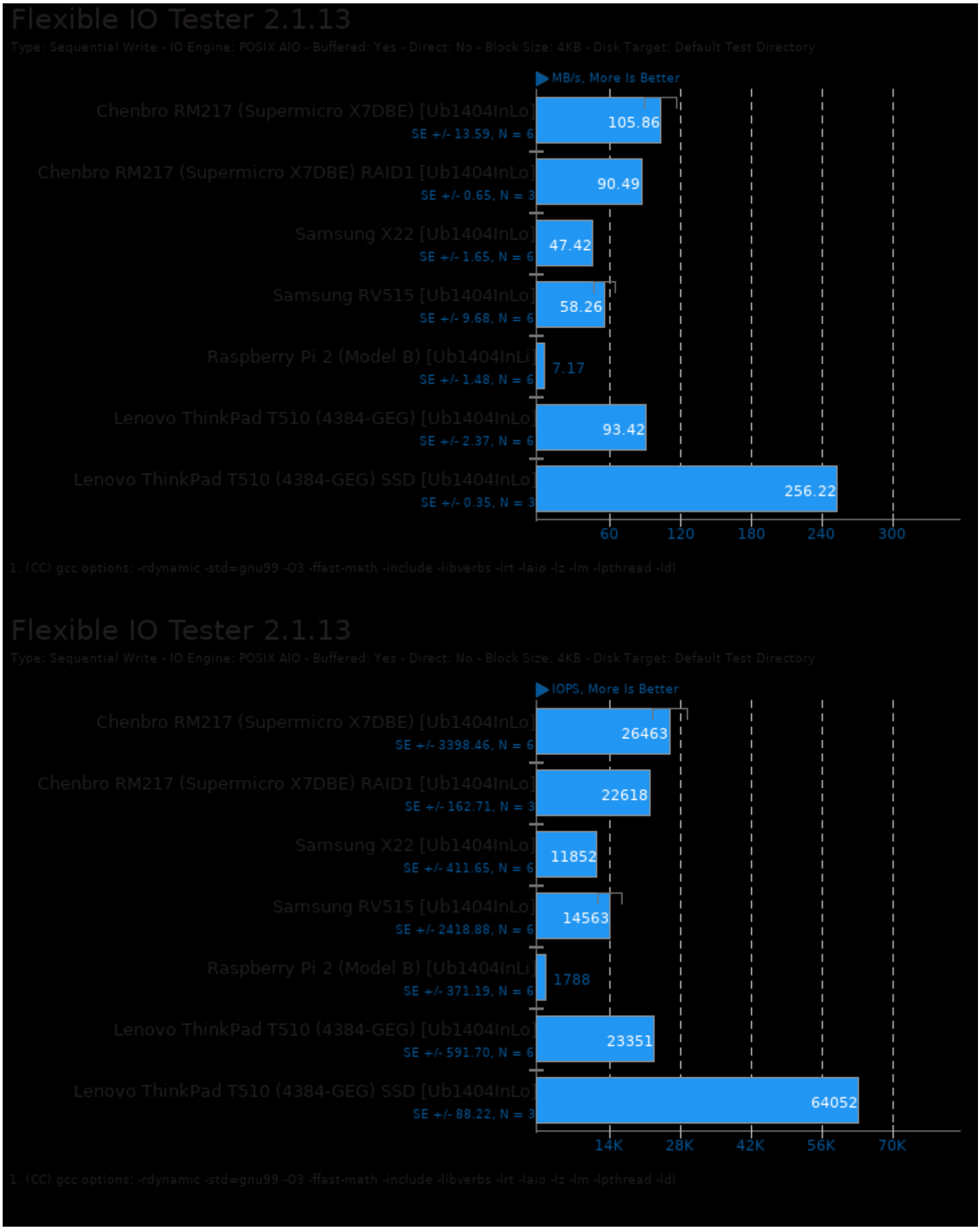
Notebook screening (timtaw test suite)

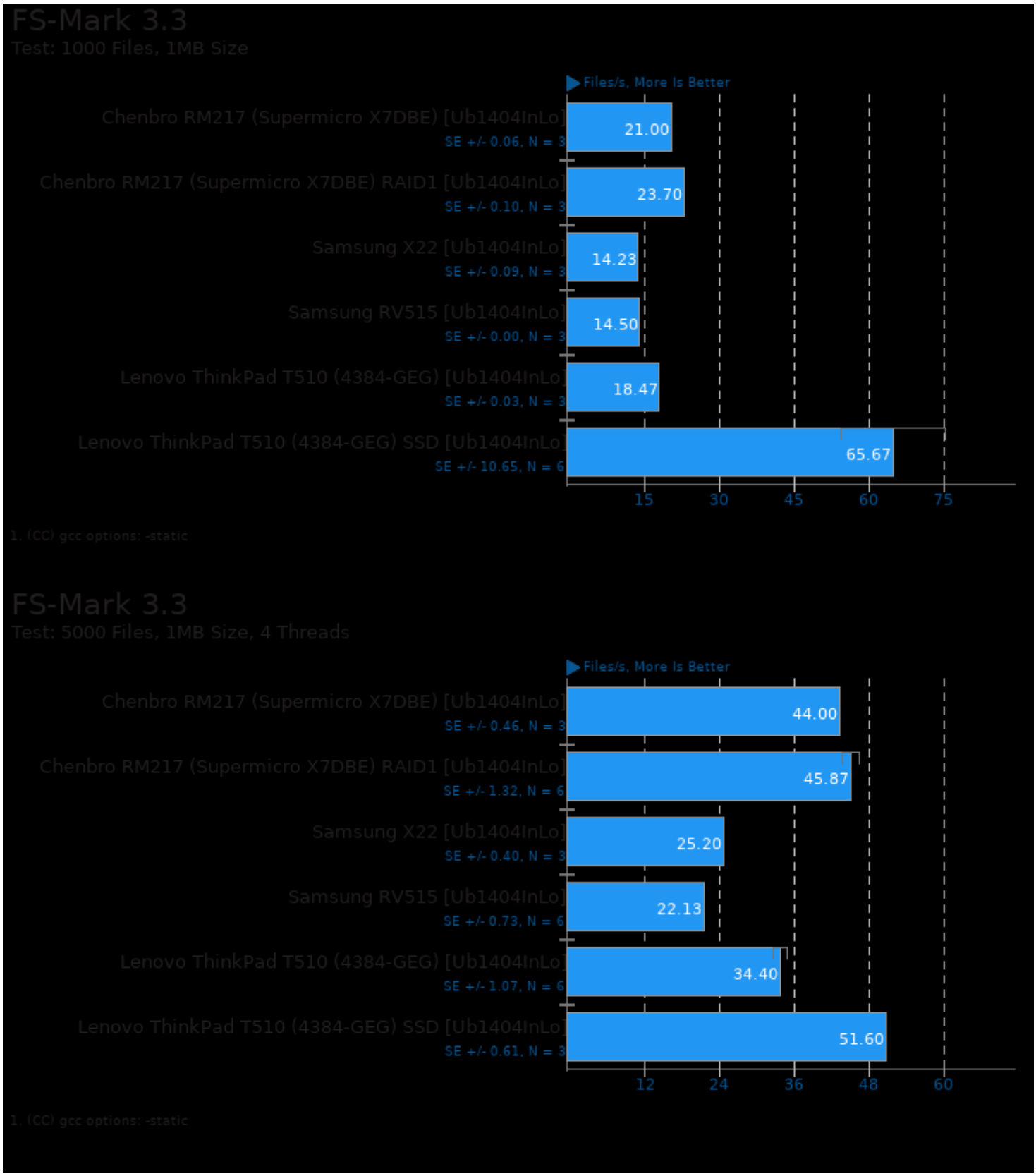
PostgreSQL pgbench - Buffer Test - Heavy Contention - Read Only (TPS)	**22318**	**22341**
Normalized	99.89	100%
Standard Deviation	2.4%	4.6%
PostgreSQL pgbench - Mostly RAM - Heavy Contention - Read	**232.57**	**13657**
Normalized	17.04	100%
Standard Deviation	2%	2.6%
PostgreSQL pgbench - Buffer Test - Heavy Contention - Read Write (TPS)	**354.82**	**2518**
Normalized	14.09	100%
Standard Deviation	0.4%	3.6%
NGINX Benchmark - S.W.P.S (Reqs/sec)	**19091**	**19313**
Normalized	98.85	100%
Standard Deviation	1.6%	2.1%


SQLite 3.8.10.2
Test Target: Default Test Directory
Seconds, Fewer Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.98, N = 3
490.64
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 8.86, N = 6
405.29
Samsung X22 [Ub1404InLo]
SE +/- 39.85, N = 6
581.90
Samsung RV515 [Ub1404InLo]
SE +/- 11.50, N = 3
577.92
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 19.15, N = 6
463.52
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 0.03, N = 3
27.90
130
260
390
520
650
1. (CC) gcc options: -O2 -ldl -lpthread
Flexible IO Tester 2.1.13
Type: Random Read - IO Engine: POSIX AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.67, N = 3
170
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.67, N = 3
173
Samsung X22 [Ub1404InLo]
SE +/- 0.67, N = 3
109
Samsung RV515 [Ub1404InLo]
SE +/- 0.67, N = 3
120
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.67, N = 3
131
40
80
120
160
200
1. (CC) gcc options: -rdynamic -std=gnu99 -O3 -ffast-math -include -libverbs -lrt -laio -lz -lm -lpthread -ldl

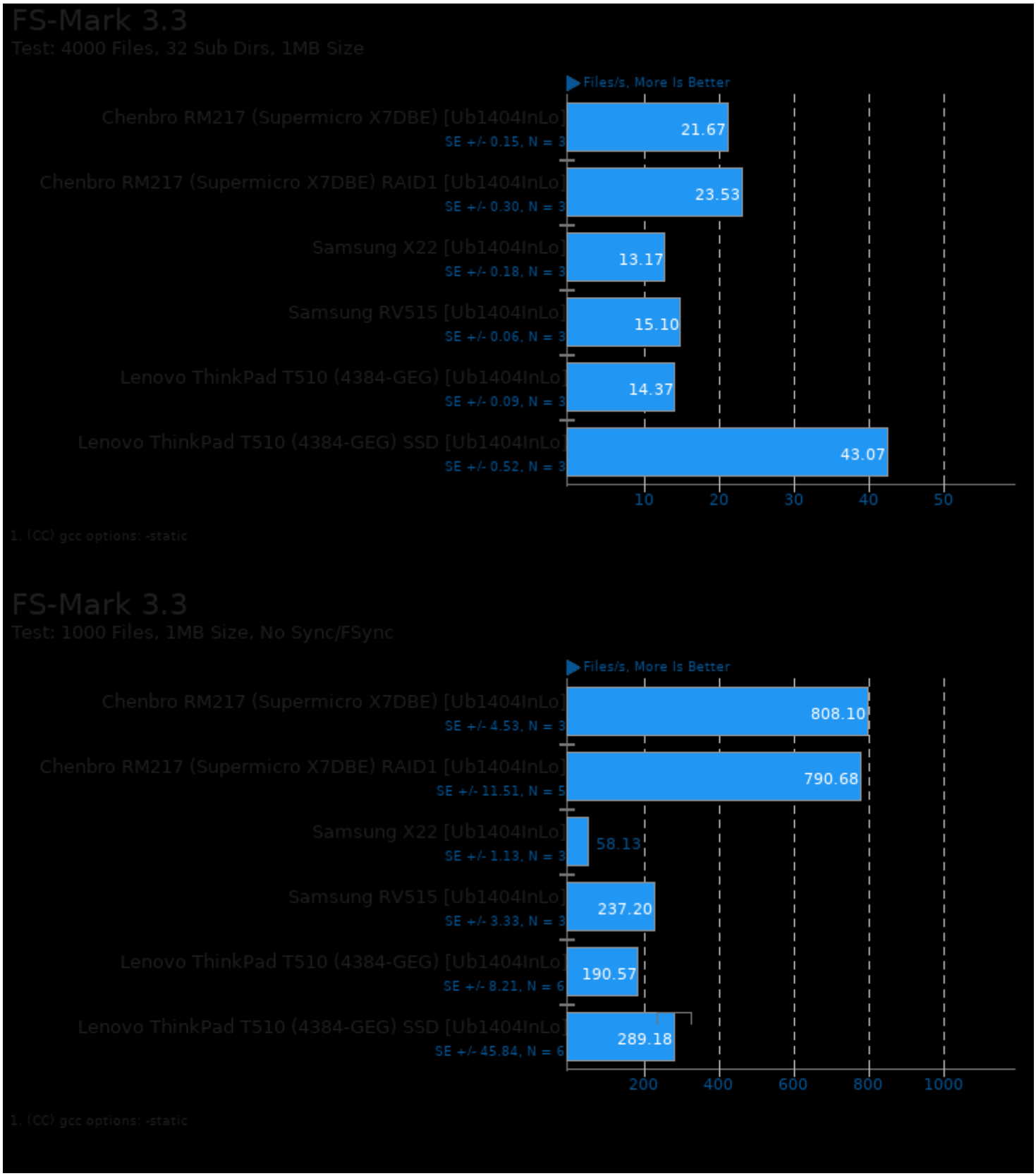

Flexible IO Tester 2.1.13
Type: Random Write - IO Engine: POSIX AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.29, N = 3
91.44
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.04, N = 3
89.23
Samsung X22 [Ub1404InLo]
SE +/- 0.30, N = 3
21.73
Samsung RV515 [Ub1404InLo]
SE +/- 23.70, N = 6
111.31
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 5.83, N = 6
42.81
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 1.75, N = 3
249.21
50
100
150
200
250
1. (CC) gcc options: -rdynamic -std=gnu99 -O3 -ffast-math -include -libverbs -lrt -laio -lz -lm -lpthread -ldl
Flexible IO Tester 2.1.13
Type: Random Write - IO Engine: POSIX AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 72.53, N = 3
22857
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 9.70, N = 3
22305
Samsung X22 [Ub1404InLo]
SE +/- 74.00, N = 3
5430
Samsung RV515 [Ub1404InLo]
SE +/- 5925.98, N = 6
27824
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 1456.76, N = 6
10698
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 437.55, N = 3
62298
13K
26K
39K
52K
65K
1. (CC) gcc options: -rdynamic -std=gnu99 -O3 -ffast-math -include -libverbs -lrt -laio -lz -lm -lpthread -ldl


Flexible IO Tester 2.1.13
Type: Sequential Read - IO Engine: POSIX AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.10, N = 3
101.63
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.64, N = 3
109.56
Samsung X22 [Ub1404InLo]
SE +/- 2.13, N = 6
44.25
Samsung RV515 [Ub1404InLo]
SE +/- 10.94, N = 6
50.75
Raspberry Pi 2 (Model B) [Ub1404InLi]
SE +/- 0.42, N = 6
15.53
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 15.74, N = 6
87.50
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 1.88, N = 3
222.46
50
100
150
200
250
1. (CC) gcc options: -rdynamic -std=gnu99 -O3 -ffast-math -include -libverbs -lrt -laio -lz -lm -lpthread -ldl
Flexible IO Tester 2.1.13
Type: Sequential Read - IO Engine: POSIX AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
25403
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 158.54, N = 3
27387
Samsung X22 [Ub1404InLo]
SE +/- 533.67, N = 6
11059
Samsung RV515 [Ub1404InLo]
SE +/- 2734.18, N = 6
12684
Raspberry Pi 2 (Model B) [Ub1404InLi]
SE +/- 104.37, N = 6
3879
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 3935.14, N = 6
21871
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 470.69, N = 3
55610
12K
24K
36K
48K
60K
1. (CC) gcc options: -rdynamic -std=gnu99 -O3 -ffast-math -include -libverbs -lrt -laio -lz -lm -lpthread -ldl

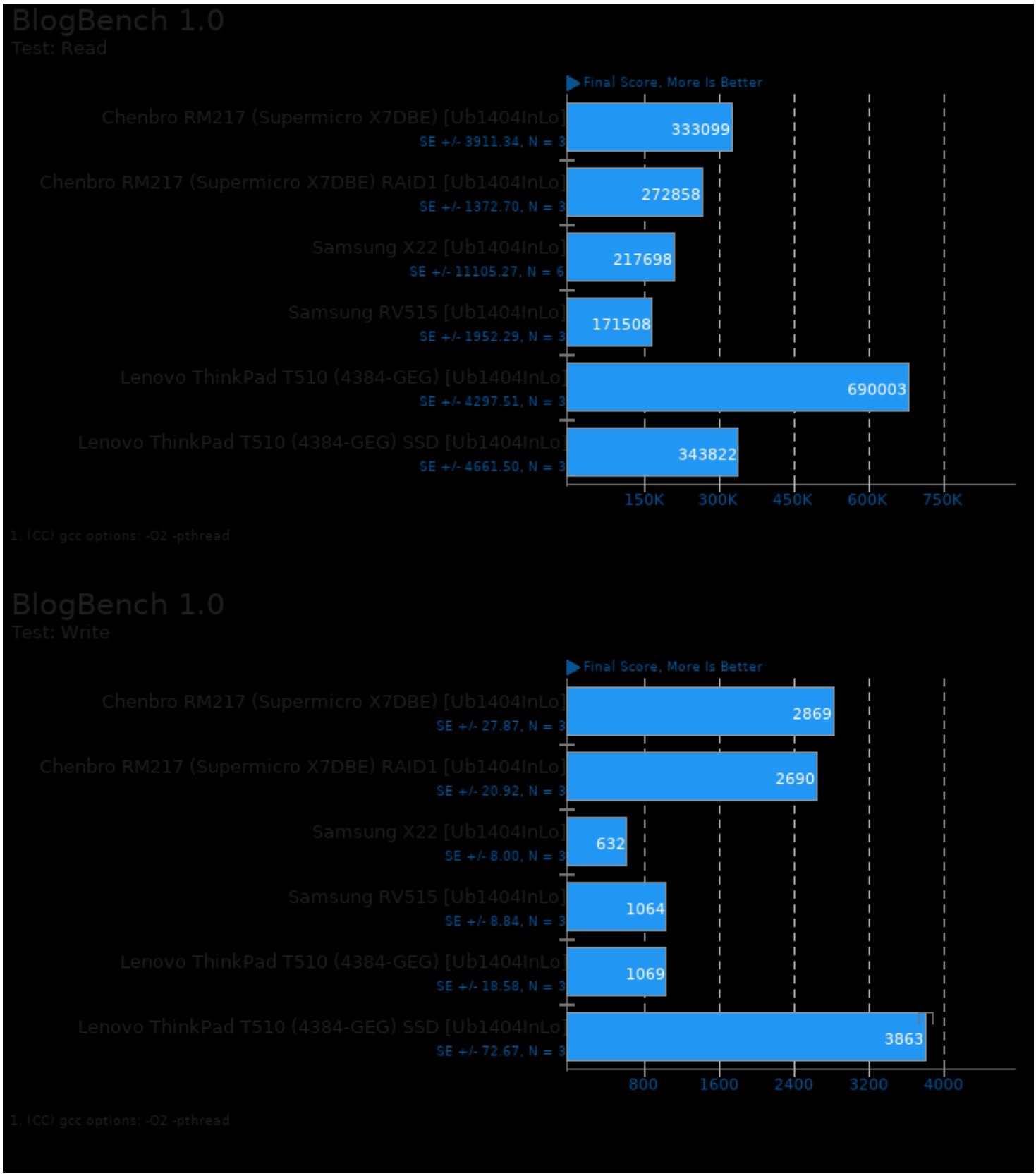

Flexible IO Tester 2.1.13
Type: Sequential Write - IO Engine: POSIX AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 13.59, N = 6
105.86
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.65, N = 3
90.49
Samsung X22 [Ub1404InLo]
SE +/- 1.65, N = 6
47.42
Samsung RV515 [Ub1404InLo]
SE +/- 9.68, N = 6
58.26
Raspberry Pi 2 (Model B) [Ub1404InLi]
SE +/- 1.48, N = 6
7.17
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 2.37, N = 6
93.42
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 0.35, N = 3
256.22
60
120
180
240
300
1. (CC) gcc options: -rdynamic -std=gnu99 -O3 -ffast-math -include -libverbs -lrt -laio -lz -lm -lpthread -ldl
Flexible IO Tester 2.1.13
Type: Sequential Write - IO Engine: POSIX AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 3398.46, N = 6
26463
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 162.71, N = 3
22618
Samsung X22 [Ub1404InLo]
SE +/- 411.65, N = 6
11852
Samsung RV515 [Ub1404InLo]
SE +/- 2418.88, N = 6
14563
Raspberry Pi 2 (Model B) [Ub1404InLi]
SE +/- 371.19, N = 6
1788
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 591.70, N = 6
23351
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 88.22, N = 3
64052
14K
28K
42K
56K
70K
1. (CC) gcc options: -rdynamic -std=gnu99 -O3 -ffast-math -include -libverbs -lrt -laio -lz -lm -lpthread -ldl

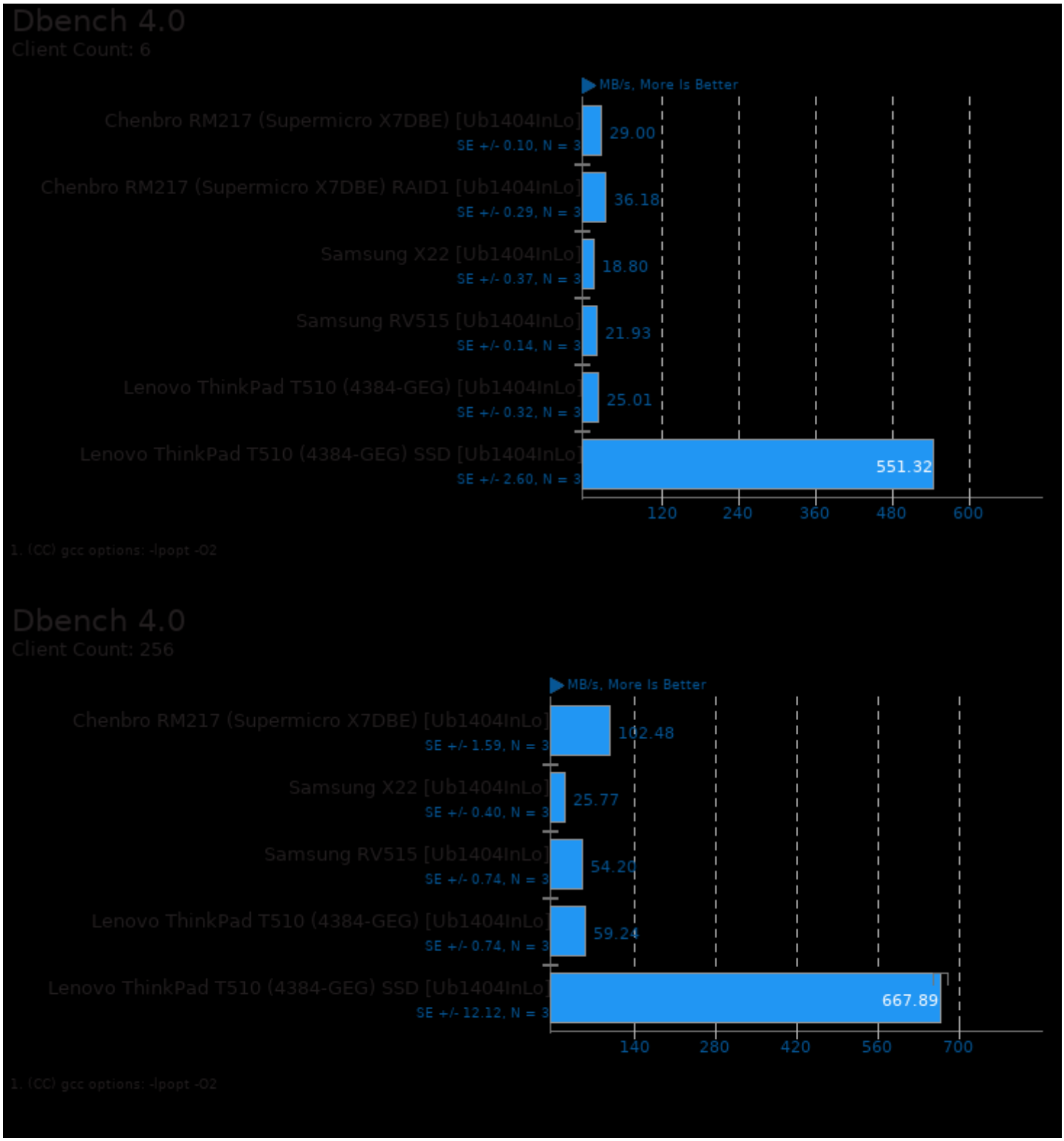

FS-Mark 3.3
Test: 1000 Files, 1MB Size
Files/s, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.06, N = 3
21.00
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.10, N = 3
23.70
Samsung X22 [Ub1404InLo]
SE +/- 0.09, N = 3
14.23
Samsung RV515 [Ub1404InLo]
SE +/- 0.00, N = 3
14.50
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.03, N = 3
18.47
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 10.65, N = 6
65.67
15
30
45
60
75
1. (CC) gcc options: -static
FS-Mark 3.3
Test: 5000 Files, 1MB Size, 4 Threads
Files/s, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.46, N = 3
44.00
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 1.32, N = 6
45.87
Samsung X22 [Ub1404InLo]
SE +/- 0.40, N = 3
25.20
Samsung RV515 [Ub1404InLo]
SE +/- 0.73, N = 6
22.13
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 1.07, N = 6
34.40
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 0.61, N = 3
51.60
12
24
36
48
60
1. (CC) gcc options: -static

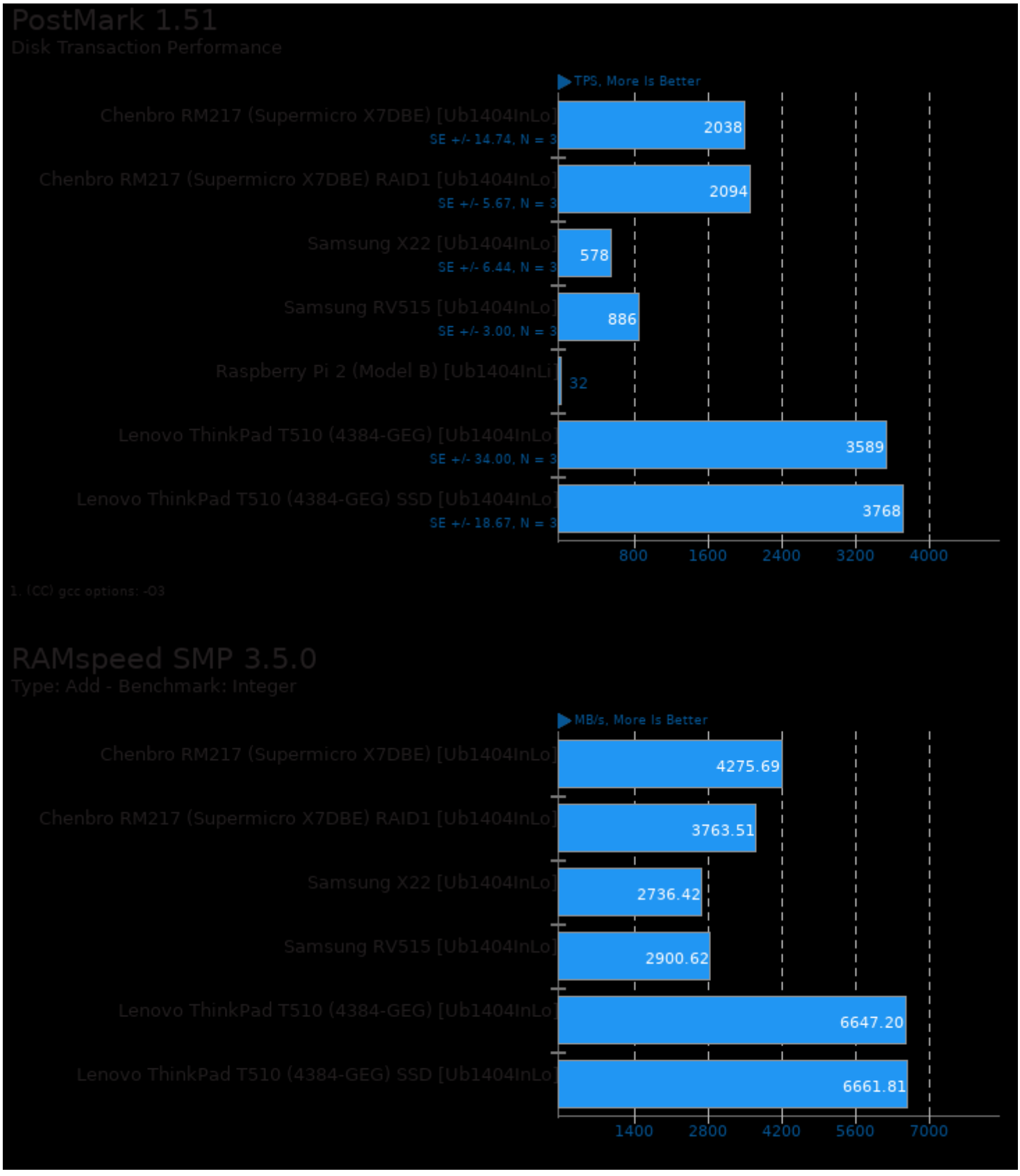
Notebook screening (timtaw test suite)



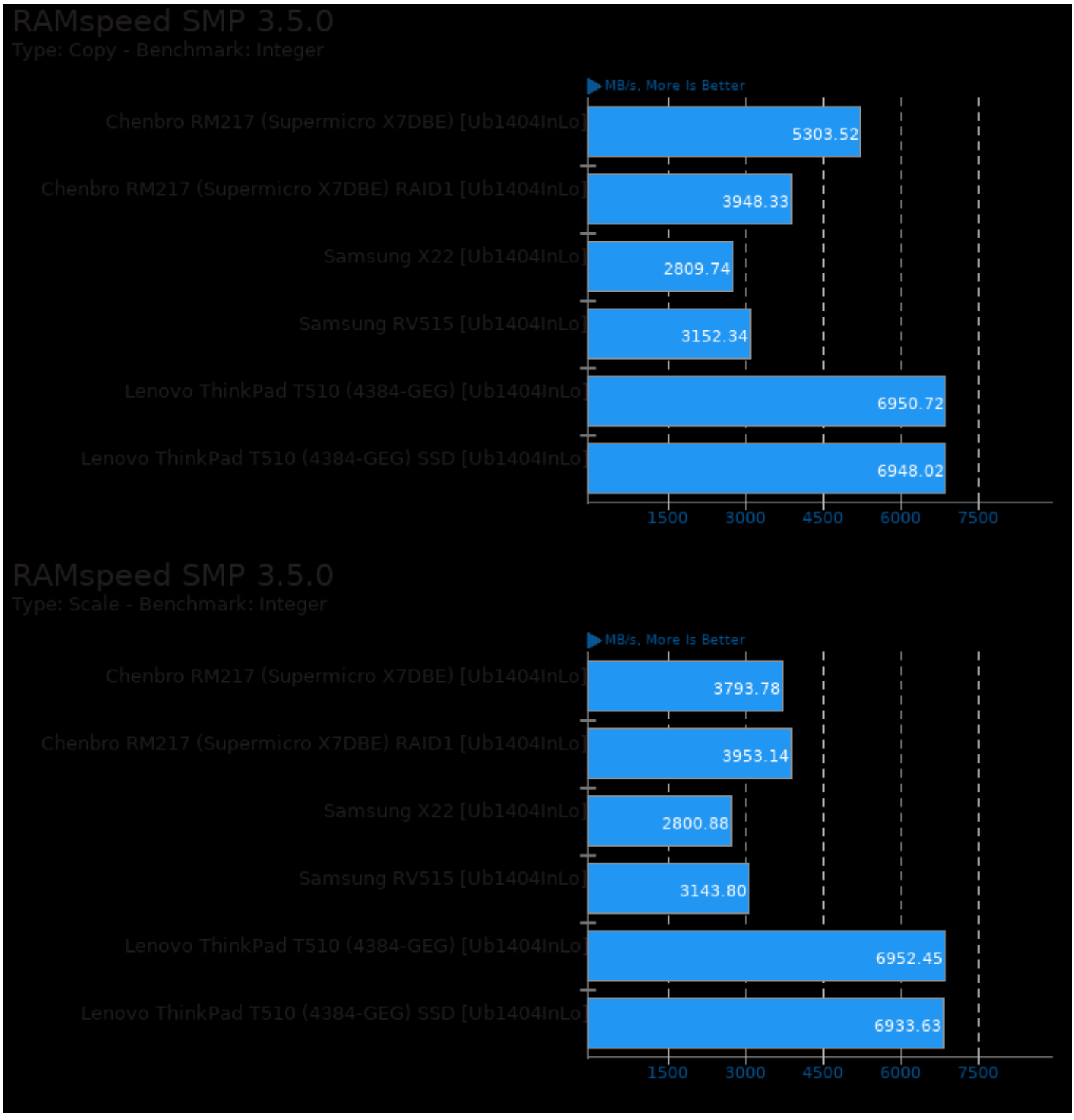
Notebook screening (timtaw test suite)

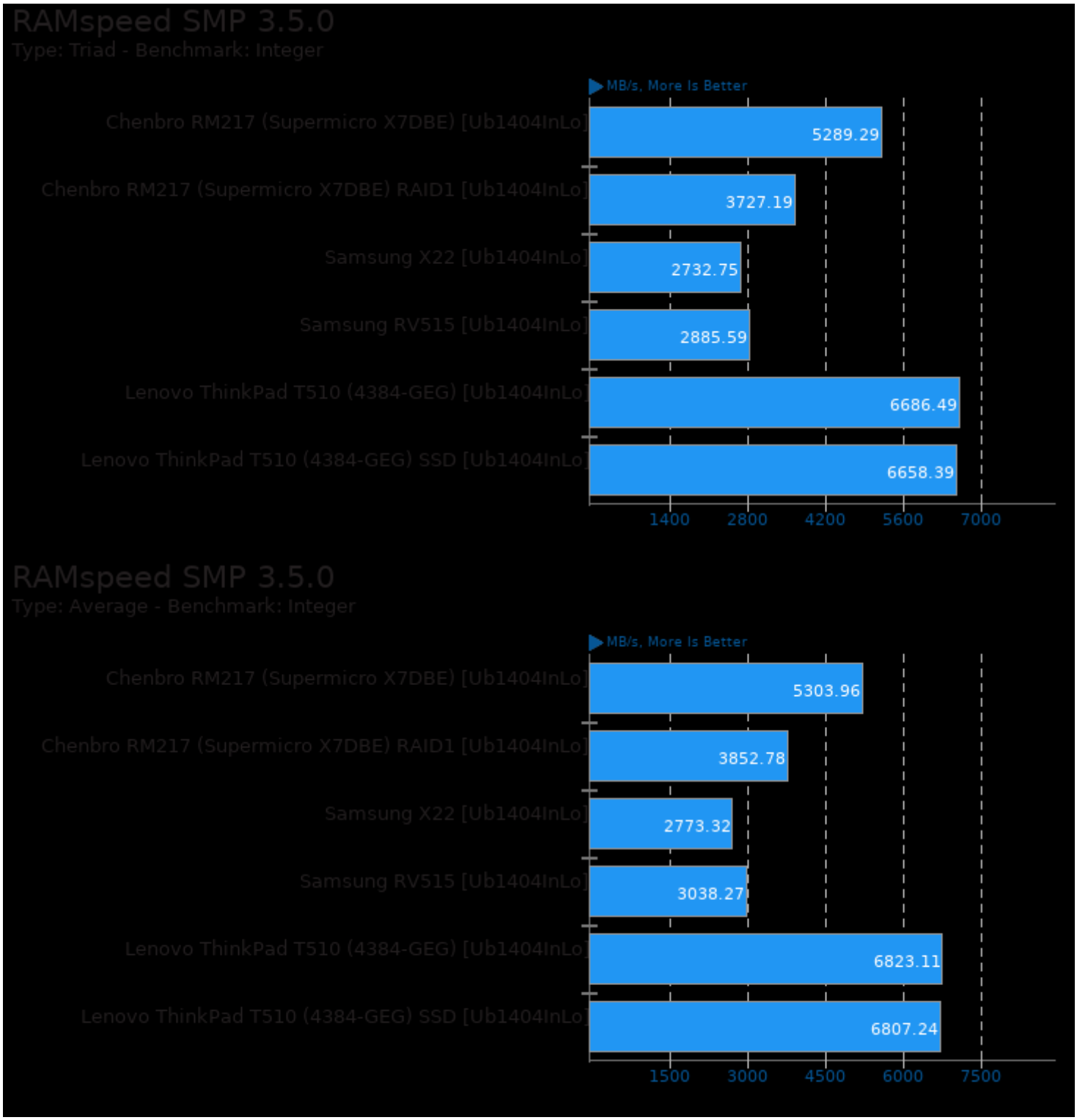



Dbench 4.0
Client Count: 6
MB/s, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.10, N = 3
29.00
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.29, N = 3
36.18
Samsung X22 [Ub1404InLo]
SE +/- 0.37, N = 3
18.80
Samsung RV515 [Ub1404InLo]
SE +/- 0.14, N = 3
21.93
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.32, N = 3
25.01
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 2.60, N = 3
551.32
120
240
360
480
600
1. (CC) gcc options: -lpopt -O2
Dbench 4.0
Client Count: 256
MB/s, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 1.59, N = 3
102.48
Samsung X22 [Ub1404InLo]
SE +/- 0.40, N = 3
25.77
Samsung RV515 [Ub1404InLo]
SE +/- 0.74, N = 3
54.20
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.74, N = 3
59.24
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 12.12, N = 3
667.89
140
280
420
560
700
1. (CC) gcc options: -lpopt -O2

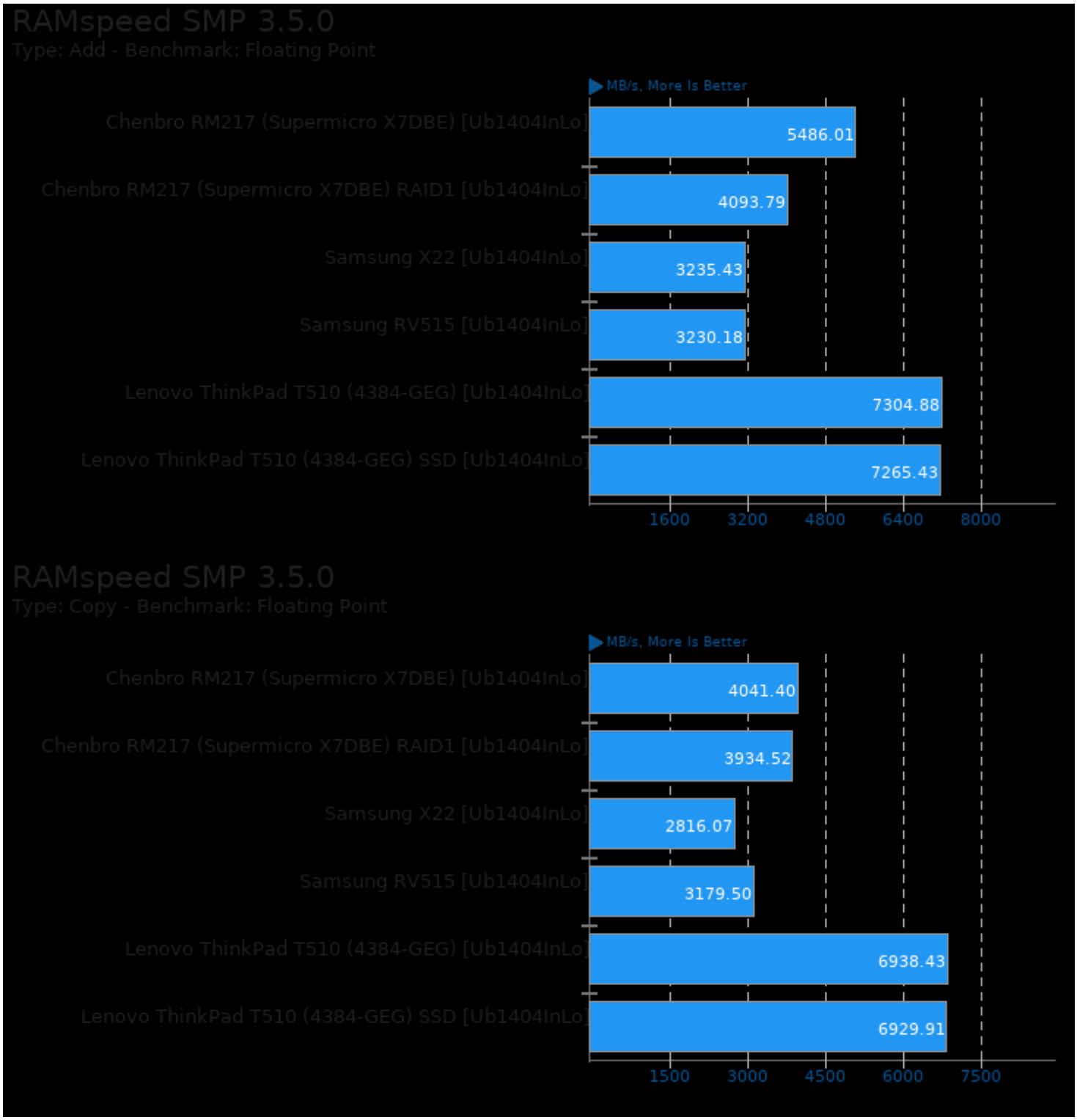

PostMark 1.51
Disk Transaction Performance
TPS, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 14.74, N = 3
2038
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 5.67, N = 3
2094
Samsung X22 [Ub1404InLo]
SE +/- 6.44, N = 3
578
Samsung RV515 [Ub1404InLo]
SE +/- 3.00, N = 3
886
Raspberry Pi 2 (Model B) [Ub1404InLi]
32
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 34.00, N = 3
3589
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 18.67, N = 3
3768
800
1600
2400
3200
4000
1. (CC) gcc options: -O3
RAMspeed SMP 3.5.0
Type: Add - Benchmark: Integer
MB/s, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
4275.69
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
3763.51
Samsung X22 [Ub1404InLo]
2736.42
Samsung RV515 [Ub1404InLo]
2900.62
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
6647.20
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
6661.81
1400
2800
4200
5600
7000

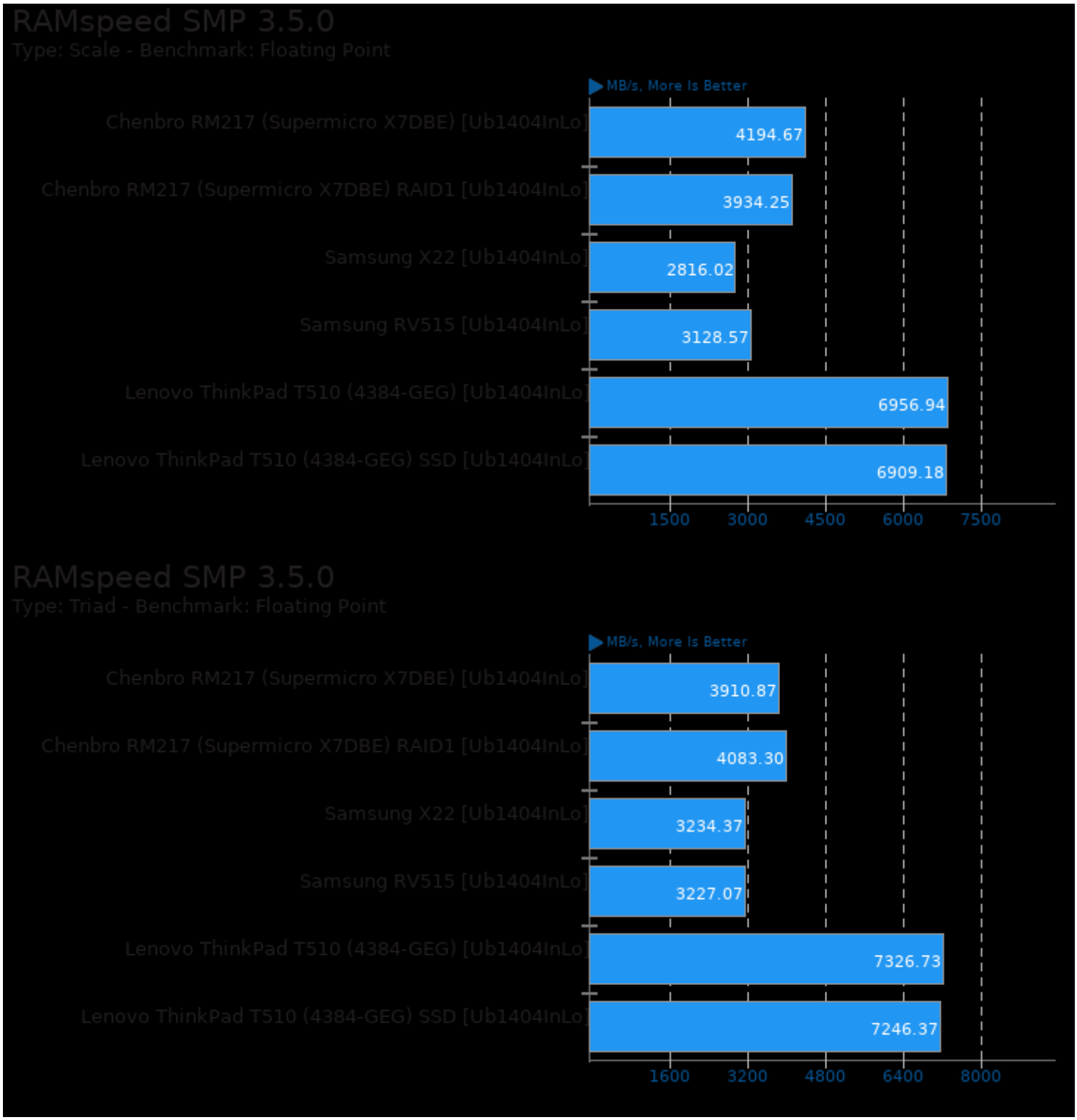
Notebook screening (timtaw test suite)



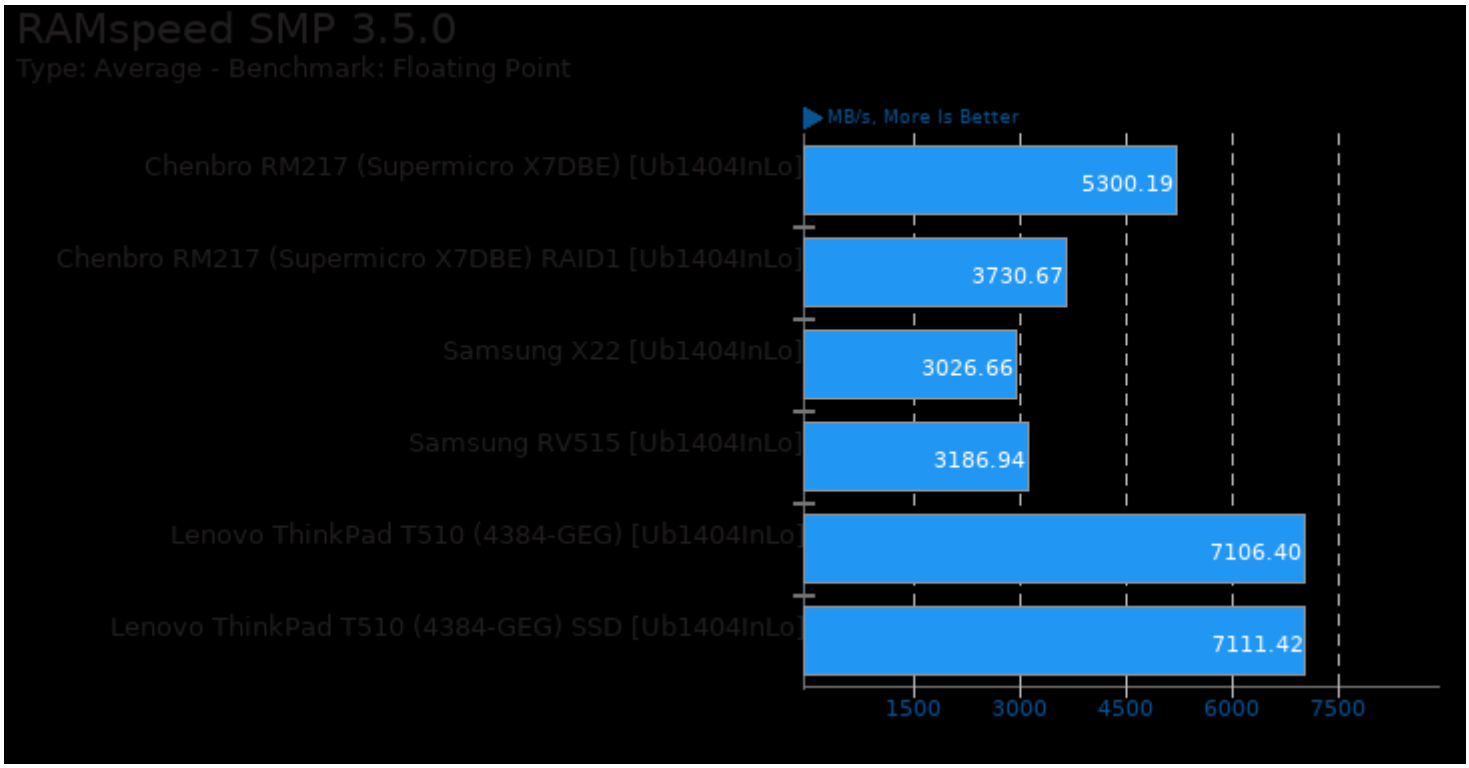

RAMspeed SMP 3.5.0
Type: Triad - Benchmark: Integer
MB/s, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
5289.29
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
3727.19
Samsung X22 [Ub1404InLo]
2732.75
Samsung RV515 [Ub1404InLo]
2885.59
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
6686.49
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
6658.39
1400
2800
4200
5600
7000
RAMspeed SMP 3.5.0
Type: Average - Benchmark: Integer
MB/s, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
5303.96
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
3852.78
Samsung X22 [Ub1404InLo]
2773.32
Samsung RV515 [Ub1404InLo]
3038.27
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
6823.11
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
6807.24
1500
3000
4500
6000
7500

Notebook screening (timtaw test suite)

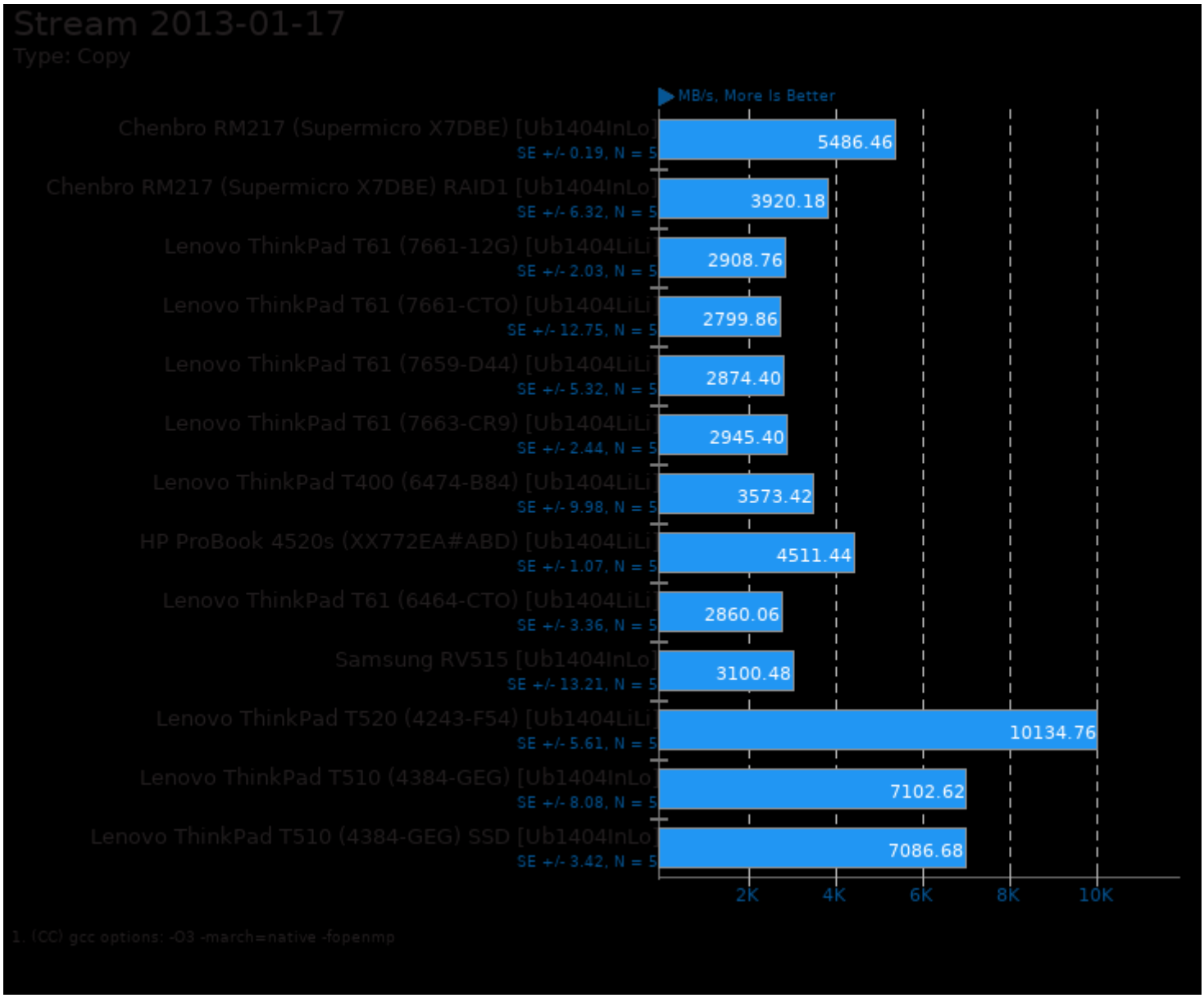



RAMspeed SMP 3.5.0
Type: Scale - Benchmark: Floating Point
MB/s, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
4194.67
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
3934.25
Samsung X22 [Ub1404InLo]
2816.02
Samsung RV515 [Ub1404InLo]
3128.57
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
6956.94
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
6909.18
1500
3000
4500
6000
7500
RAMspeed SMP 3.5.0
Type: Triad - Benchmark: Floating Point
MB/s, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
3910.87
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
4083.30
Samsung X22 [Ub1404InLo]
3234.37
Samsung RV515 [Ub1404InLo]
3227.07
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
7326.73
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
7246.37
1600
3200
4800
6400
8000

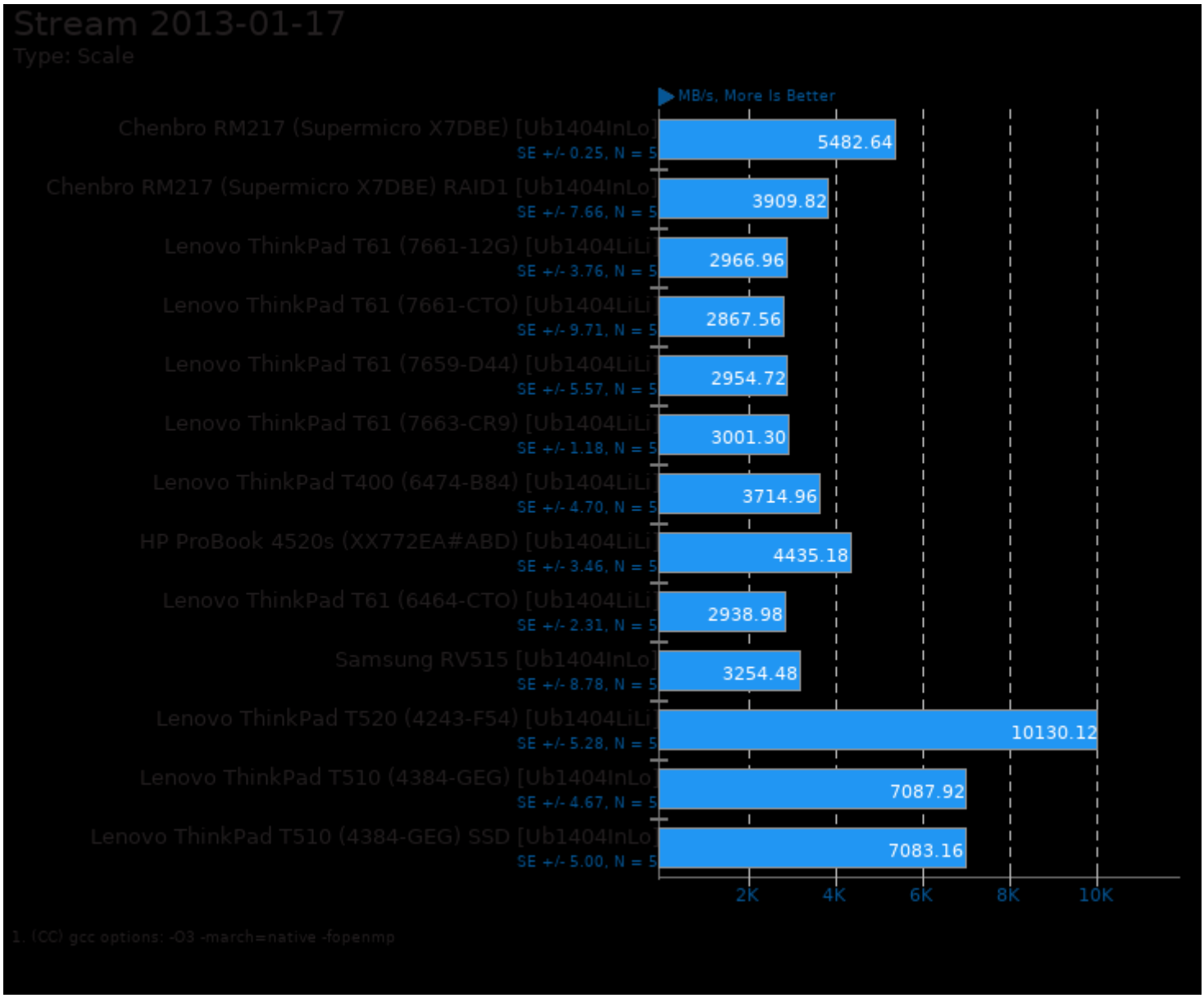
Notebook screening (timtaw test suite)



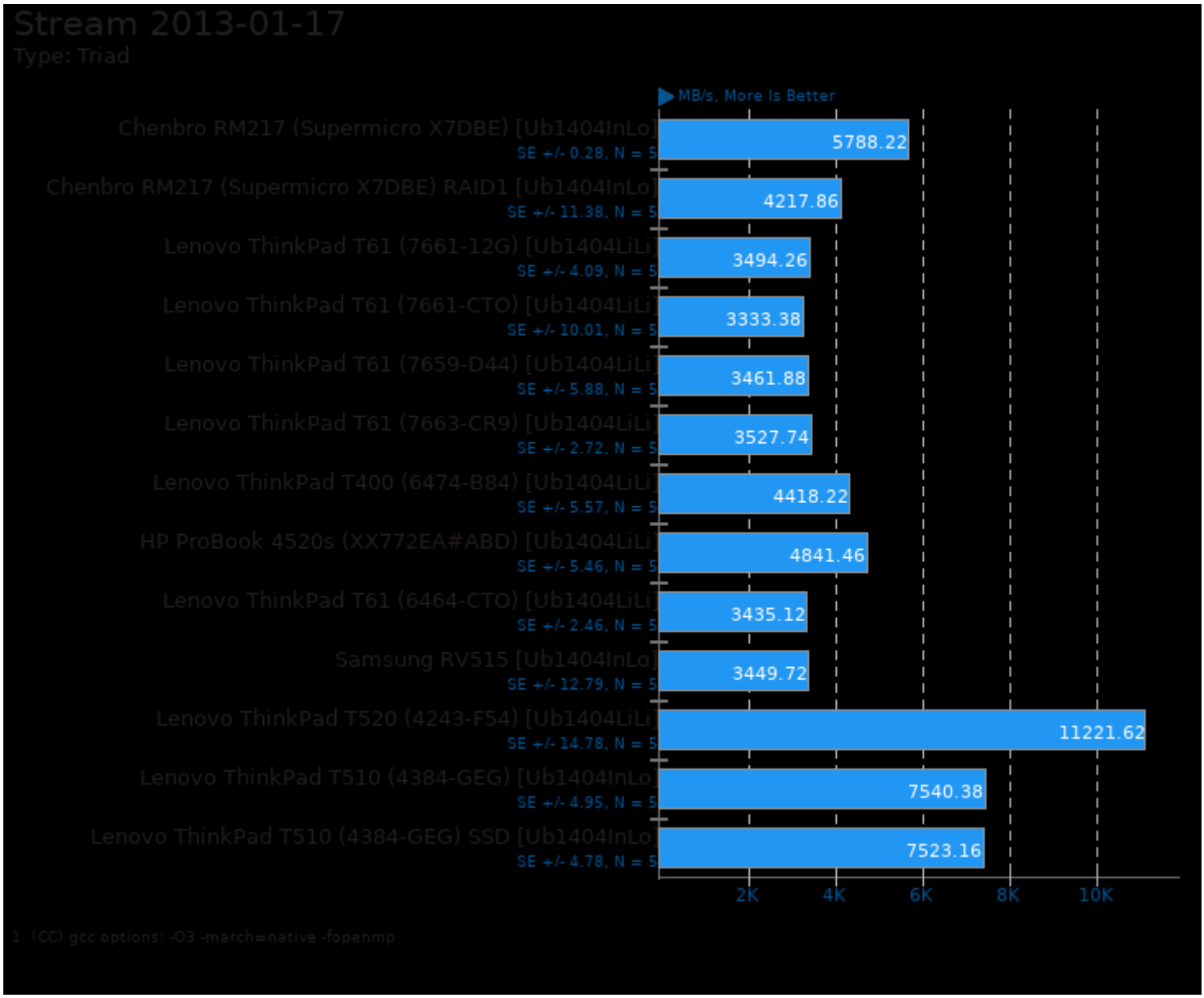
Notebook screening (timtaw test suite)



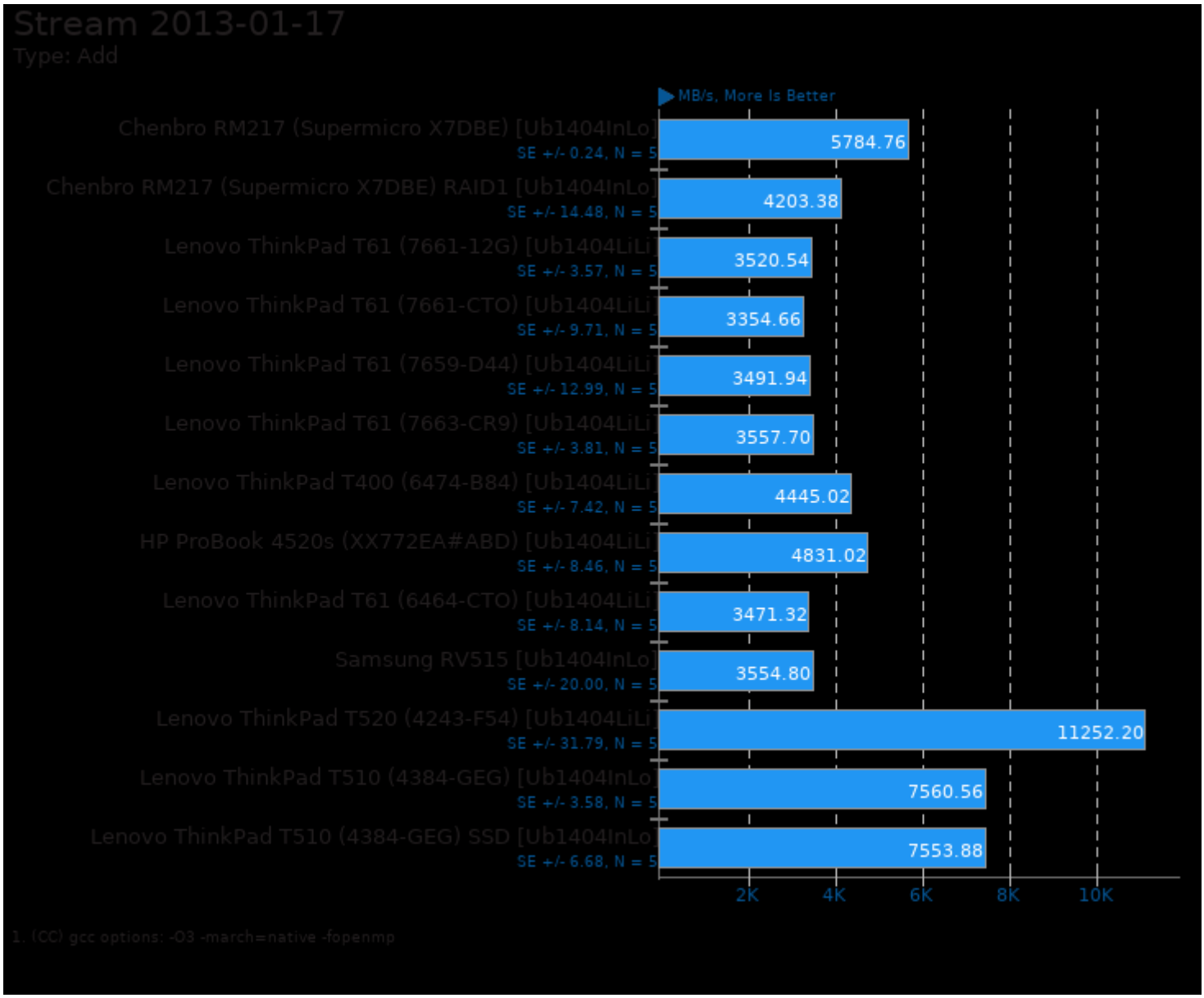
Notebook screening (timtaw test suite)

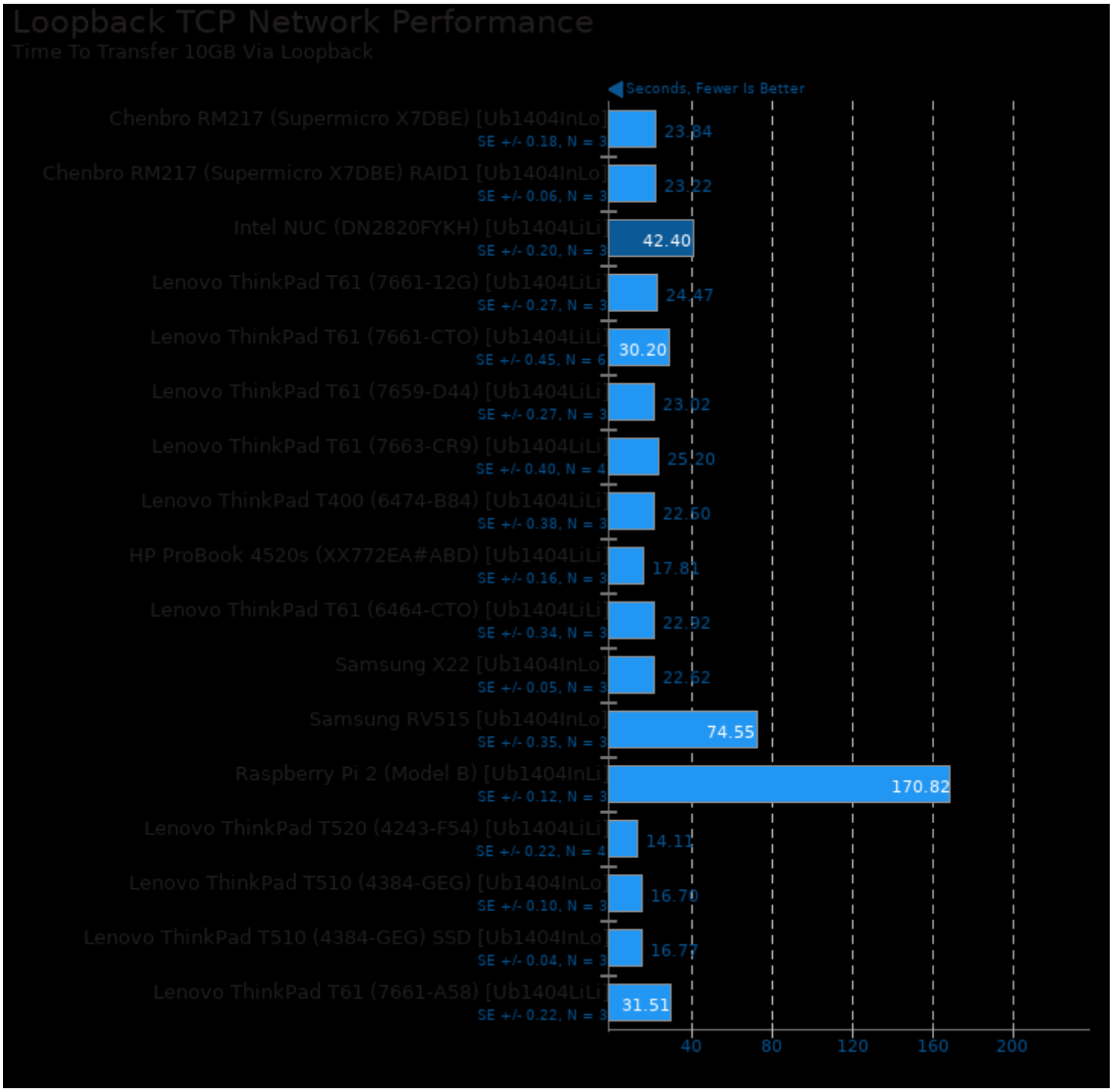


Notebook screening (timtaw test suite)

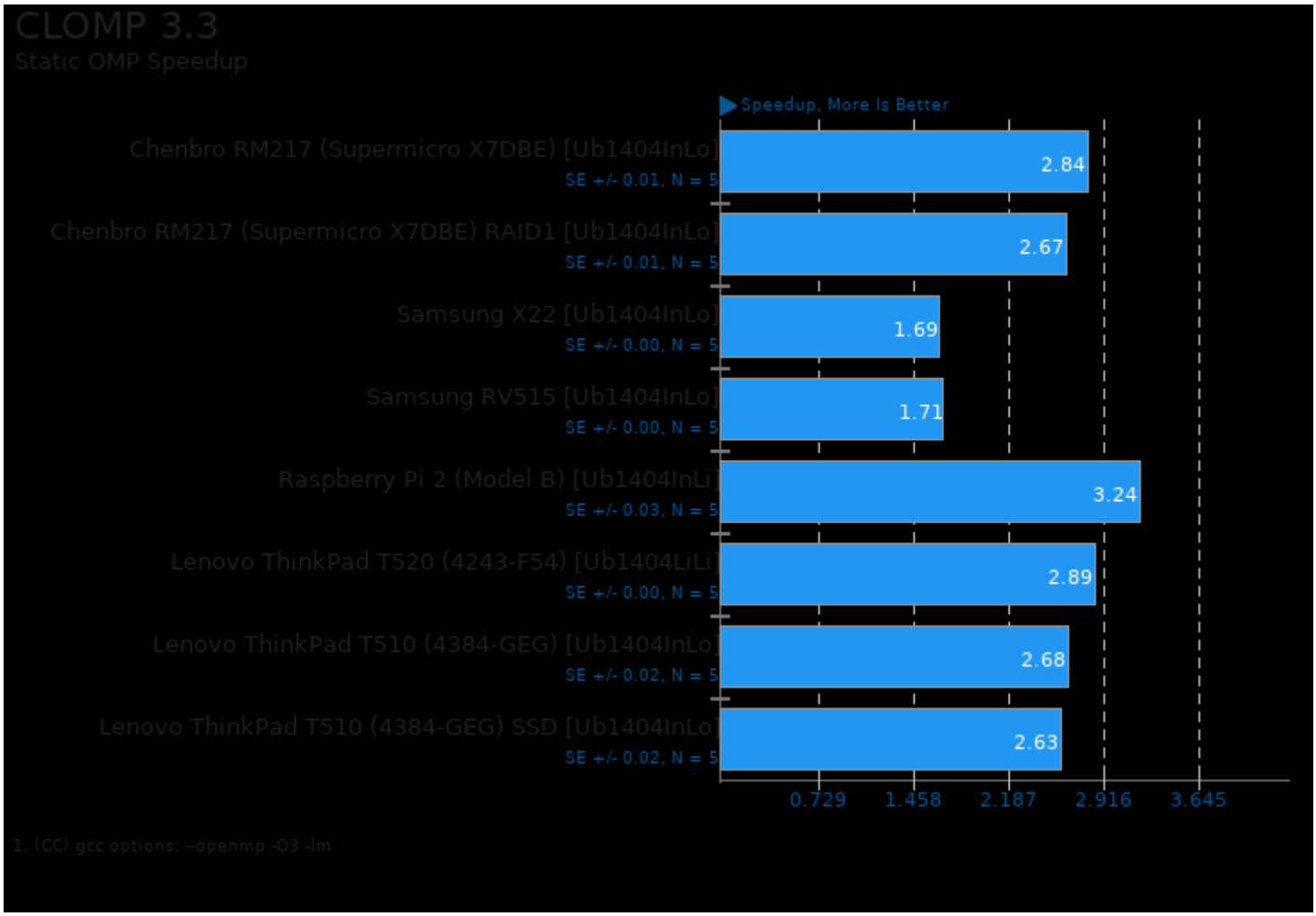


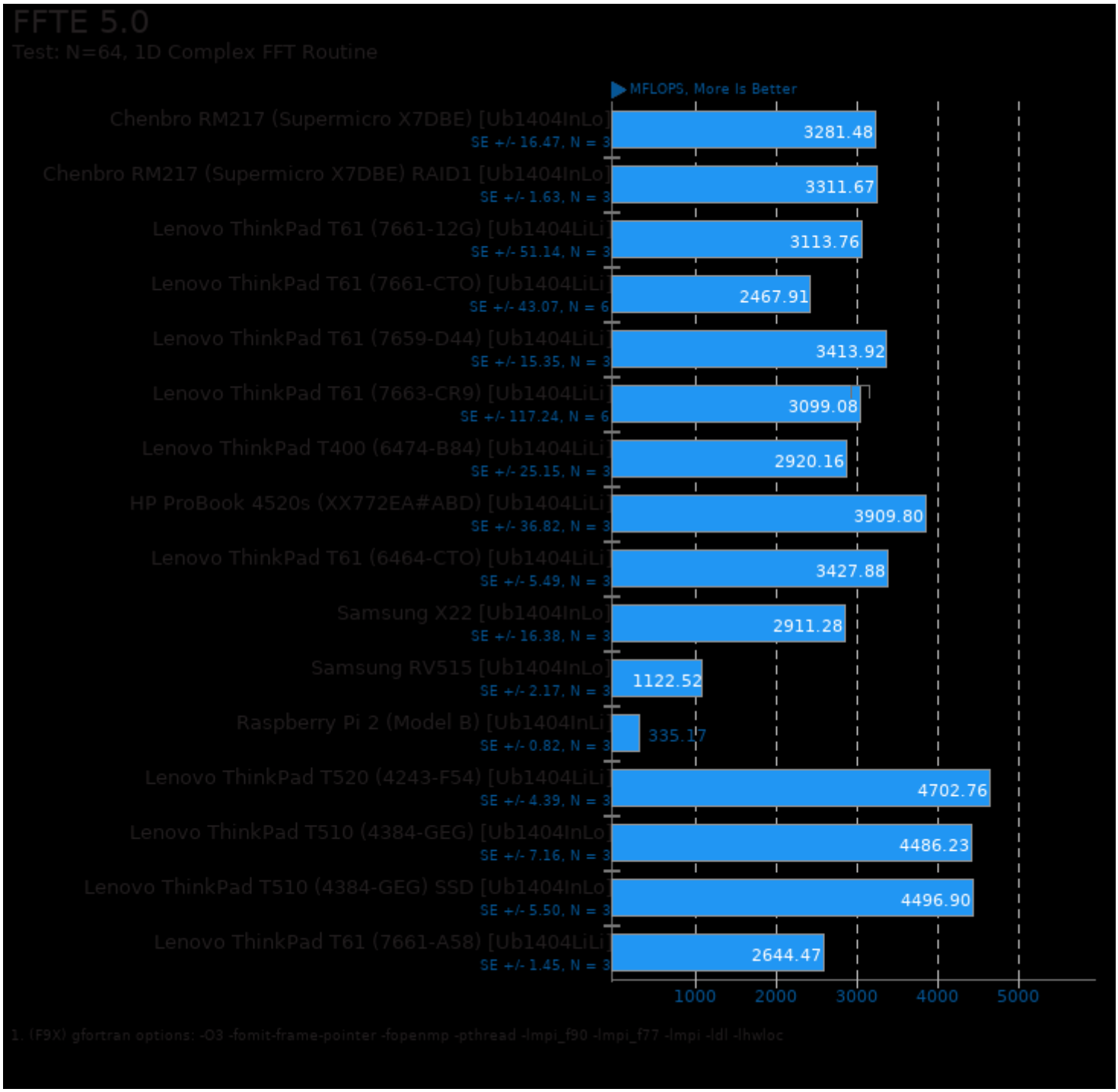
Notebook screening (timtaw test suite)

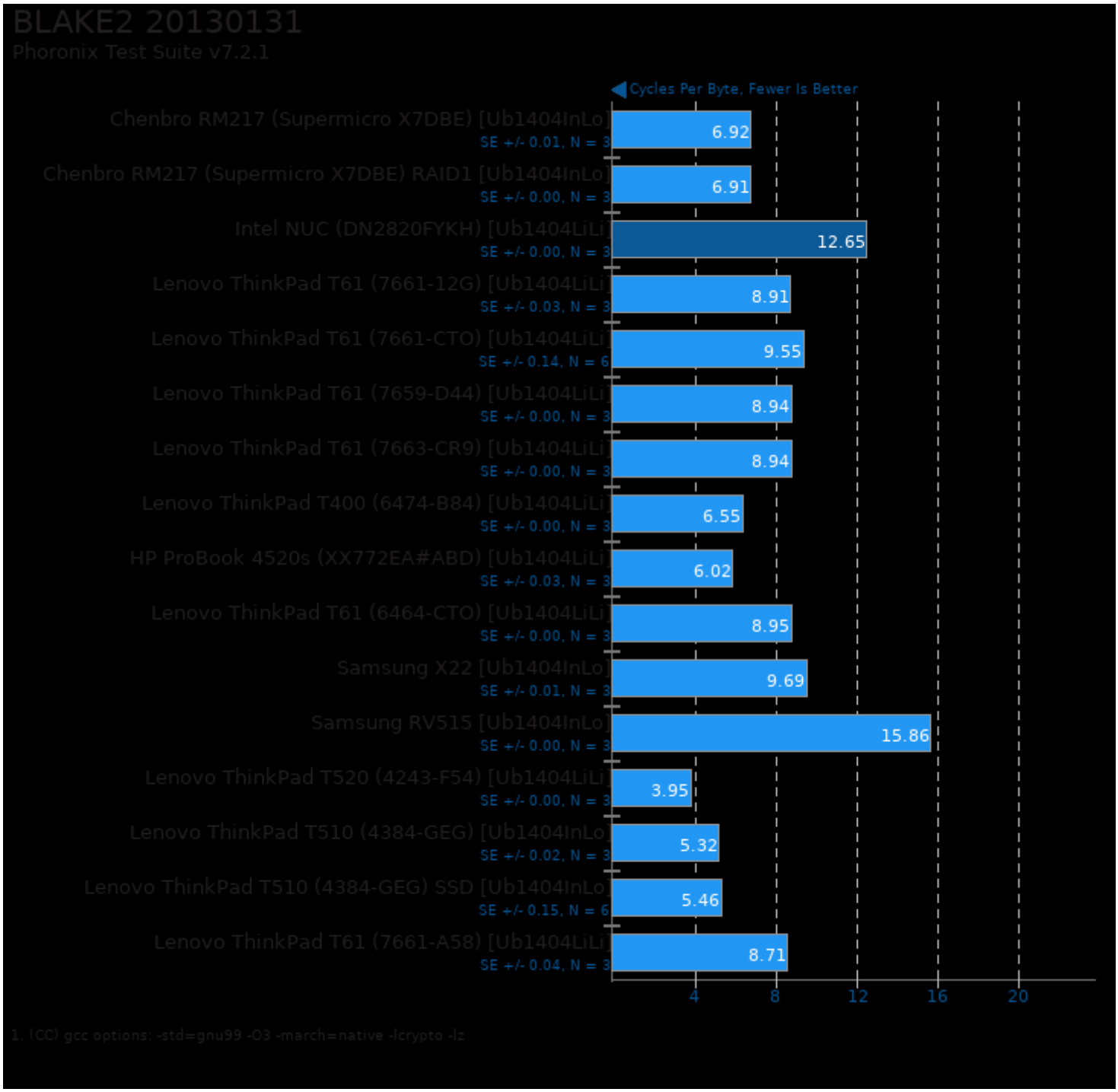


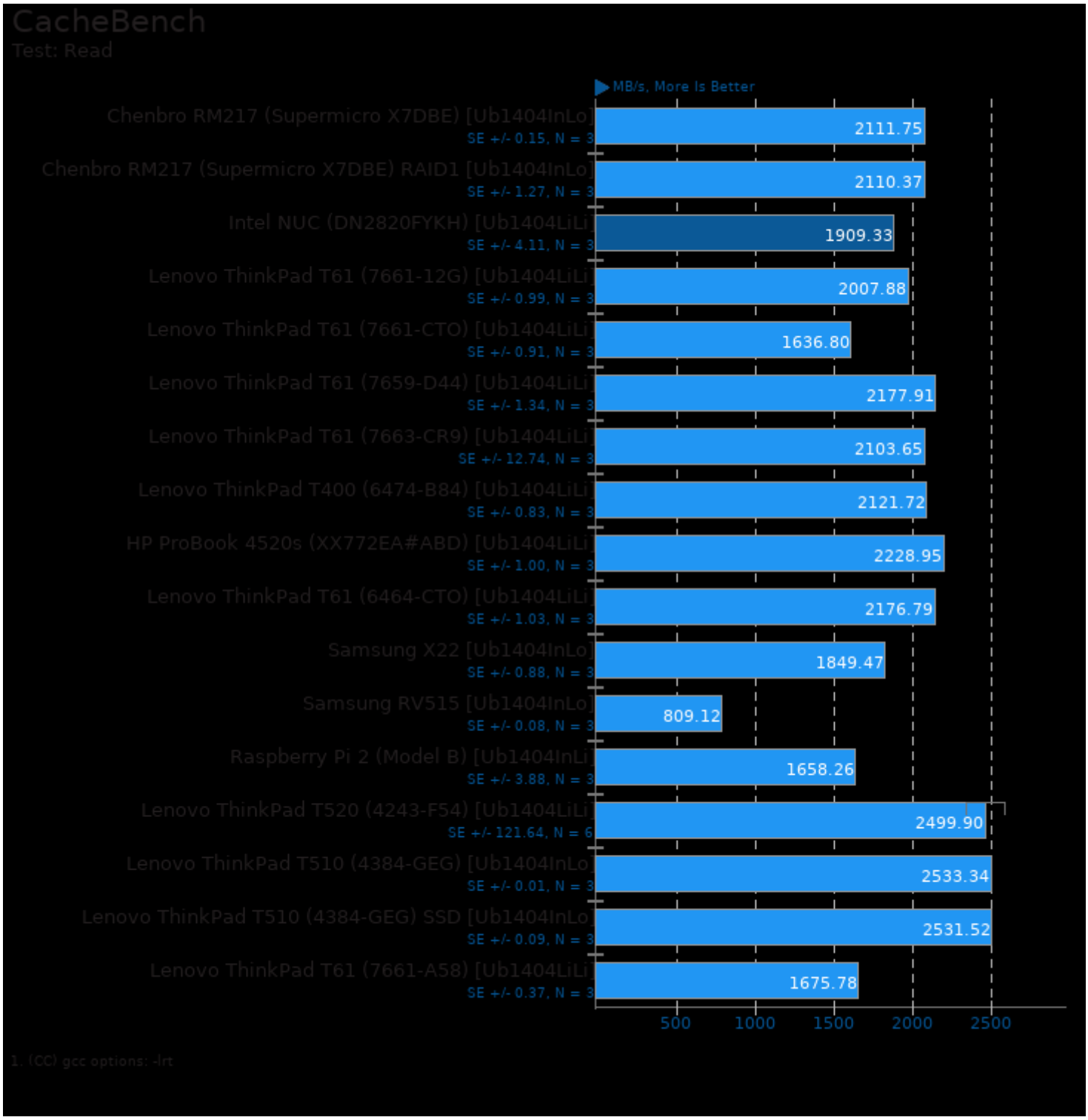

Loopback TCP Network Performance
Time To Transfer 10GB Via Loopback
Seconds, Fewer Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.18, N = 3
23.84
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.06, N = 3
23.22
Intel NUC (DN2820FYKH) [Ub1404LiLi]
SE +/- 0.20, N = 3
42.40
Lenovo ThinkPad T61 (7661-12G) [Ub1404LiLi]
SE +/- 0.27, N = 3
24.47
Lenovo ThinkPad T61 (7661-CTO) [Ub1404LiLi]
SE +/- 0.45, N = 6
30.20
Lenovo ThinkPad T61 (7659-D44) [Ub1404LiLi]
SE +/- 0.27, N = 3
23.02
Lenovo ThinkPad T61 (7663-CR9) [Ub1404LiLi]
SE +/- 0.40, N = 4
25.20
Lenovo ThinkPad T400 (6474-B84) [Ub1404LiLi]
SE +/- 0.38, N = 3
22.60
HP ProBook 4520s (XX772EA#ABD) [Ub1404LiLi]
SE +/- 0.16, N = 3
17.81
Lenovo ThinkPad T61 (6464-CTO) [Ub1404LiLi]
SE +/- 0.34, N = 3
22.92
Samsung X22 [Ub1404InLo]
SE +/- 0.05, N = 3
22.62
Samsung RV515 [Ub1404InLo]
SE +/- 0.35, N = 3
74.55
Raspberry Pi 2 (Model B) [Ub1404InLi]
SE +/- 0.12, N = 3
170.82
Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi]
SE +/- 0.22, N = 4
14.11
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.10, N = 3
16.70
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 0.04, N = 3
16.77
Lenovo ThinkPad T61 (7661-A58) [Ub1404LiLi]
SE +/- 0.22, N = 3
31.51
40
80
120
160
200

Notebook screening (timtaw test suite)

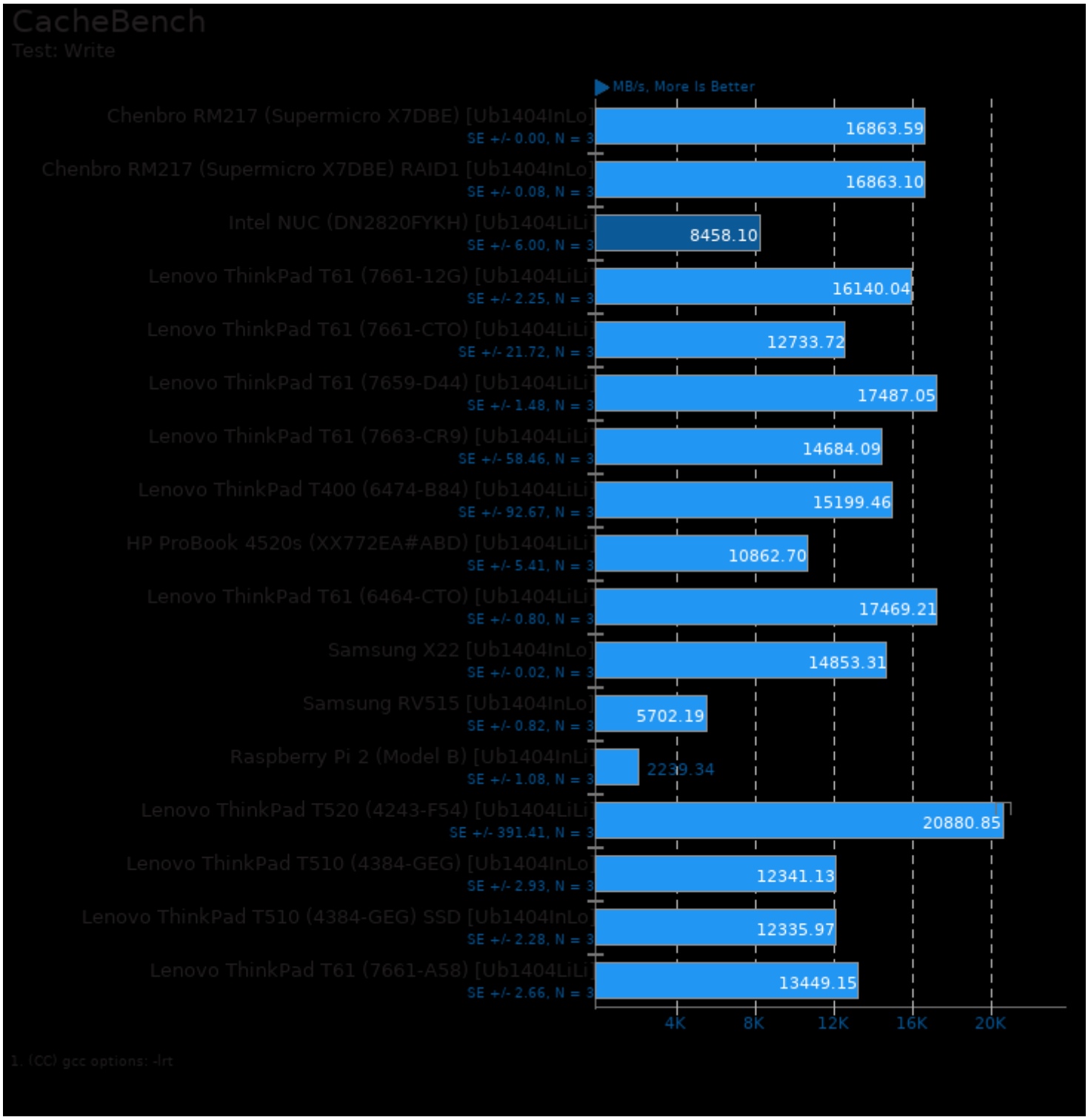



FFTE 5.0
Test: N=64, 1D Complex FFT Routine
MFLOPS, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 16.47, N = 3
3281.48
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 1.63, N = 3
3311.67
Lenovo ThinkPad T61 (7661-12G) [Ub1404LiLi]
SE +/- 51.14, N = 3
3113.76
Lenovo ThinkPad T61 (7661-CTO) [Ub1404LiLi]
SE +/- 43.07, N = 6
2467.91
Lenovo ThinkPad T61 (7659-D44) [Ub1404LiLi]
SE +/- 15.35, N = 3
3413.92
Lenovo ThinkPad T61 (7663-CR9) [Ub1404LiLi]
SE +/- 117.24, N = 6
3099.08
Lenovo ThinkPad T400 (6474-B84) [Ub1404LiLi]
SE +/- 25.15, N = 3
2920.16
HP ProBook 4520s (XX772EA#ABD) [Ub1404LiLi]
SE +/- 36.82, N = 3
3909.80
Lenovo ThinkPad T61 (6464-CTO) [Ub1404LiLi]
SE +/- 5.49, N = 3
3427.88
Samsung X22 [Ub1404InLo]
SE +/- 16.38, N = 3
2911.28
Samsung RV515 [Ub1404InLo]
SE +/- 2.17, N = 3
1122.52
Raspberry Pi 2 (Model B) [Ub1404InLi]
SE +/- 0.82, N = 3
335.17
Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi]
SE +/- 4.39, N = 3
4702.76
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 7.16, N = 3
4486.23
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 5.50, N = 3
4496.90
Lenovo ThinkPad T61 (7661-A58) [Ub1404LiLi]
SE +/- 1.45, N = 3
2644.47
1000
2000
3000
4000
5000
1. (F9X) gfortran options: -O3 -fomit-frame-pointer -fopenmp -pthread -lmpi_f90 -lmpi_f77 -lmpi -ldl -lhwloc

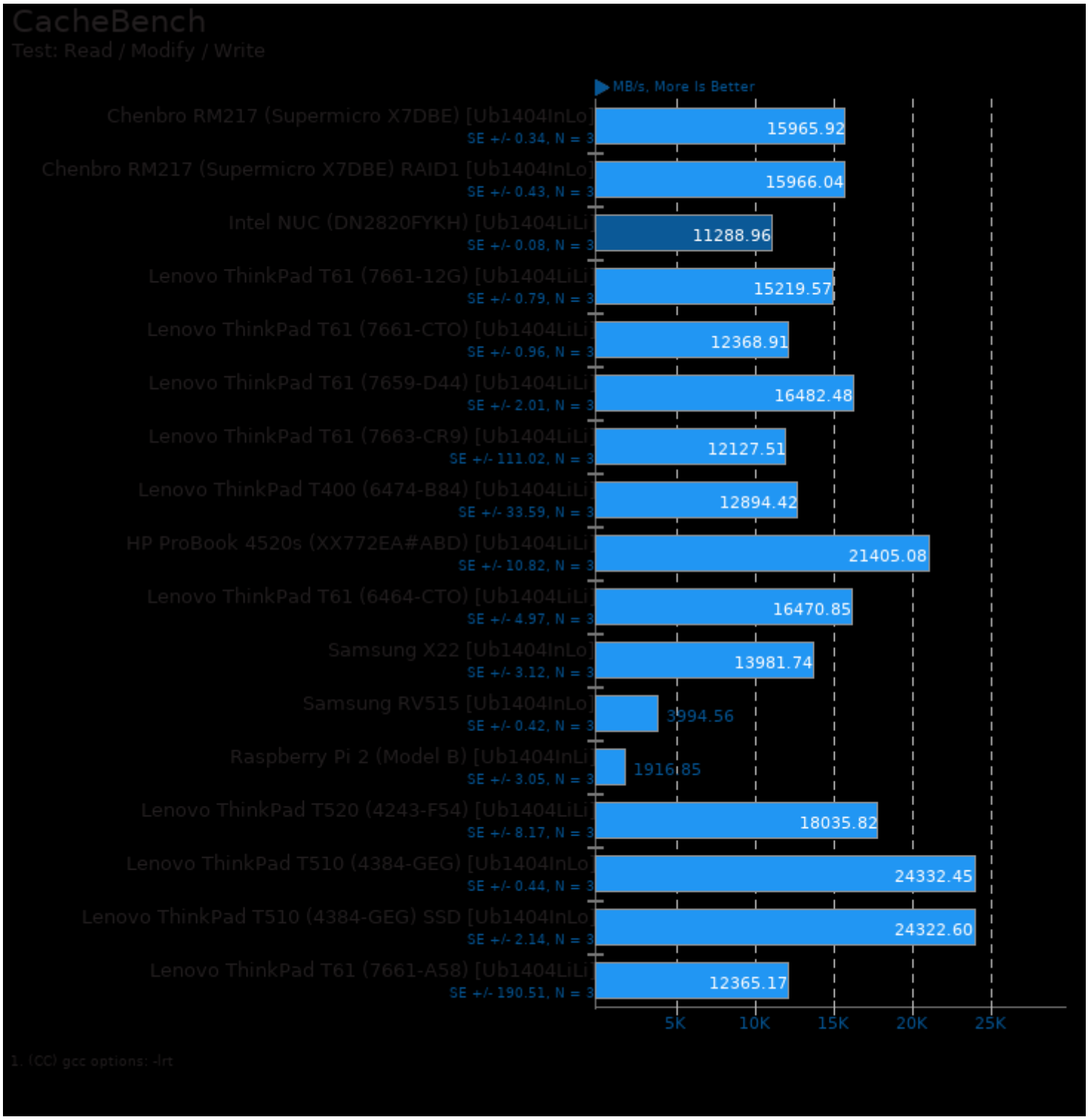

BLAKE2 20130131
Phoronix Test Suite v7.2.1
Cycles Per Byte, Fewer Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.01, N = 3
6.92
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.00, N = 3
6.91
Intel NUC (DN2820FYKH) [Ub1404LiLi]
SE +/- 0.00, N = 3
12.65
Lenovo ThinkPad T61 (7661-12G) [Ub1404LiLi]
SE +/- 0.03, N = 3
8.91
Lenovo ThinkPad T61 (7661-CTO) [Ub1404LiLi]
SE +/- 0.14, N = 6
9.55
Lenovo ThinkPad T61 (7659-D44) [Ub1404LiLi]
SE +/- 0.00, N = 3
8.94
Lenovo ThinkPad T61 (7663-CR9) [Ub1404LiLi]
SE +/- 0.00, N = 3
8.94
Lenovo ThinkPad T400 (6474-B84) [Ub1404LiLi]
SE +/- 0.00, N = 3
6.55
HP ProBook 4520s (XX772EA#ABD) [Ub1404LiLi]
SE +/- 0.03, N = 3
6.02
Lenovo ThinkPad T61 (6464-CTO) [Ub1404LiLi]
SE +/- 0.00, N = 3
8.95
Samsung X22 [Ub1404InLo]
SE +/- 0.01, N = 3
9.69
Samsung RV515 [Ub1404InLo]
SE +/- 0.00, N = 3
15.86
Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi]
SE +/- 0.00, N = 3
3.95
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.02, N = 3
5.32
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 0.15, N = 6
5.46
Lenovo ThinkPad T61 (7661-A58) [Ub1404LiLi]
SE +/- 0.04, N = 3
8.71
4
8
12
16
20
1. (CC) gcc options: -std=gnu99 -O3 -march=native -lcrypto -lz


CacheBench
Test: Read
MB/s, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.15, N = 3
2111.75
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 1.27, N = 3
2110.37
Intel NUC (DN2820FYKH) [Ub1404LiLi]
SE +/- 4.11, N = 3
1909.33
Lenovo ThinkPad T61 (7661-12G) [Ub1404LiLi]
SE +/- 0.99, N = 3
2007.88
Lenovo ThinkPad T61 (7661-CTO) [Ub1404LiLi]
SE +/- 0.91, N = 3
1636.80
Lenovo ThinkPad T61 (7659-D44) [Ub1404LiLi]
SE +/- 1.34, N = 3
2177.91
Lenovo ThinkPad T61 (7663-CR9) [Ub1404LiLi]
SE +/- 12.74, N = 3
2103.65
Lenovo ThinkPad T400 (6474-B84) [Ub1404LiLi]
SE +/- 0.83, N = 3
2121.72
HP ProBook 4520s (XX772EA#ABD) [Ub1404LiLi]
SE +/- 1.00, N = 3
2228.95
Lenovo ThinkPad T61 (6464-CTO) [Ub1404LiLi]
SE +/- 1.03, N = 3
2176.79
Samsung X22 [Ub1404InLo]
SE +/- 0.88, N = 3
1849.47
Samsung RV515 [Ub1404InLo]
SE +/- 0.08, N = 3
809.12
Raspberry Pi 2 (Model B) [Ub1404InLi]
SE +/- 3.88, N = 3
1658.26
Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi]
SE +/- 121.64, N = 6
2499.90
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.01, N = 3
2533.34
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 0.09, N = 3
2531.52
Lenovo ThinkPad T61 (7661-A58) [Ub1404LiLi]
SE +/- 0.37, N = 3
1675.78
500
1000
1500
2000
2500
1. (CC) gcc options: -lrt

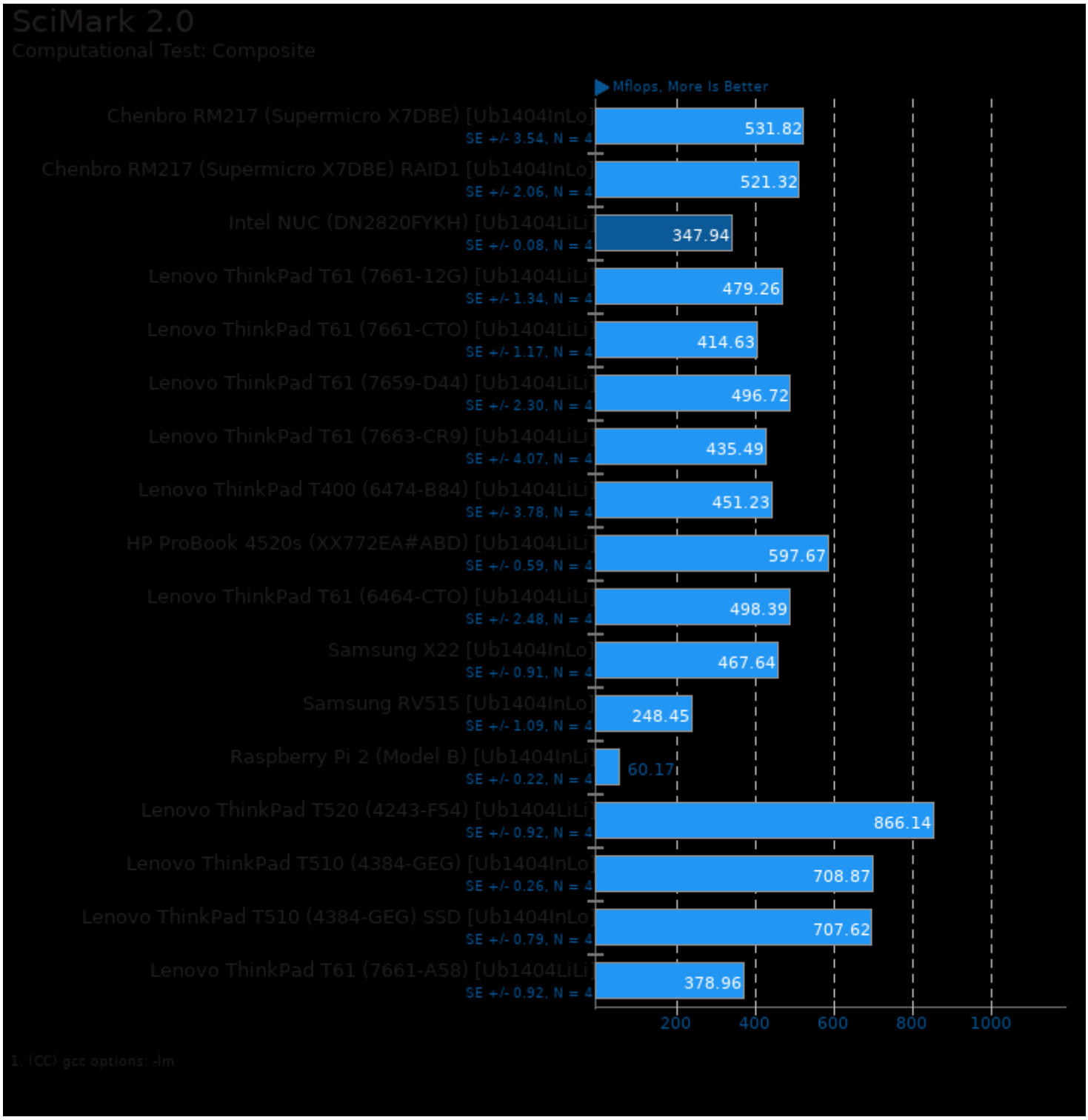
Notebook screening (timtaw test suite)

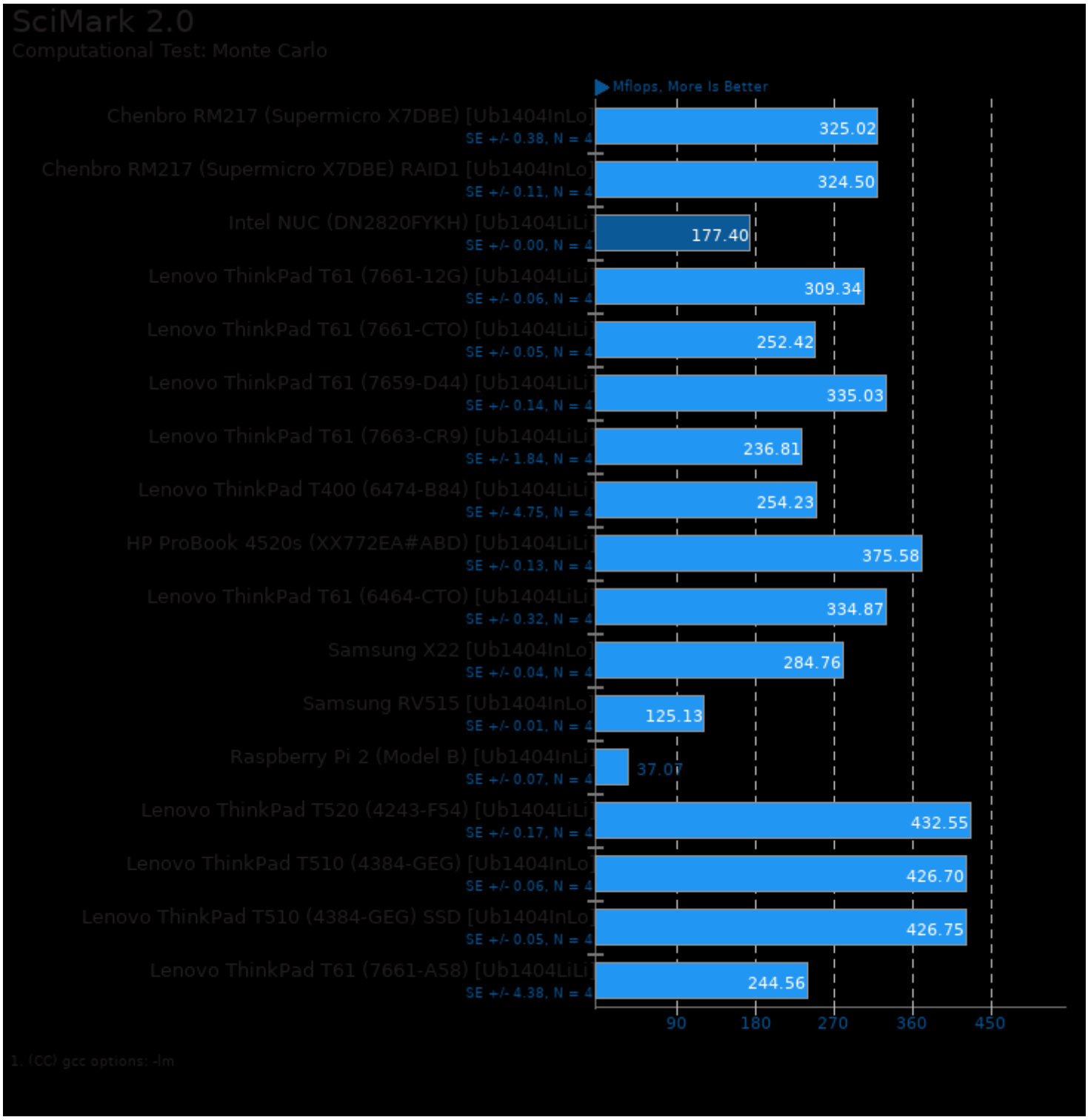


Notebook screening (timtaw test suite)

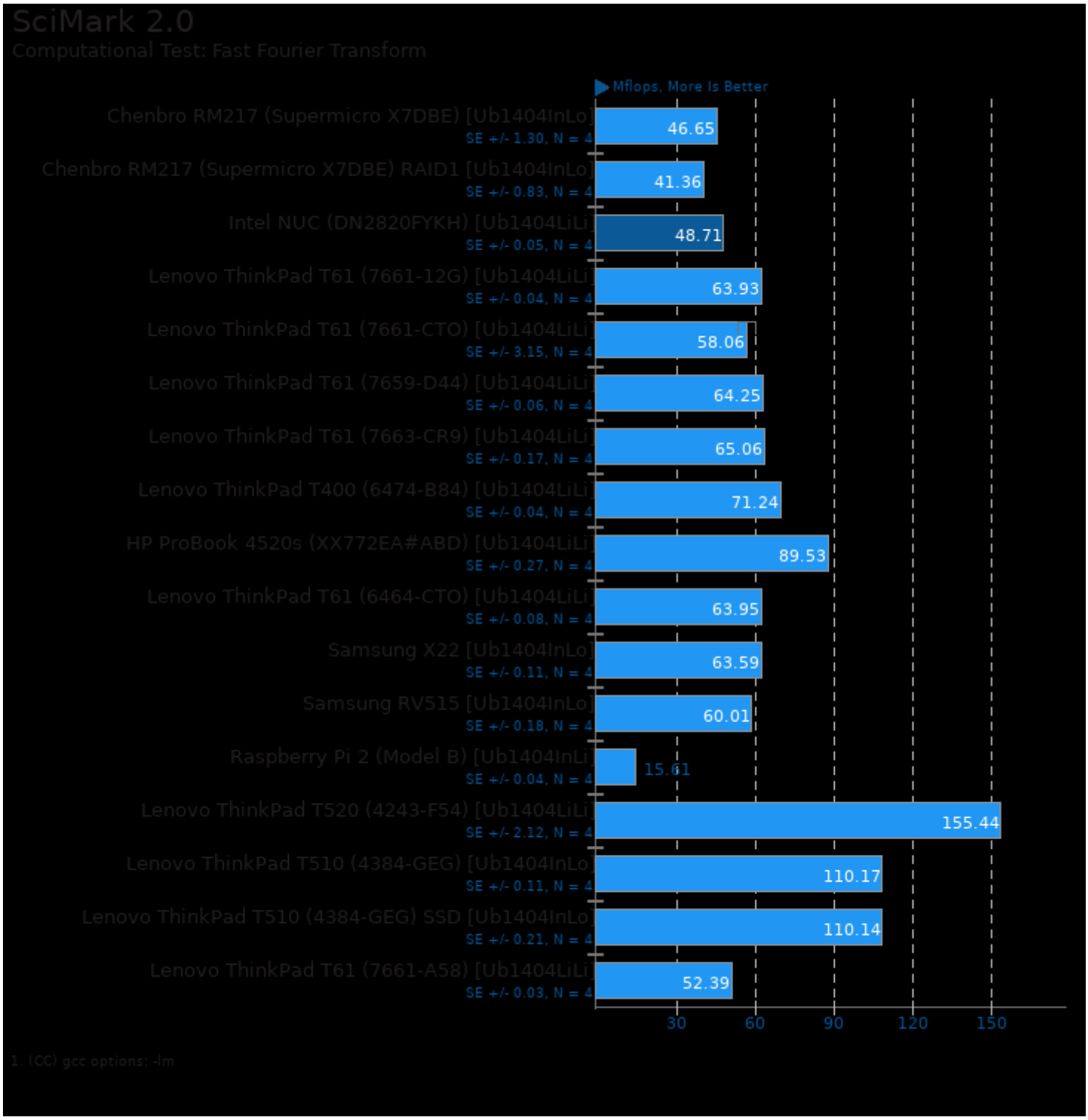


Notebook screening (timtaw test suite)

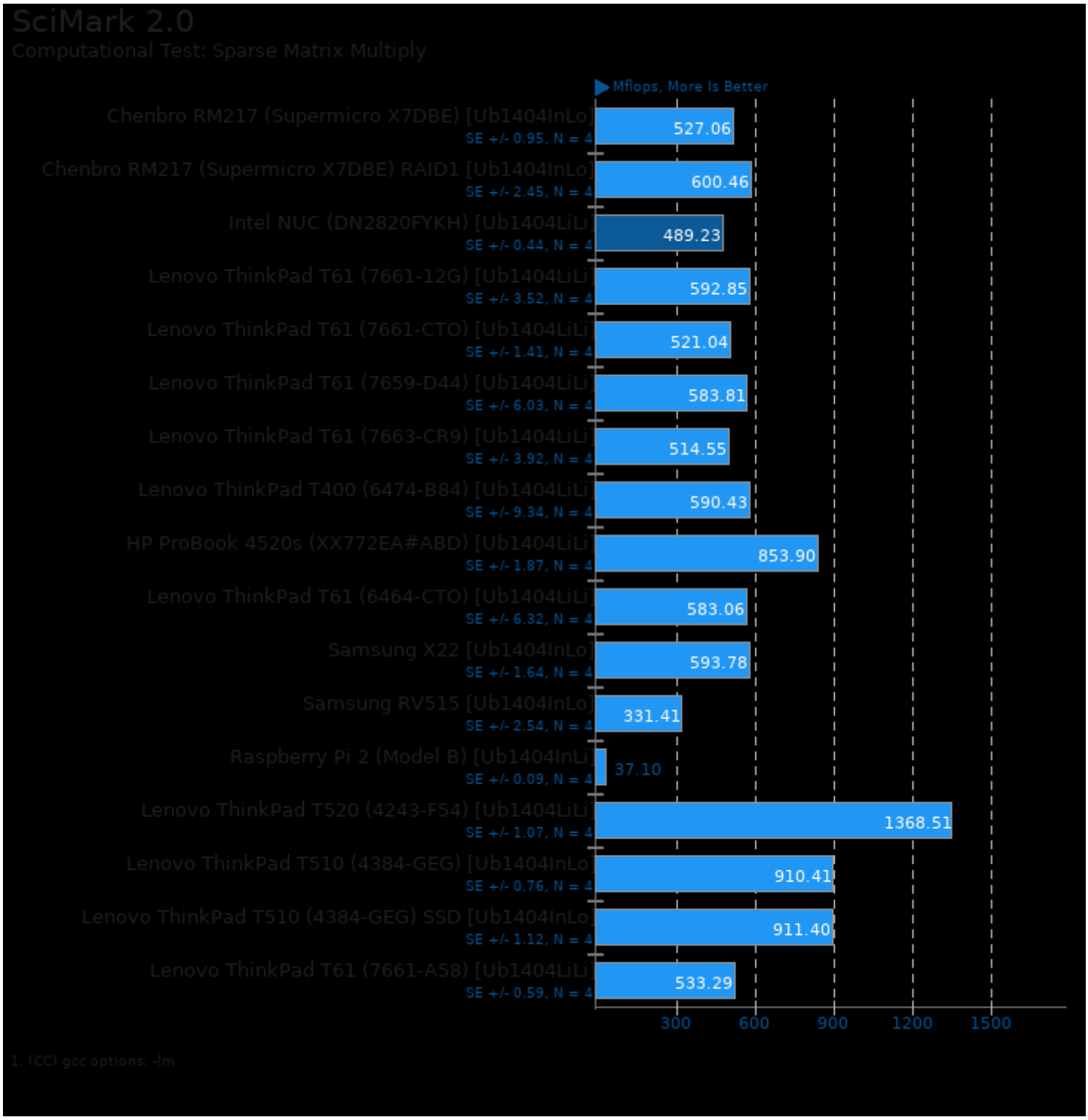



SciMark 2.0
Computational Test: Monte Carlo
Mflops, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.38, N = 4
325.02
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.11, N = 4
324.50
Intel NUC (DN2820FYKH) [Ub1404LiLi]
SE +/- 0.00, N = 4
177.40
Lenovo ThinkPad T61 (7661-12G) [Ub1404LiLi]
SE +/- 0.06, N = 4
309.34
Lenovo ThinkPad T61 (7661-CTO) [Ub1404LiLi]
SE +/- 0.05, N = 4
252.42
Lenovo ThinkPad T61 (7659-D44) [Ub1404LiLi]
SE +/- 0.14, N = 4
335.03
Lenovo ThinkPad T61 (7663-CR9) [Ub1404LiLi]
SE +/- 1.84, N = 4
236.81
Lenovo ThinkPad T400 (6474-B84) [Ub1404LiLi]
SE +/- 4.75, N = 4
254.23
HP ProBook 4520s (XX772EA#ABD) [Ub1404LiLi]
SE +/- 0.13, N = 4
375.58
Lenovo ThinkPad T61 (6464-CTO) [Ub1404LiLi]
SE +/- 0.32, N = 4
334.87
Samsung X22 [Ub1404InLo]
SE +/- 0.04, N = 4
284.76
Samsung RV515 [Ub1404InLo]
SE +/- 0.01, N = 4
125.13
Raspberry Pi 2 (Model B) [Ub1404InLi]
SE +/- 0.07, N = 4
37.07
Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi]
SE +/- 0.17, N = 4
432.55
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.06, N = 4
426.70
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 0.05, N = 4
426.75
Lenovo ThinkPad T61 (7661-A58) [Ub1404LiLi]
SE +/- 4.38, N = 4
244.56
90
180
270
360
450
1. (CC) gcc options: -lm

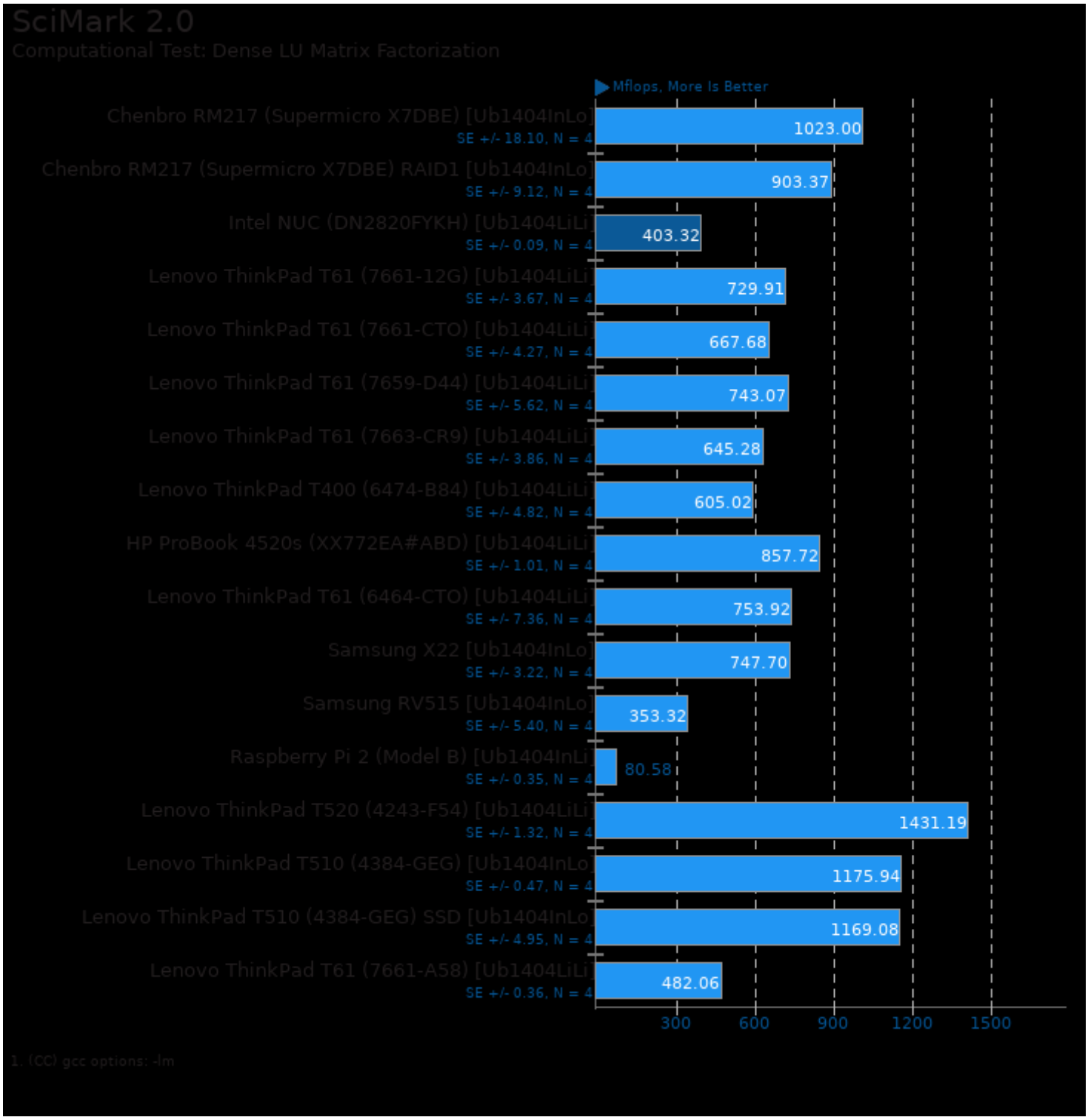
Notebook screening (timtaw test suite)



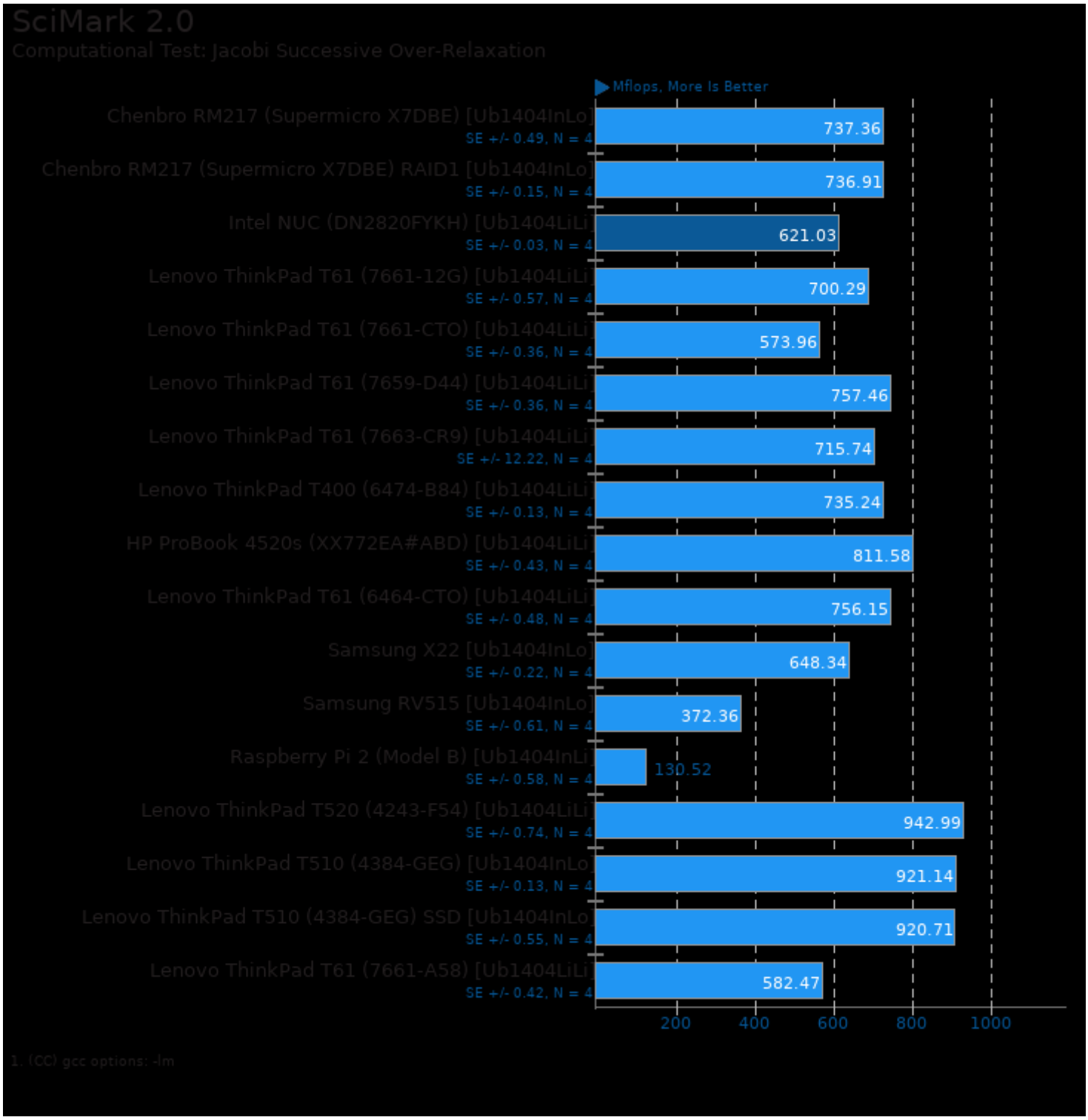
Notebook screening (timtaw test suite)

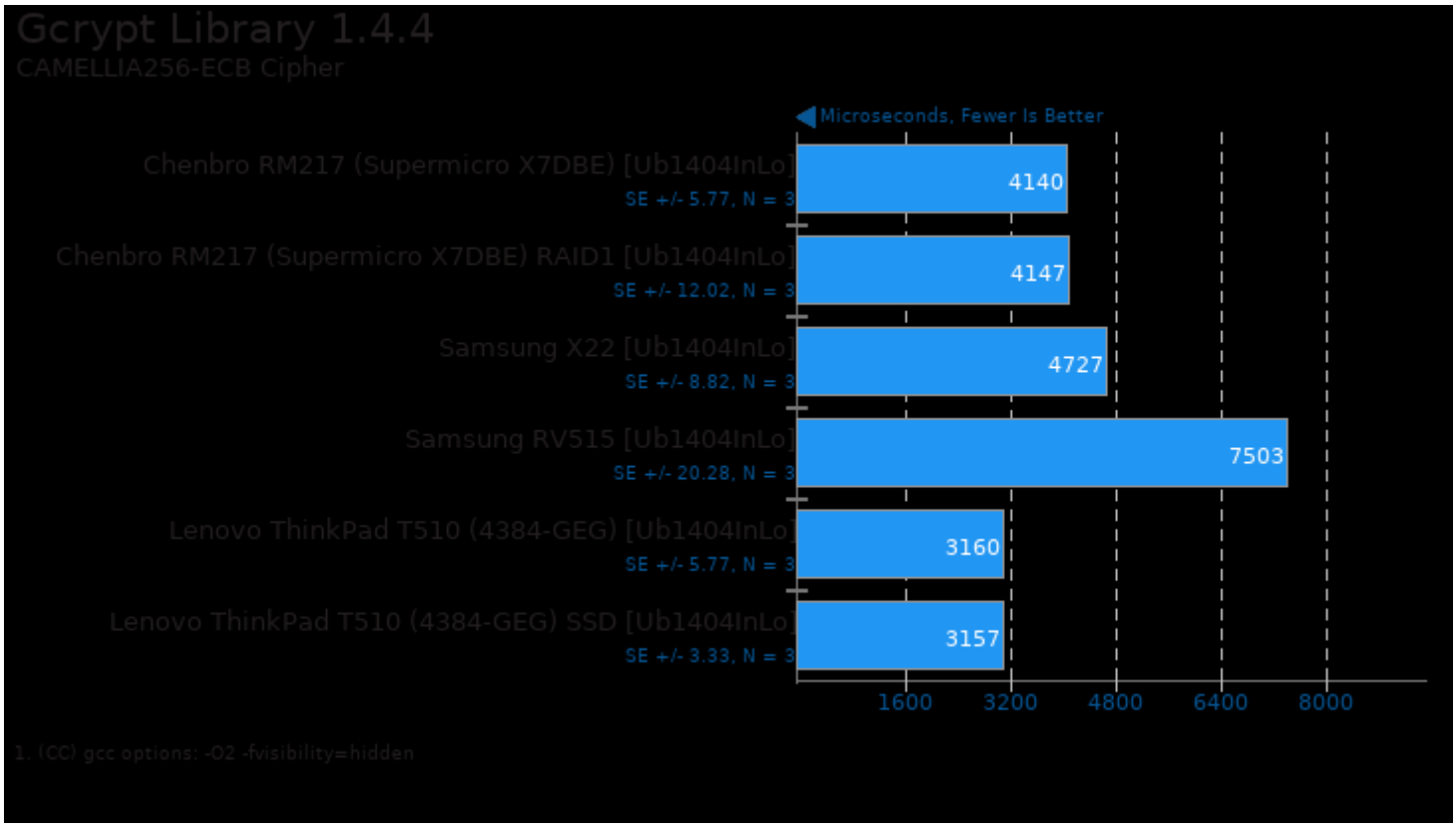


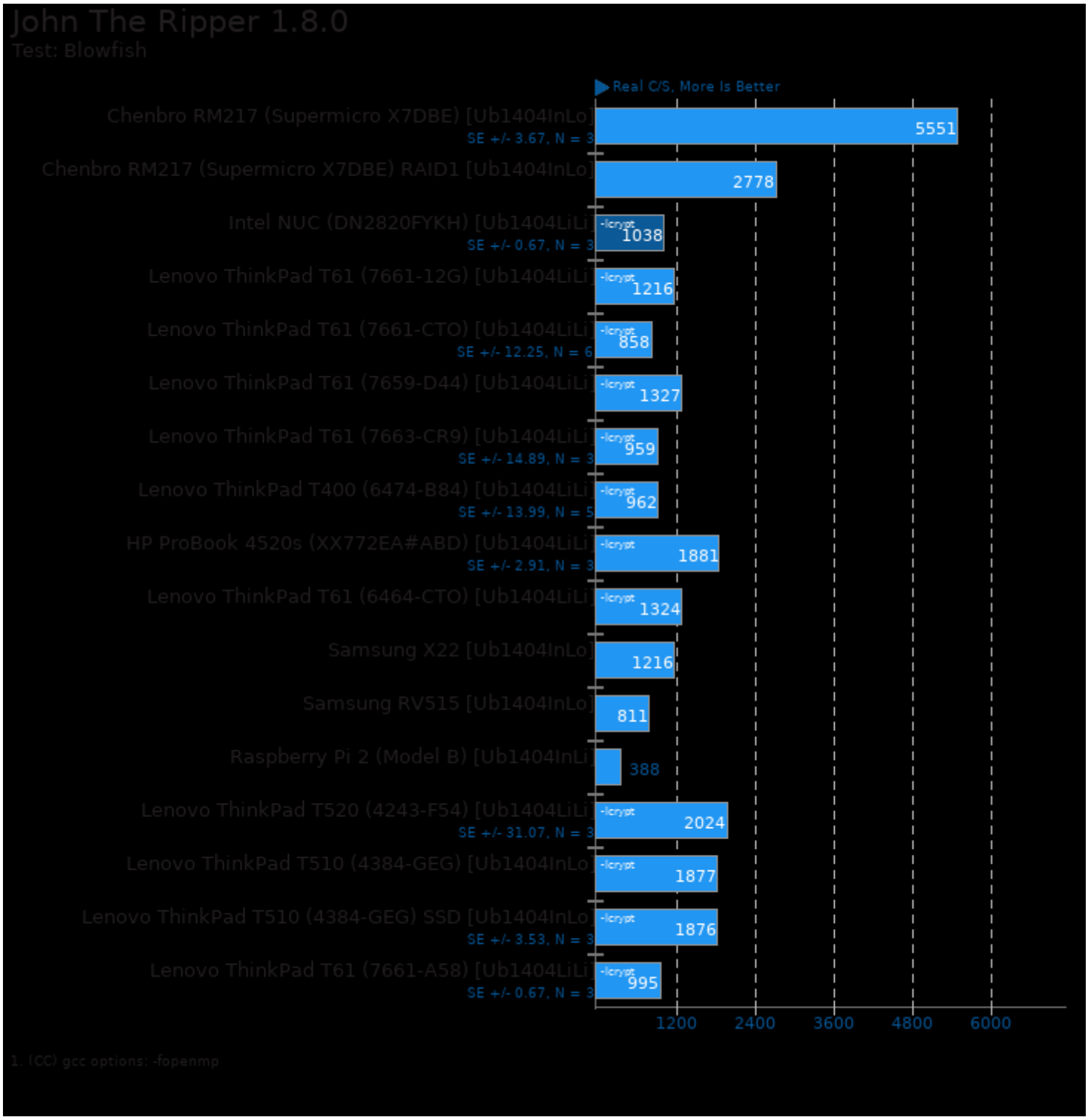
Notebook screening (timtaw test suite)

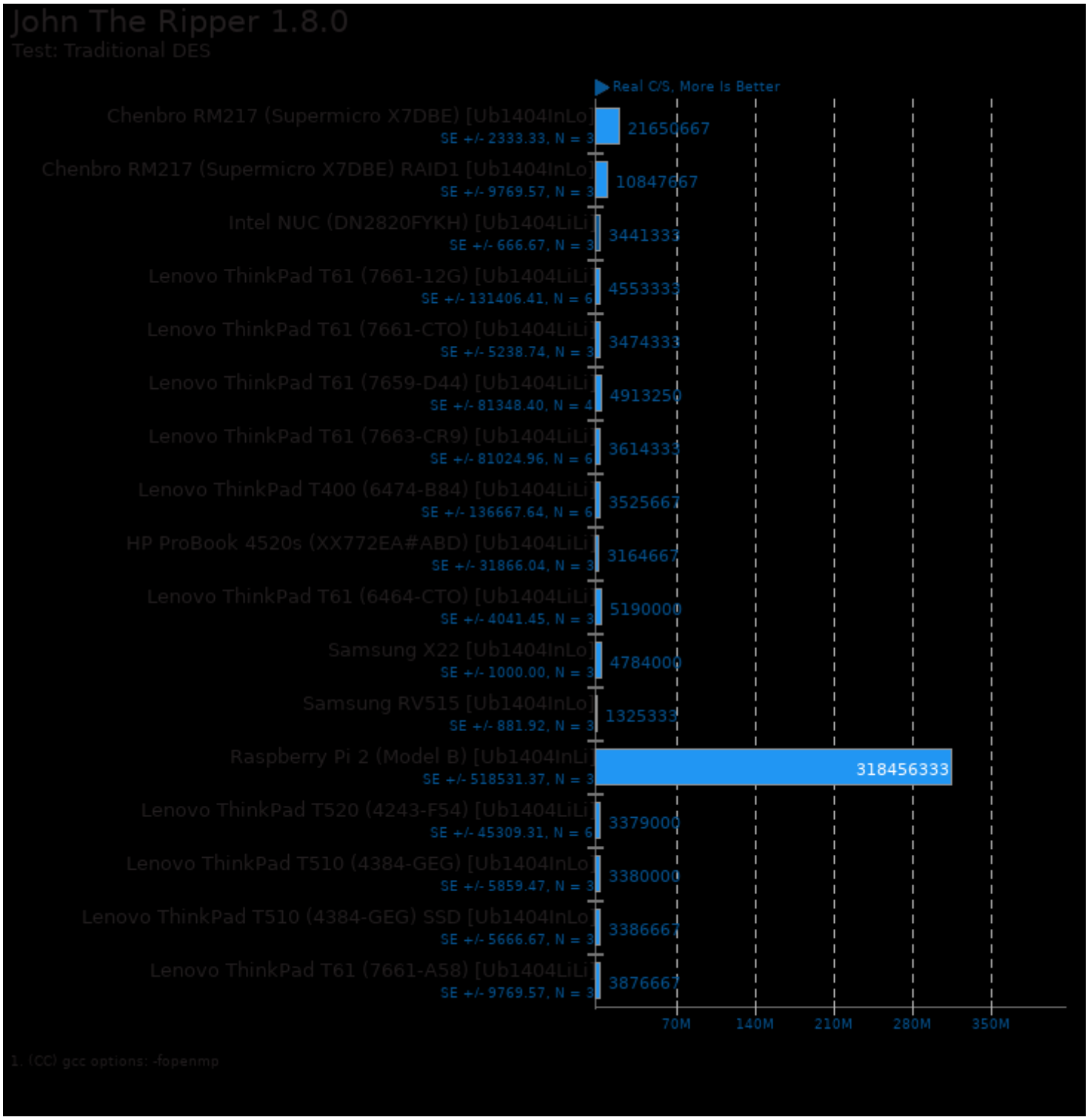


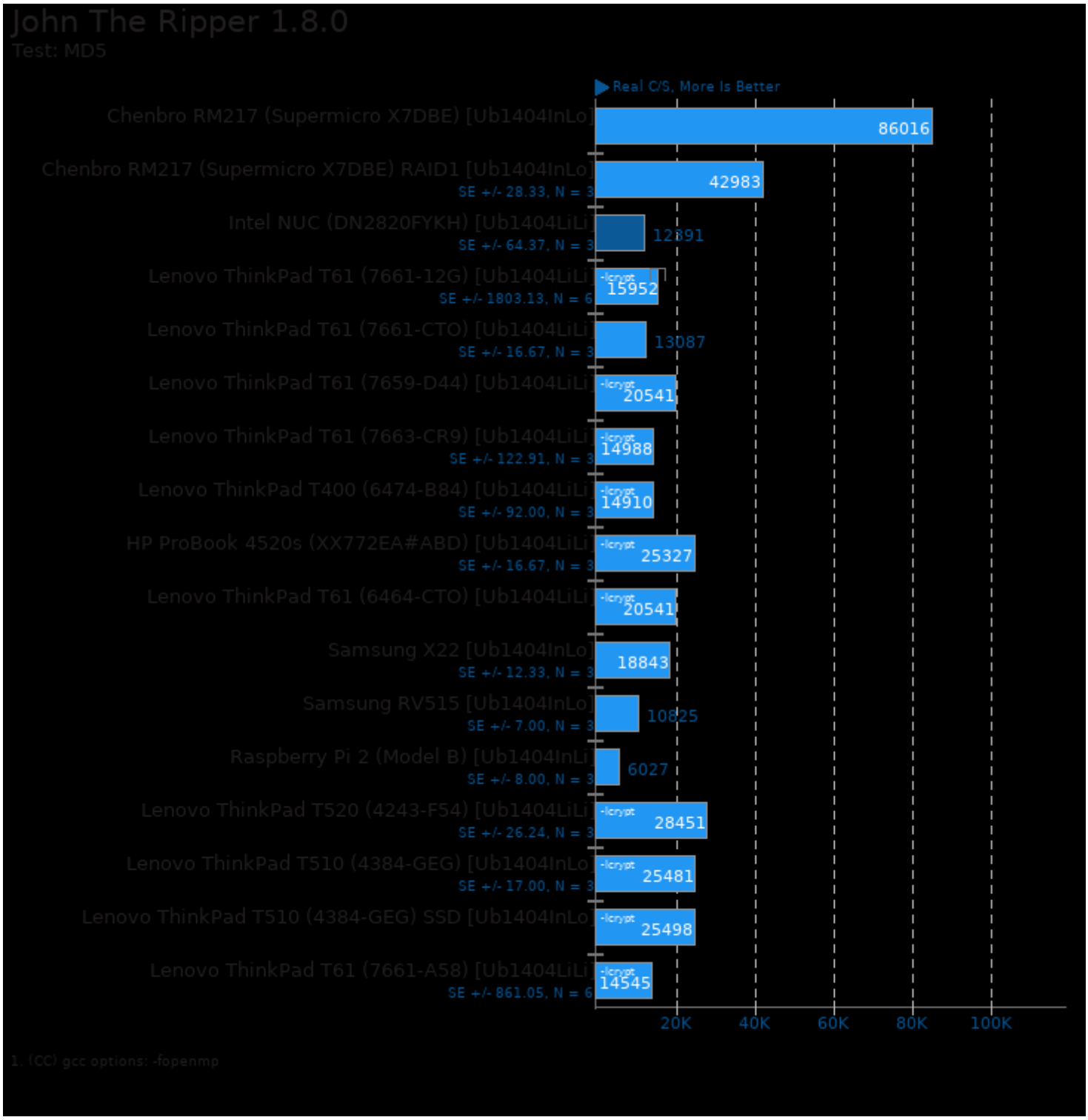
Notebook screening (timtaw test suite)




Gcrypt Library 1.4.4
CAMELLIA256-ECB Cipher
Microseconds, Fewer Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 5.77, N = 3
4140
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 12.02, N = 3
4147
Samsung X22 [Ub1404InLo]
SE +/- 8.82, N = 3
4727
Samsung RV515 [Ub1404InLo]
SE +/- 20.28, N = 3
7503
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 5.77, N = 3
3160
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 3.33, N = 3
3157
1600
3200
4800
6400
8000
1. (CC) gcc options: -O2 -fvisibility=hidden


John The Ripper 1.8.0
Test: Blowfish
Real C/S, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 3.67, N = 3
5551
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
2778
Intel NUC (DN2820FYKH) [Ub1404LiLi]
SE +/- 0.67, N = 3
-lcrypt
1038
Lenovo ThinkPad T61 (7661-12G) [Ub1404LiLi]
-lcrypt
1216
Lenovo ThinkPad T61 (7661-CTO) [Ub1404LiLi]
SE +/- 12.25, N = 6
-lcrypt
858
Lenovo ThinkPad T61 (7659-D44) [Ub1404LiLi]
-lcrypt
1327
Lenovo ThinkPad T61 (7663-CR9) [Ub1404LiLi]
SE +/- 14.89, N = 3
-lcrypt
959
Lenovo ThinkPad T400 (6474-B84) [Ub1404LiLi]
SE +/- 13.99, N = 5
-lcrypt
962
HP ProBook 4520s (XX772EA#ABD) [Ub1404LiLi]
SE +/- 2.91, N = 3
-lcrypt
1881
Lenovo ThinkPad T61 (6464-CTO) [Ub1404LiLi]
-lcrypt
1324
Samsung X22 [Ub1404InLo]
1216
Samsung RV515 [Ub1404InLo]
811
Raspberry Pi 2 (Model B) [Ub1404InLi]
388
Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi]
SE +/- 31.07, N = 3
-lcrypt
2024
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
-lcrypt
1877
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 3.53, N = 3
-lcrypt
1876
Lenovo ThinkPad T61 (7661-A58) [Ub1404LiLi]
SE +/- 0.67, N = 3
-lcrypt
995
1200
2400
3600
4800
6000
1. (CC) gcc options: -fopenmp

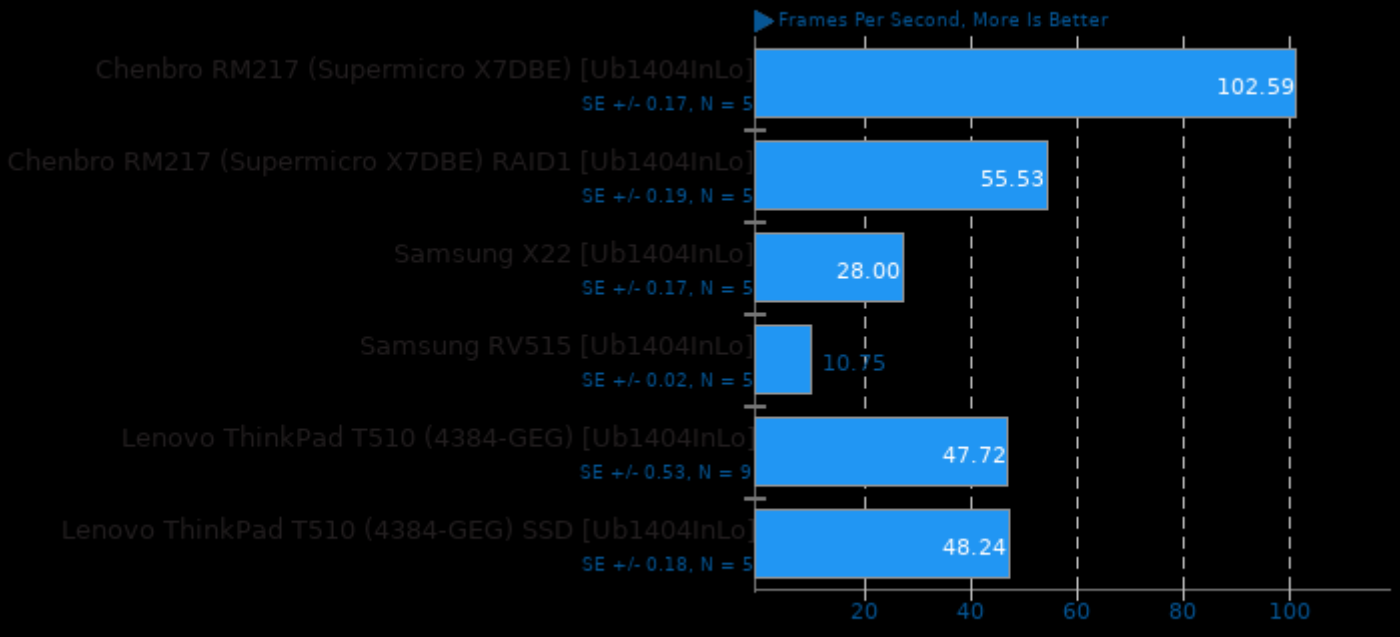

John The Ripper 1.8.0
Test: Traditional DES
Real C/S, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 2333.33, N = 3
21650667
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 9769.57, N = 3
10847667
Intel NUC (DN2820FYKH) [Ub1404LiLi]
SE +/- 666.67, N = 3
3441333
Lenovo ThinkPad T61 (7661-12G) [Ub1404LiLi]
SE +/- 131406.41, N = 6
4553333
Lenovo ThinkPad T61 (7661-CTO) [Ub1404LiLi]
SE +/- 5238.74, N = 3
3474333
Lenovo ThinkPad T61 (7659-D44) [Ub1404LiLi]
SE +/- 81348.40, N = 4
4913250
Lenovo ThinkPad T61 (7663-CR9) [Ub1404LiLi]
SE +/- 81024.96, N = 6
3614333
Lenovo ThinkPad T400 (6474-B84) [Ub1404LiLi]
SE +/- 136667.64, N = 6
3525667
HP ProBook 4520s (XX772EA#ABD) [Ub1404LiLi]
SE +/- 31866.04, N = 3
3164667
Lenovo ThinkPad T61 (6464-CTO) [Ub1404LiLi]
SE +/- 4041.45, N = 3
5190000
Samsung X22 [Ub1404InLo]
SE +/- 1000.00, N = 3
4784000
Samsung RV515 [Ub1404InLo]
SE +/- 881.92, N = 3
1325333
Raspberry Pi 2 (Model B) [Ub1404InLi]
SE +/- 518531.37, N = 3
318456333
Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi]
SE +/- 45309.31, N = 6
3379000
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 5859.47, N = 3
3380000
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 5666.67, N = 3
3386667
Lenovo ThinkPad T61 (7661-A58) [Ub1404LiLi]
SE +/- 9769.57, N = 3
3876667
70M
140M
210M
280M
350M
1. (CC) gcc options: -fopenmp


John The Ripper 1.8.0
Test: MD5
Real C/S, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo] 86016
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo] 42983
SE +/- 28.33, N = 3
Intel NUC (DN2820FYKH) [Ub1404LiLi] 12891
SE +/- 64.37, N = 3
Lenovo ThinkPad T61 (7661-12G) [Ub1404LiLi] 15952
SE +/- 1803.13, N = 6
Lenovo ThinkPad T61 (7661-CTO) [Ub1404LiLi] 13087
SE +/- 16.67, N = 3
Lenovo ThinkPad T61 (7659-D44) [Ub1404LiLi] 20541
Lenovo ThinkPad T61 (7663-CR9) [Ub1404LiLi] 14988
SE +/- 122.91, N = 3
Lenovo ThinkPad T400 (6474-B84) [Ub1404LiLi] 14910
SE +/- 92.00, N = 3
HP ProBook 4520s (XX772EA#ABD) [Ub1404LiLi] 25327
SE +/- 16.67, N = 3
Lenovo ThinkPad T61 (6464-CTO) [Ub1404LiLi] 20541
Samsung X22 [Ub1404InLo] 18843
SE +/- 12.33, N = 3
Samsung RV515 [Ub1404InLo] 10825
SE +/- 7.00, N = 3
Raspberry Pi 2 (Model B) [Ub1404InLi] 6027
SE +/- 8.00, N = 3
Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi] 28451
SE +/- 26.24, N = 3
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo] 25481
SE +/- 17.00, N = 3
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo] 25498
Lenovo ThinkPad T61 (7661-A58) [Ub1404LiLi] 14545
SE +/- 861.05, N = 6
-lcrypt
20K
40K
60K
80K
100K
1. (CC) gcc options: -fopenmp

Notebook screening (timtaw test suite)

x264 2017-05-19

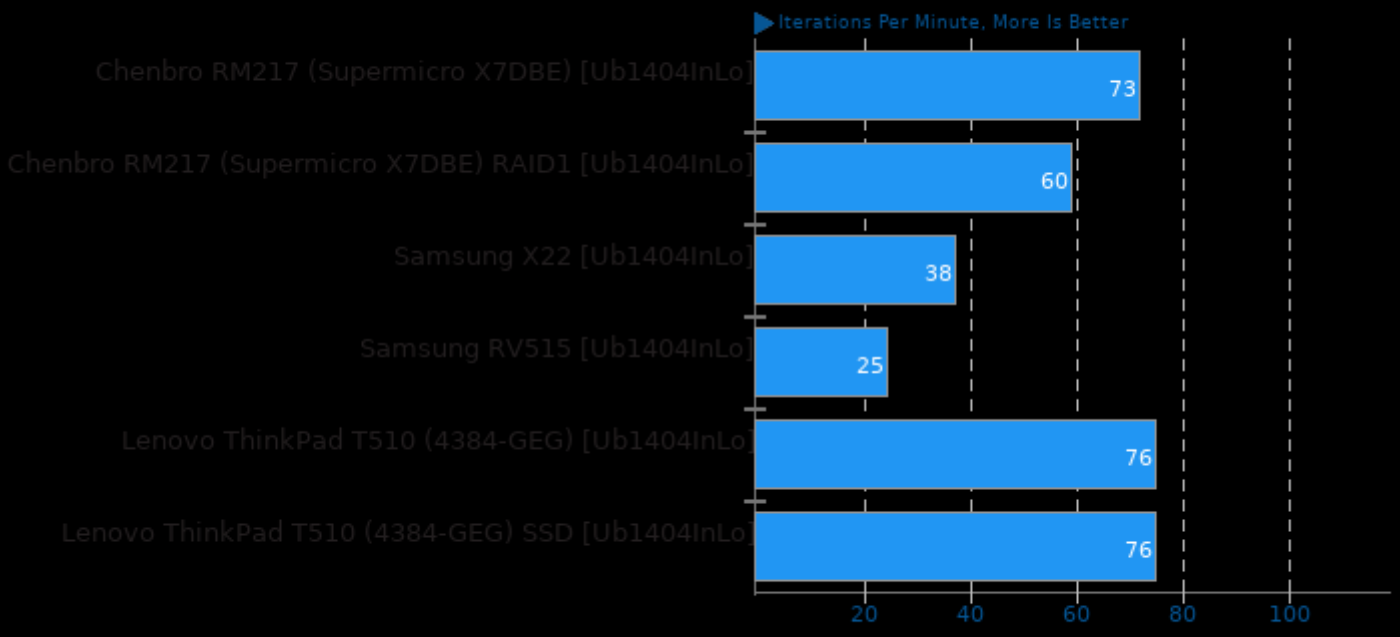
H.264 Video Encoding



1. (CC) gcc options: -ldl -m64 -lm -lpthread -O3 -ffast-math -std=gnu99 -fomit-frame-pointer -fno-tree-vectorize

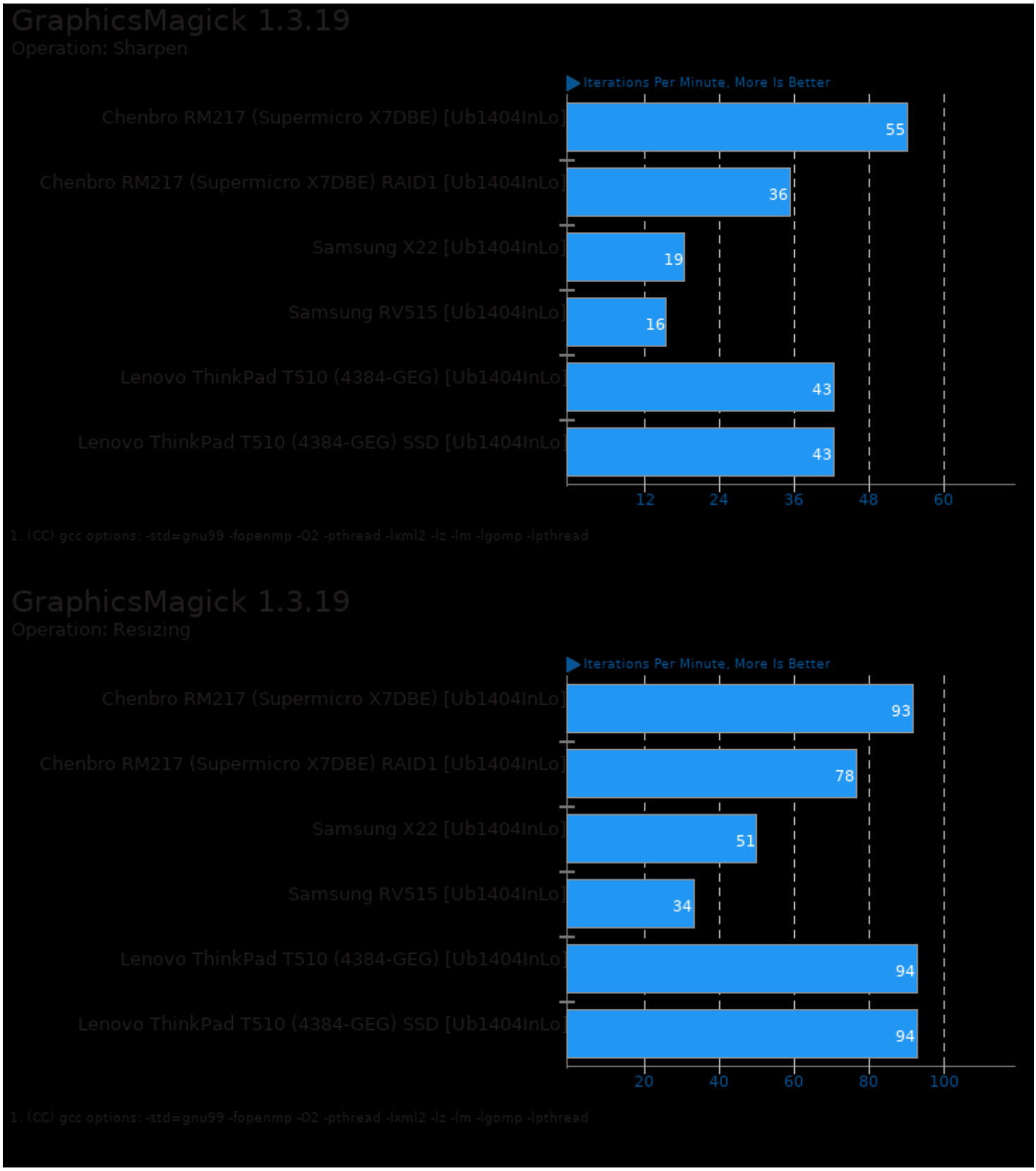
GraphicsMagick 1.3.19

Operation: Blur

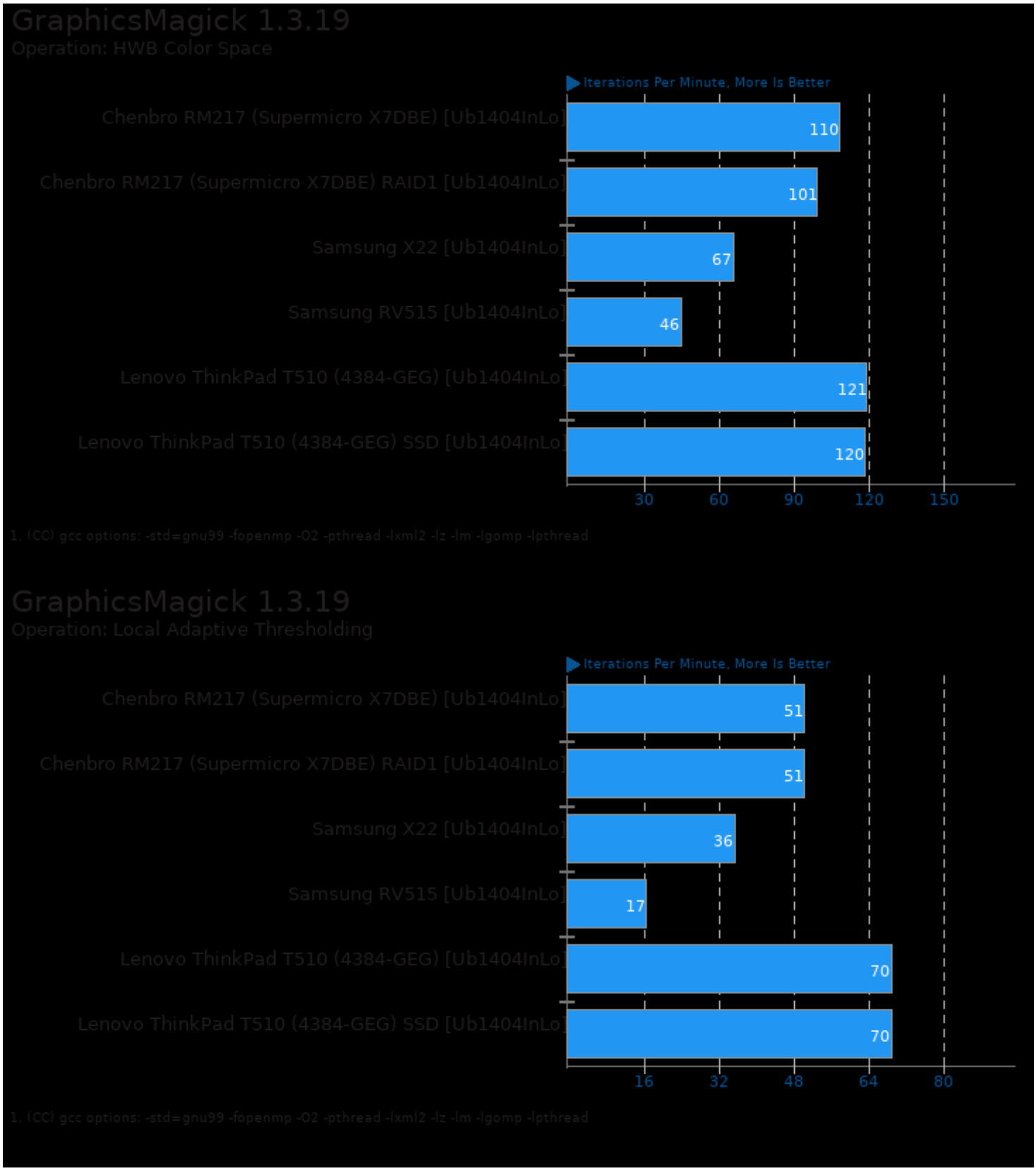


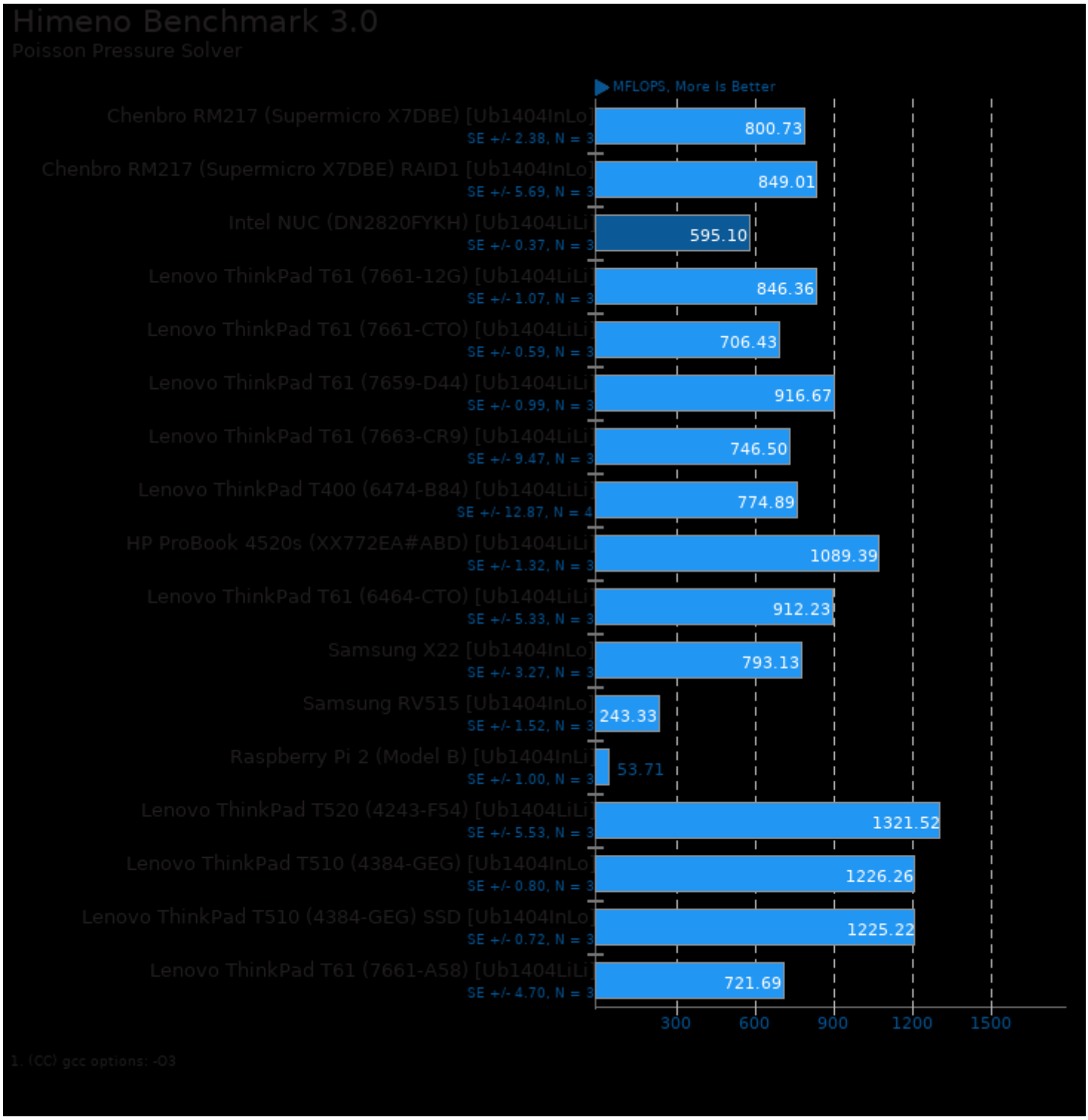
1. (CC) gcc options: -std=gnu99 -fopenmp -O2 -pthread -lxml2 -lz -lm -lgomp -lpthread

Notebook screening (timtaw test suite)



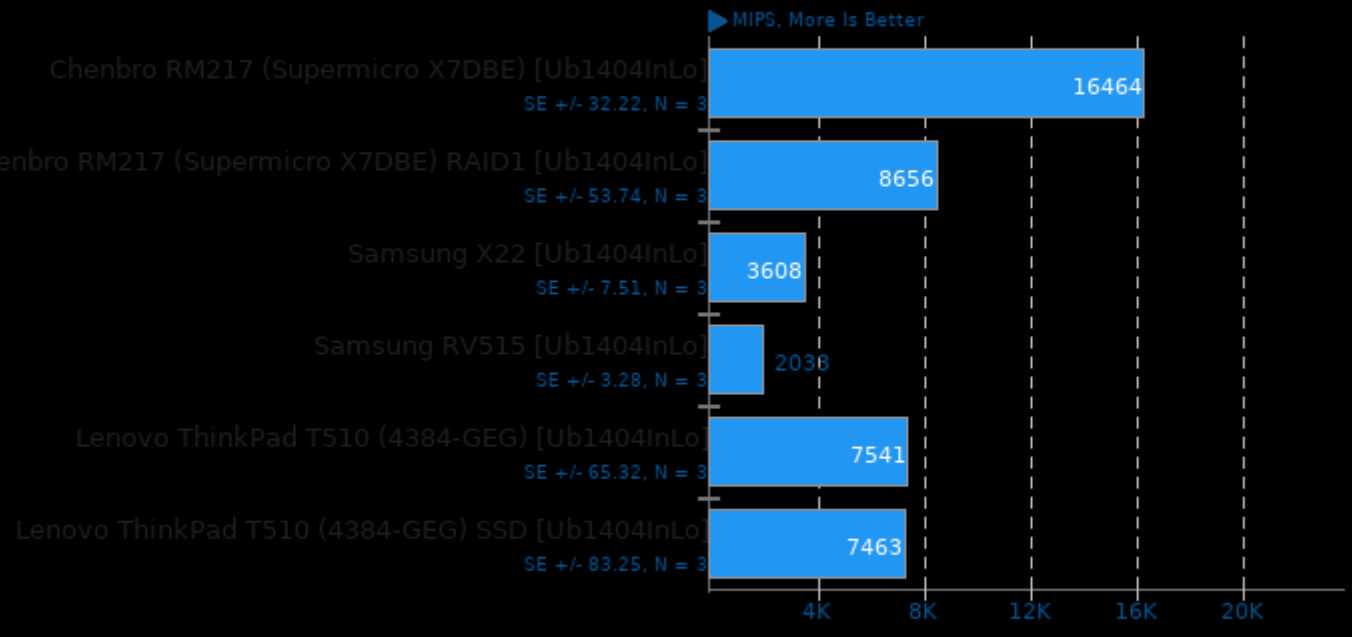
Notebook screening (timtaw test suite)




Himeno Benchmark 3.0
Poisson Pressure Solver
MFLOPS, More Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 2.38, N = 3
800.73
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 5.69, N = 3
849.01
Intel NUC (DN2820FYKH) [Ub1404LiLi]
SE +/- 0.37, N = 3
595.10
Lenovo ThinkPad T61 (7661-12G) [Ub1404LiLi]
SE +/- 1.07, N = 3
846.36
Lenovo ThinkPad T61 (7661-CTO) [Ub1404LiLi]
SE +/- 0.59, N = 3
706.43
Lenovo ThinkPad T61 (7659-D44) [Ub1404LiLi]
SE +/- 0.99, N = 3
916.67
Lenovo ThinkPad T61 (7663-CR9) [Ub1404LiLi]
SE +/- 9.47, N = 3
746.50
Lenovo ThinkPad T400 (6474-B84) [Ub1404LiLi]
SE +/- 12.87, N = 4
774.89
HP ProBook 4520s (XX772EA#ABD) [Ub1404LiLi]
SE +/- 1.32, N = 3
1089.39
Lenovo ThinkPad T61 (6464-CTO) [Ub1404LiLi]
SE +/- 5.33, N = 3
912.23
Samsung X22 [Ub1404InLo]
SE +/- 3.27, N = 3
793.13
Samsung RV515 [Ub1404InLo]
SE +/- 1.52, N = 3
243.33
Raspberry Pi 2 (Model B) [Ub1404InLi]
SE +/- 1.00, N = 3
53.71
Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi]
SE +/- 5.53, N = 3
1321.52
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.80, N = 3
1226.26
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 0.72, N = 3
1225.22
Lenovo ThinkPad T61 (7661-A58) [Ub1404LiLi]
SE +/- 4.70, N = 3
721.69
300
600
900
1200
1500
1. (CC) gcc options: -O3

7-Zip Compression 9.20.1

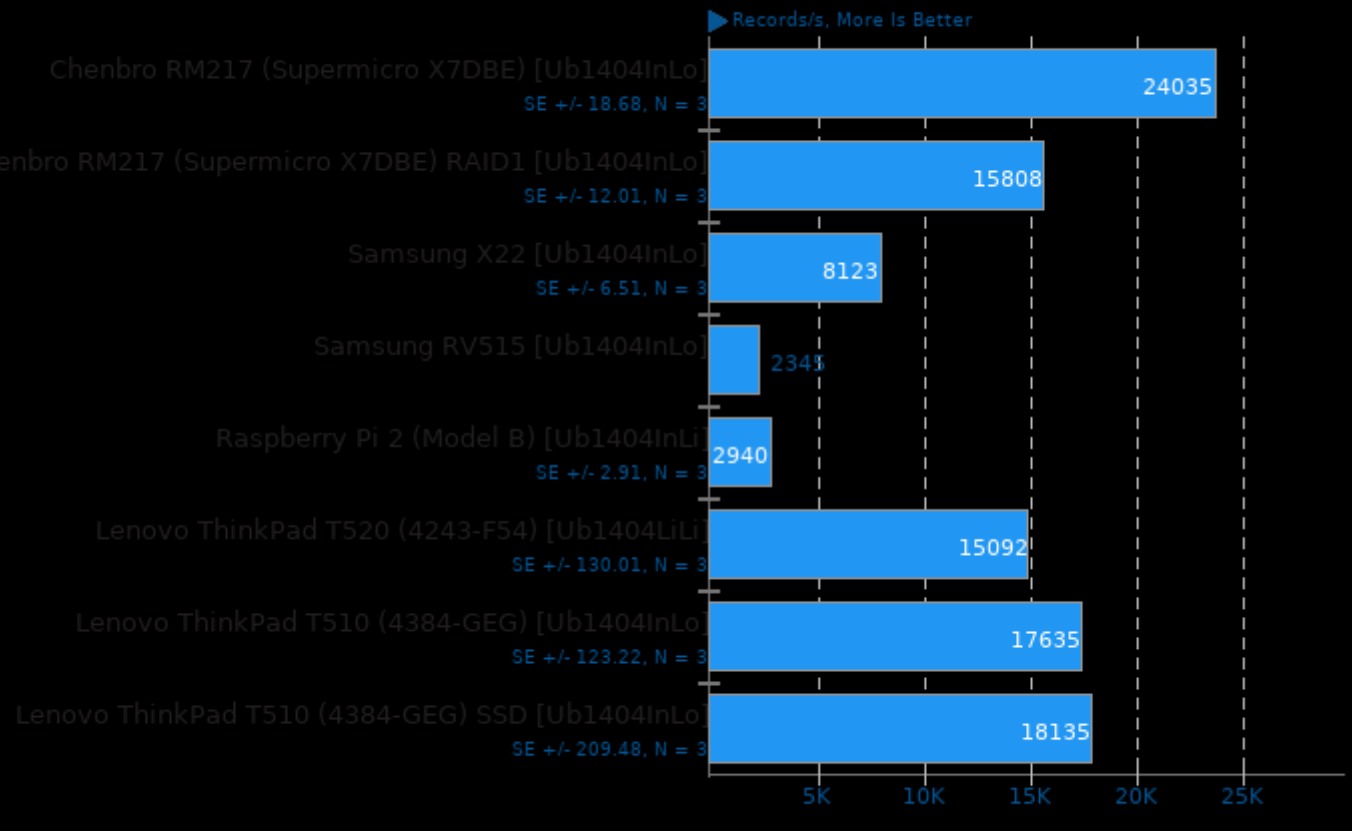
Compress Speed Test



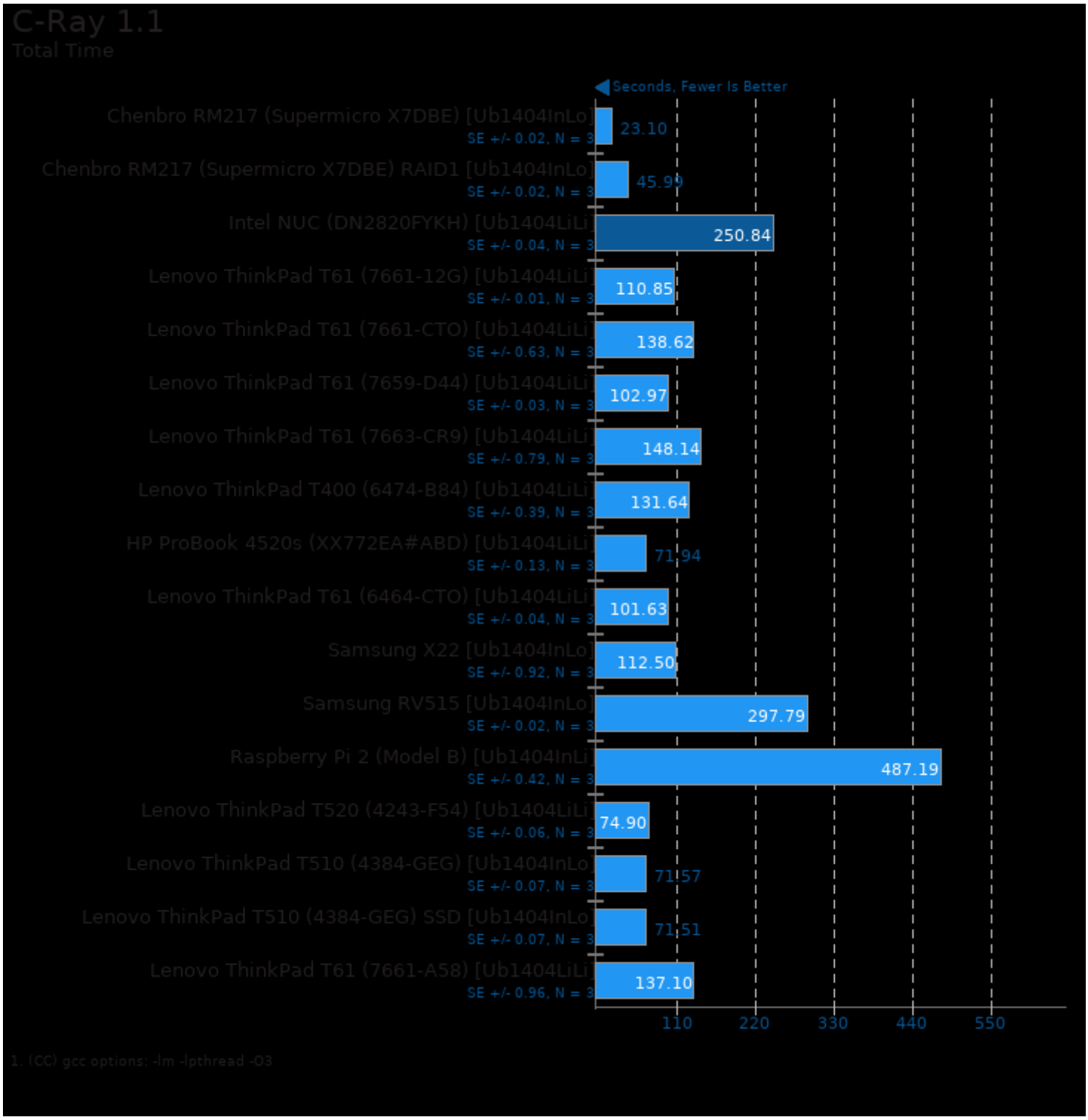
1. (CXX) g++ options: -pipe -lpthread

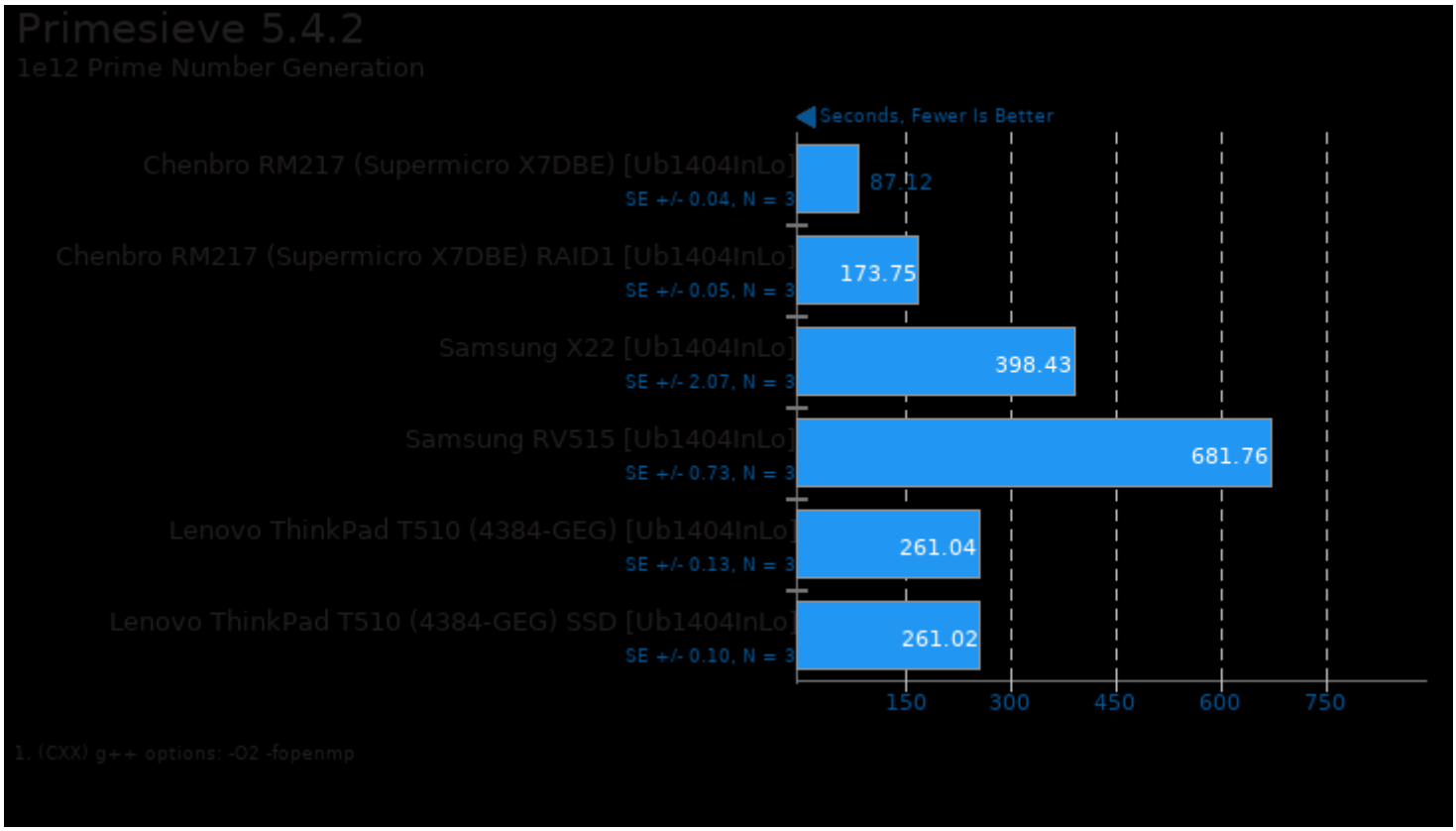
ebizzy 0.3

Phoronix Test Suite v7.2.1

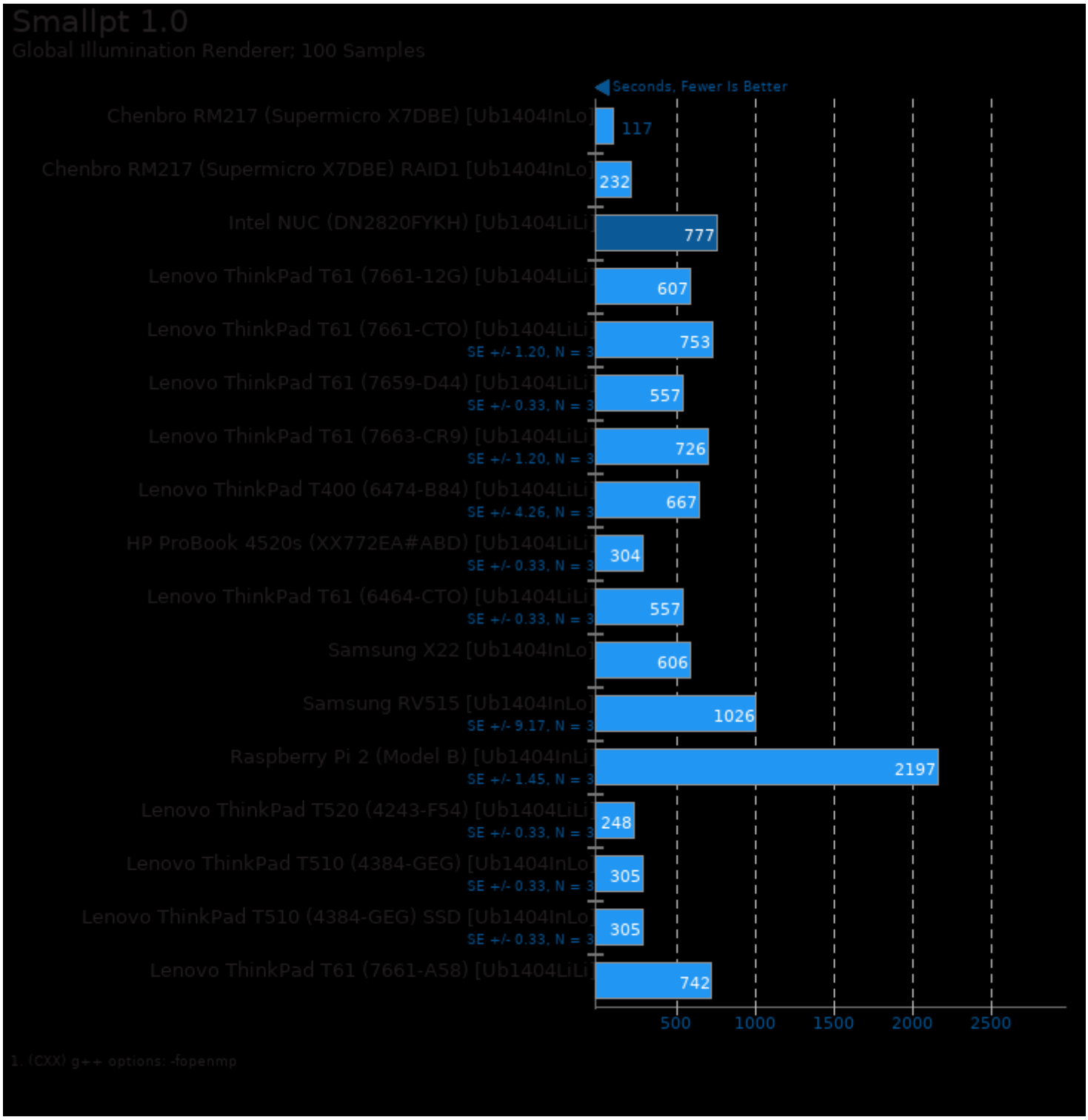


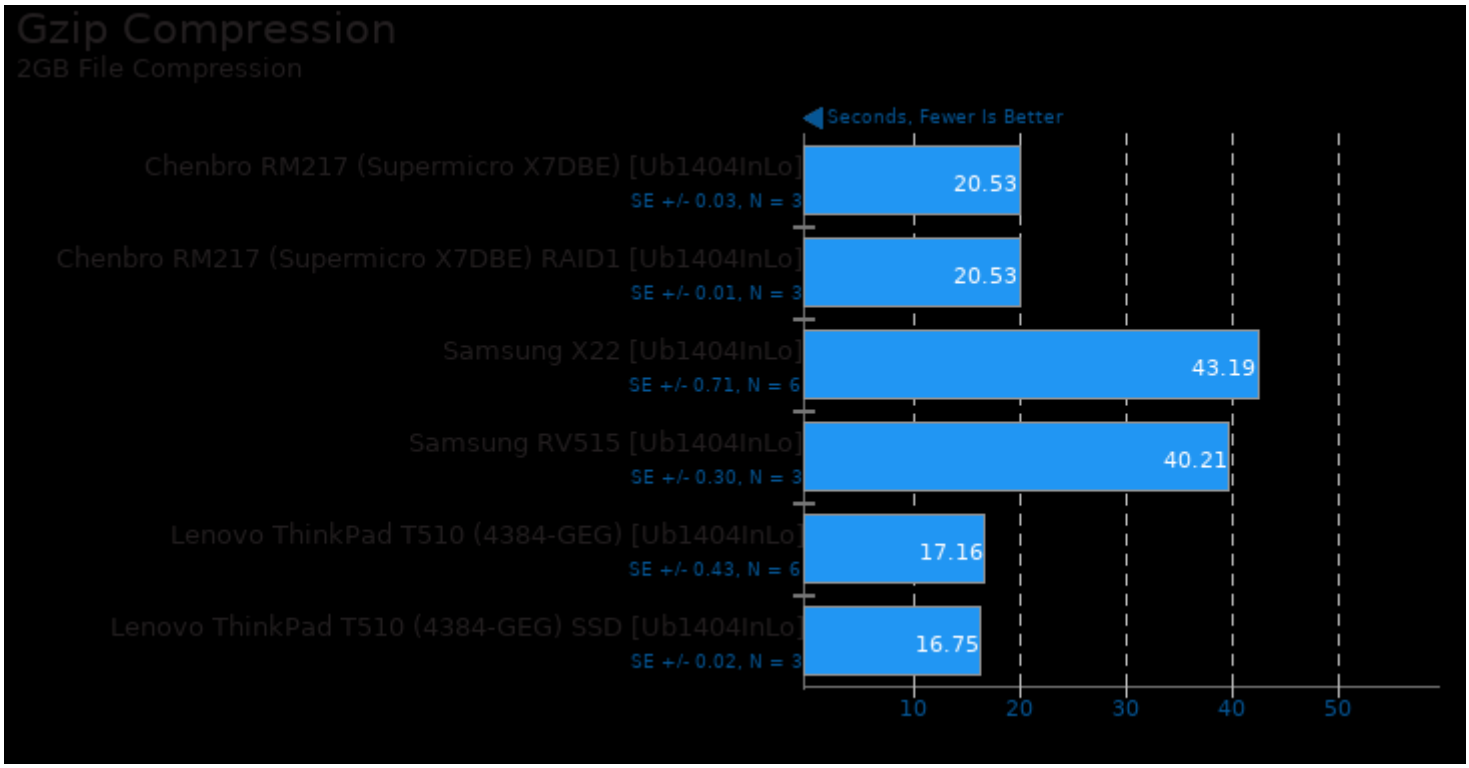
1. (CC) gcc options: -pthread -lpthread -O3 -march=native

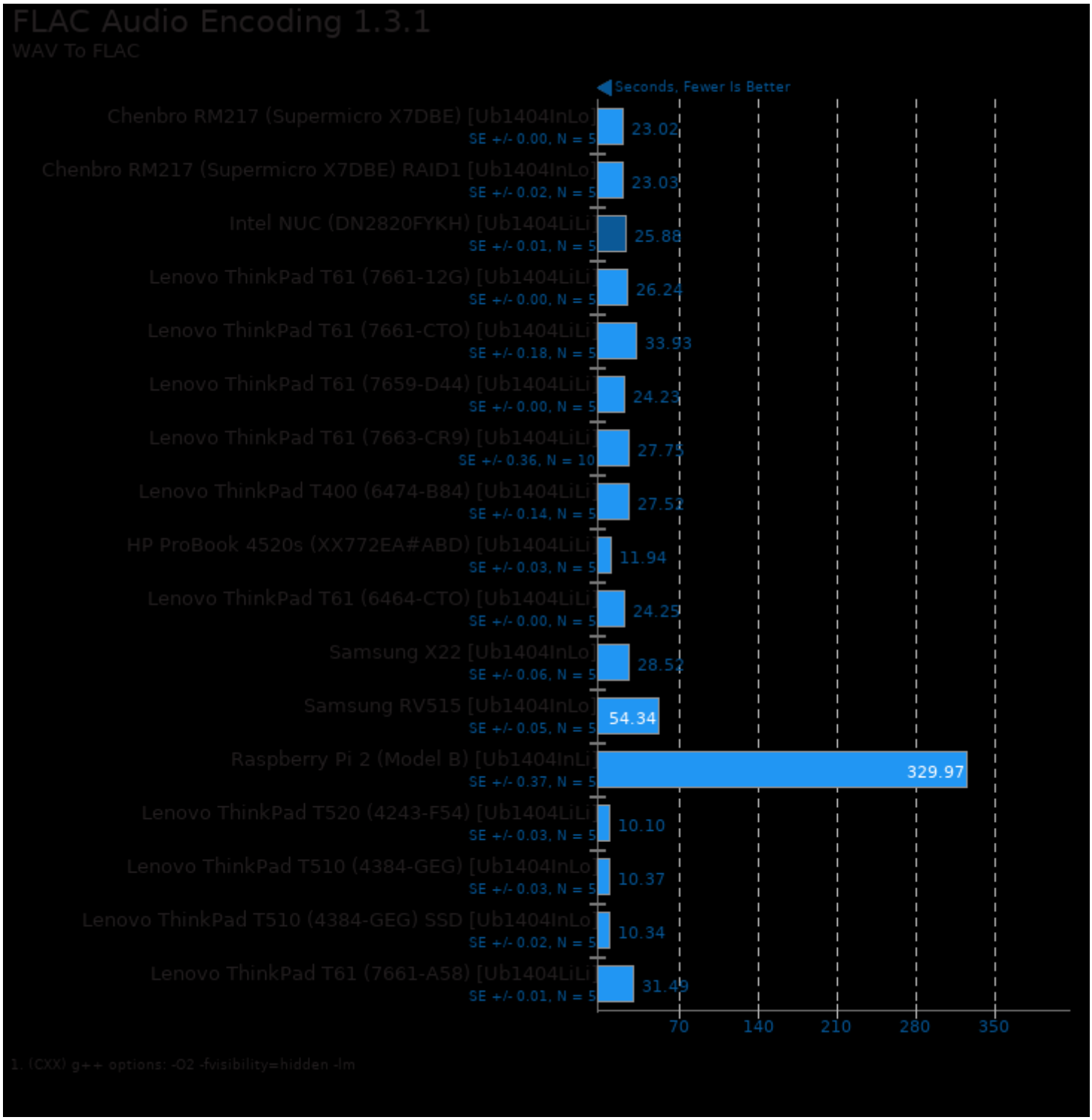

C-Ray 1.1
Total Time
Seconds, Fewer Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.02, N = 3
23.10
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.02, N = 3
45.99
Intel NUC (DN2820FYKH) [Ub1404LiLi]
SE +/- 0.04, N = 3
250.84
Lenovo ThinkPad T61 (7661-12G) [Ub1404LiLi]
SE +/- 0.01, N = 3
110.85
Lenovo ThinkPad T61 (7661-CTO) [Ub1404LiLi]
SE +/- 0.63, N = 3
138.62
Lenovo ThinkPad T61 (7659-D44) [Ub1404LiLi]
SE +/- 0.03, N = 3
102.97
Lenovo ThinkPad T61 (7663-CR9) [Ub1404LiLi]
SE +/- 0.79, N = 3
148.14
Lenovo ThinkPad T400 (6474-B84) [Ub1404LiLi]
SE +/- 0.39, N = 3
131.64
HP ProBook 4520s (XX772EA#ABD) [Ub1404LiLi]
SE +/- 0.13, N = 3
71.94
Lenovo ThinkPad T61 (6464-CTO) [Ub1404LiLi]
SE +/- 0.04, N = 3
101.63
Samsung X22 [Ub1404InLo]
SE +/- 0.92, N = 3
112.50
Samsung RV515 [Ub1404InLo]
SE +/- 0.02, N = 3
297.79
Raspberry Pi 2 (Model B) [Ub1404InLi]
SE +/- 0.42, N = 3
487.19
Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi]
SE +/- 0.06, N = 3
74.90
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.07, N = 3
71.57
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 0.07, N = 3
71.51
Lenovo ThinkPad T61 (7661-A58) [Ub1404LiLi]
SE +/- 0.96, N = 3
137.10
110
220
330
440
550
1. (CC) gcc options: -lm -lpthread -O3

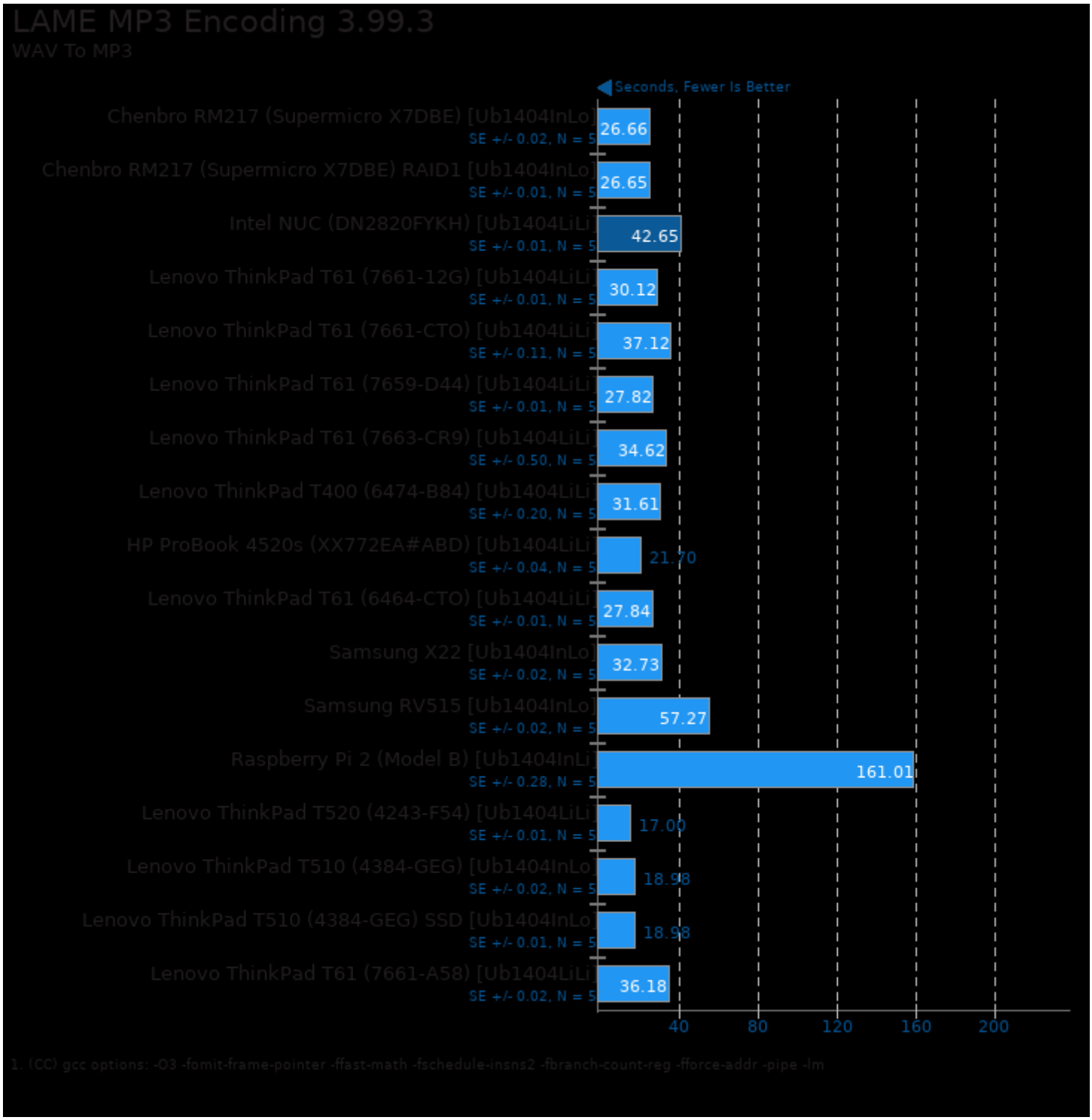

Primesieve 5.4.2
1e12 Prime Number Generation
Seconds, Fewer Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.04, N = 3
87.12
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.05, N = 3
173.75
Samsung X22 [Ub1404InLo]
SE +/- 2.07, N = 3
398.43
Samsung RV515 [Ub1404InLo]
SE +/- 0.73, N = 3
681.76
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.13, N = 3
261.04
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 0.10, N = 3
261.02
150
300
450
600
750
1. (CXX) g++ options: -O2 -fopenmp

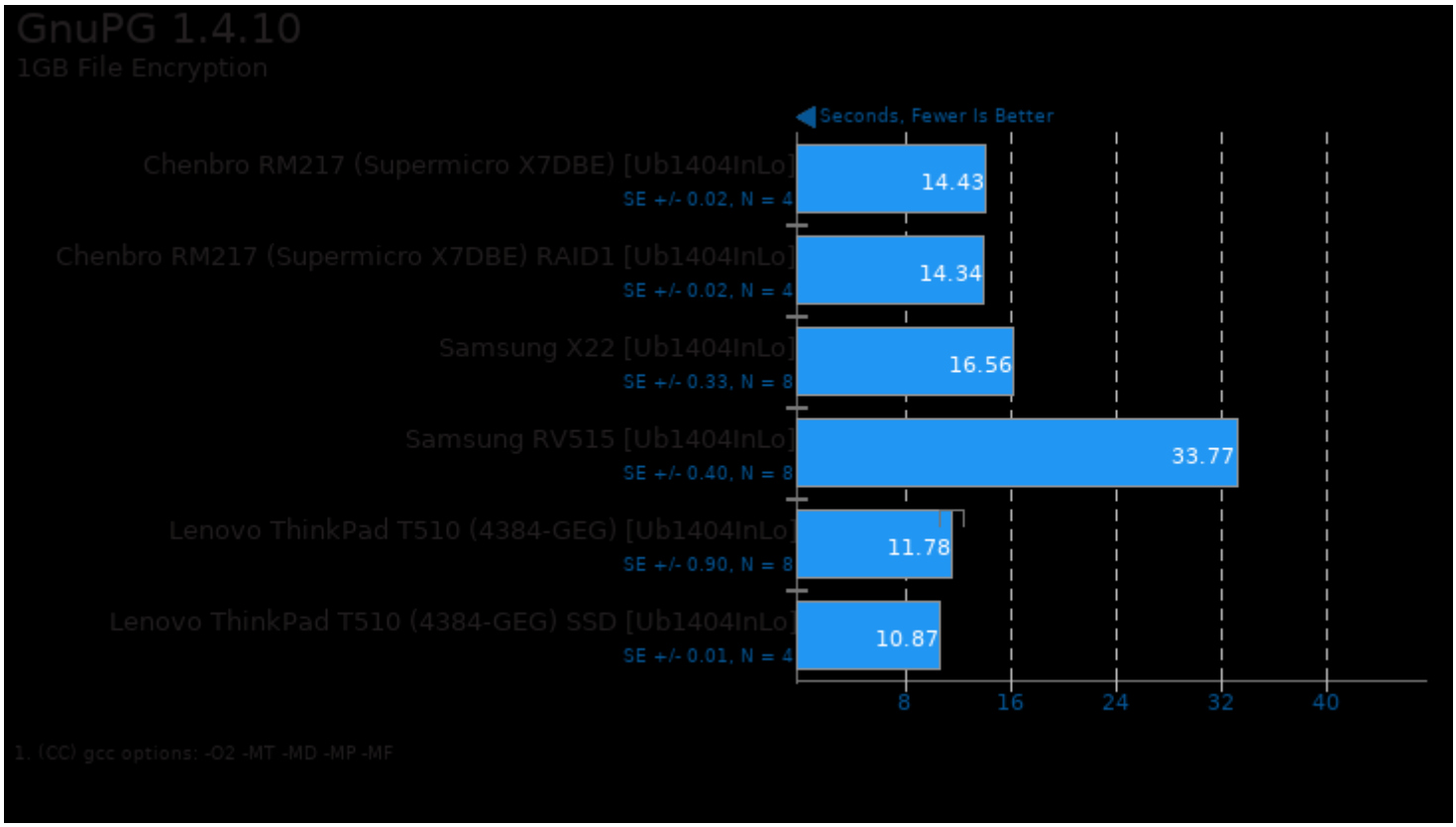
Notebook screening (timtaw test suite)



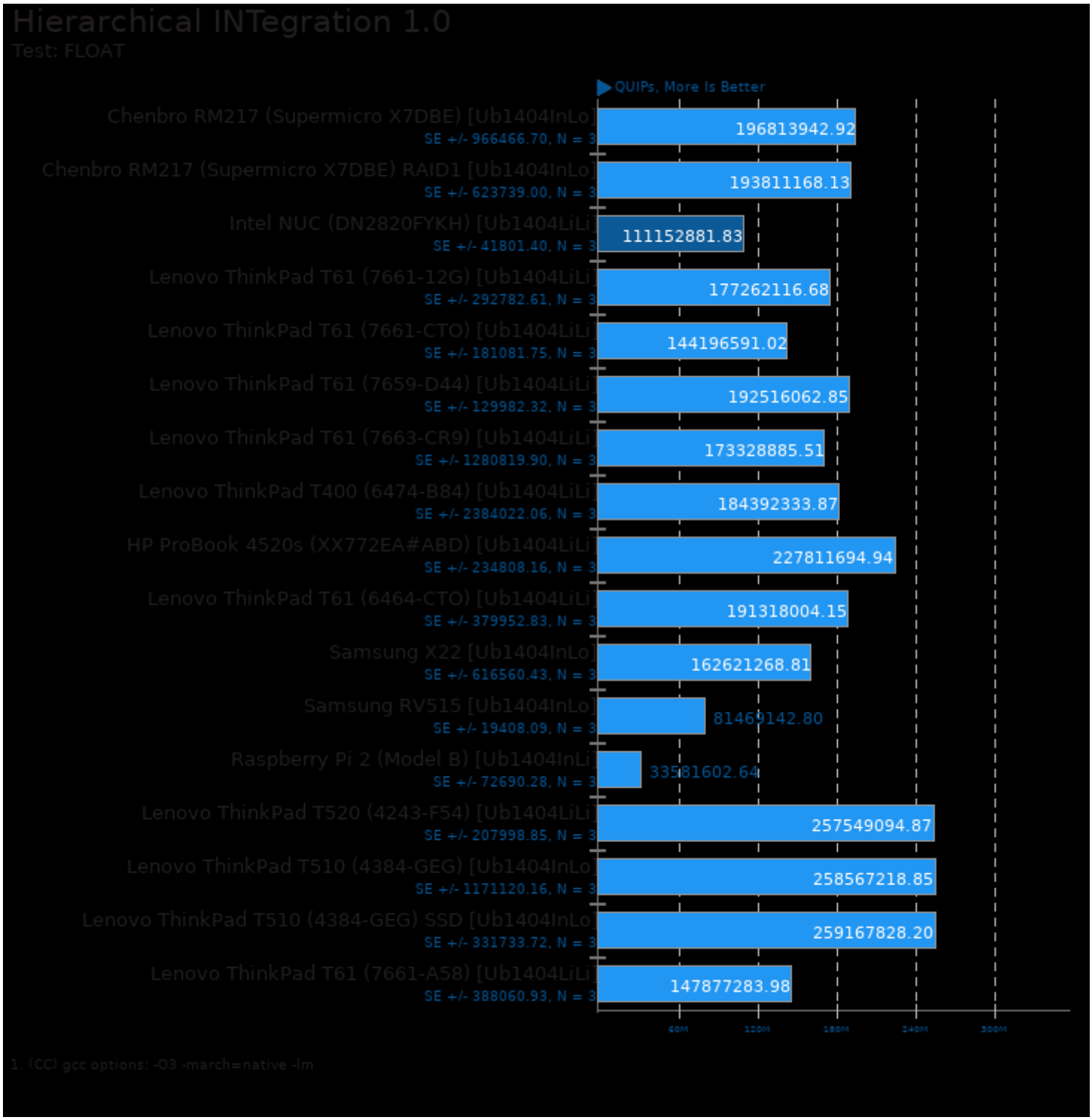

Gzip Compression
2GB File Compression
Seconds, Fewer Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.03, N = 3
20.53
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.01, N = 3
20.53
Samsung X22 [Ub1404InLo]
SE +/- 0.71, N = 6
43.19
Samsung RV515 [Ub1404InLo]
SE +/- 0.30, N = 3
40.21
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.43, N = 6
17.16
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 0.02, N = 3
16.75
10
20
30
40
50


FLAC Audio Encoding 1.3.1
WAV To FLAC
Seconds, Fewer Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.00, N = 5
23.02
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.02, N = 5
23.03
Intel NUC (DN2820FYKH) [Ub1404LiLi]
SE +/- 0.01, N = 5
25.88
Lenovo ThinkPad T61 (7661-12G) [Ub1404LiLi]
SE +/- 0.00, N = 5
26.24
Lenovo ThinkPad T61 (7661-CTO) [Ub1404LiLi]
SE +/- 0.18, N = 5
33.93
Lenovo ThinkPad T61 (7659-D44) [Ub1404LiLi]
SE +/- 0.00, N = 5
24.23
Lenovo ThinkPad T61 (7663-CR9) [Ub1404LiLi]
SE +/- 0.36, N = 10
27.75
Lenovo ThinkPad T400 (6474-B84) [Ub1404LiLi]
SE +/- 0.14, N = 5
27.52
HP ProBook 4520s (XX772EA#ABD) [Ub1404LiLi]
SE +/- 0.03, N = 5
11.94
Lenovo ThinkPad T61 (6464-CTO) [Ub1404LiLi]
SE +/- 0.00, N = 5
24.25
Samsung X22 [Ub1404InLo]
SE +/- 0.06, N = 5
28.52
Samsung RV515 [Ub1404InLo]
SE +/- 0.05, N = 5
54.34
Raspberry Pi 2 (Model B) [Ub1404InLi]
SE +/- 0.37, N = 5
329.97
Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi]
SE +/- 0.03, N = 5
10.10
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.03, N = 5
10.37
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 0.02, N = 5
10.34
Lenovo ThinkPad T61 (7661-A58) [Ub1404LiLi]
SE +/- 0.01, N = 5
31.49
70
140
210
280
350
1. (CXX) g++ options: -O2 -fvisibility=hidden -lm


LAME MP3 Encoding 3.99.3
WAV To MP3
Seconds, Fewer Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.02, N = 5
26.66
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.01, N = 5
26.65
Intel NUC (DN2820FYKH) [Ub1404LiLi]
SE +/- 0.01, N = 5
42.65
Lenovo ThinkPad T61 (7661-12G) [Ub1404LiLi]
SE +/- 0.01, N = 5
30.12
Lenovo ThinkPad T61 (7661-CTO) [Ub1404LiLi]
SE +/- 0.11, N = 5
37.12
Lenovo ThinkPad T61 (7659-D44) [Ub1404LiLi]
SE +/- 0.01, N = 5
27.82
Lenovo ThinkPad T61 (7663-CR9) [Ub1404LiLi]
SE +/- 0.50, N = 5
34.62
Lenovo ThinkPad T400 (6474-B84) [Ub1404LiLi]
SE +/- 0.20, N = 5
31.61
HP ProBook 4520s (XX772EA#ABD) [Ub1404LiLi]
SE +/- 0.04, N = 5
21.70
Lenovo ThinkPad T61 (6464-CTO) [Ub1404LiLi]
SE +/- 0.01, N = 5
27.84
Samsung X22 [Ub1404InLo]
SE +/- 0.02, N = 5
32.73
Samsung RV515 [Ub1404InLo]
SE +/- 0.02, N = 5
57.27
Raspberry Pi 2 (Model B) [Ub1404InLi]
SE +/- 0.28, N = 5
161.01
Lenovo ThinkPad T520 (4243-F54) [Ub1404LiLi]
SE +/- 0.01, N = 5
17.00
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.02, N = 5
18.98
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 0.01, N = 5
18.98
Lenovo ThinkPad T61 (7661-A58) [Ub1404LiLi]
SE +/- 0.02, N = 5
36.18
40
80
120
160
200
1. (CC) gcc options: -O3 -fomit-frame-pointer -ffast-math -fschedule-insns2 -fbranch-count-reg -fforce-addr -pipe -lm

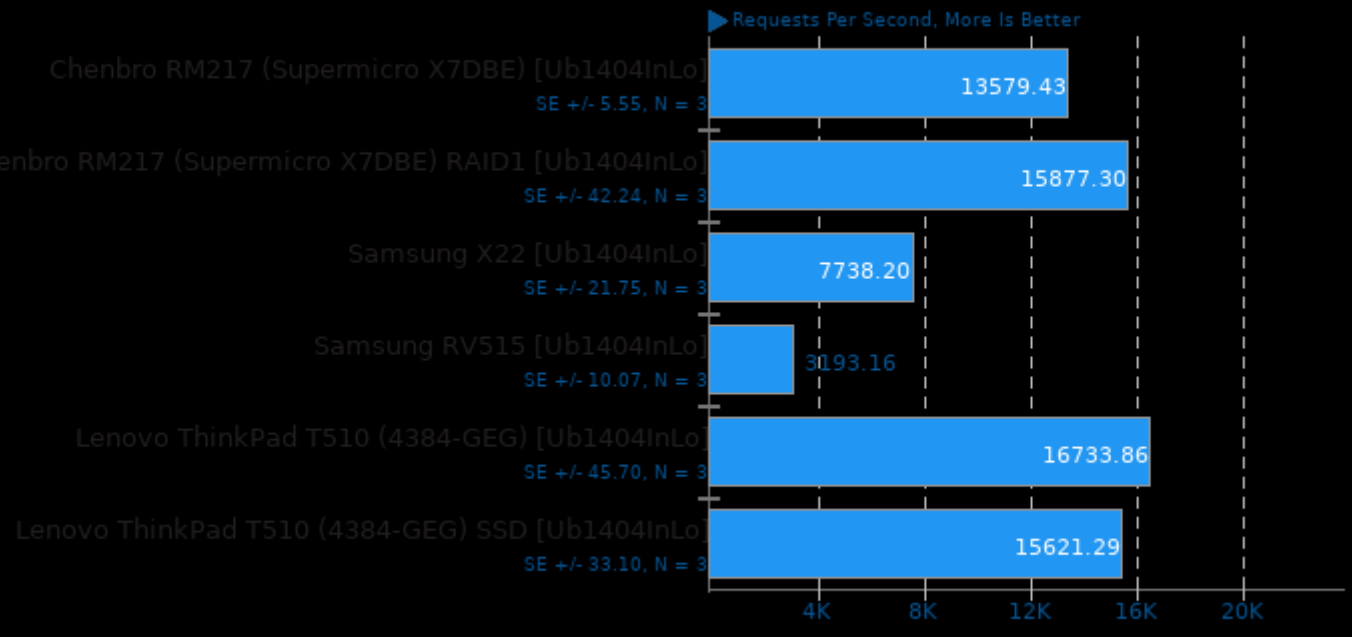

GnuPG 1.4.10
1GB File Encryption
Seconds, Fewer Is Better
Chenbro RM217 (Supermicro X7DBE) [Ub1404InLo]
SE +/- 0.02, N = 4
14.43
Chenbro RM217 (Supermicro X7DBE) RAID1 [Ub1404InLo]
SE +/- 0.02, N = 4
14.34
Samsung X22 [Ub1404InLo]
SE +/- 0.33, N = 8
16.56
Samsung RV515 [Ub1404InLo]
SE +/- 0.40, N = 8
33.77
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo]
SE +/- 0.90, N = 8
11.78
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo]
SE +/- 0.01, N = 4
10.87
8
16
24
32
40
1. (CC) gcc options: -O2 -MT -MD -MP -MF

Notebook screening (timtaw test suite)



Apache Benchmark 2.4.7

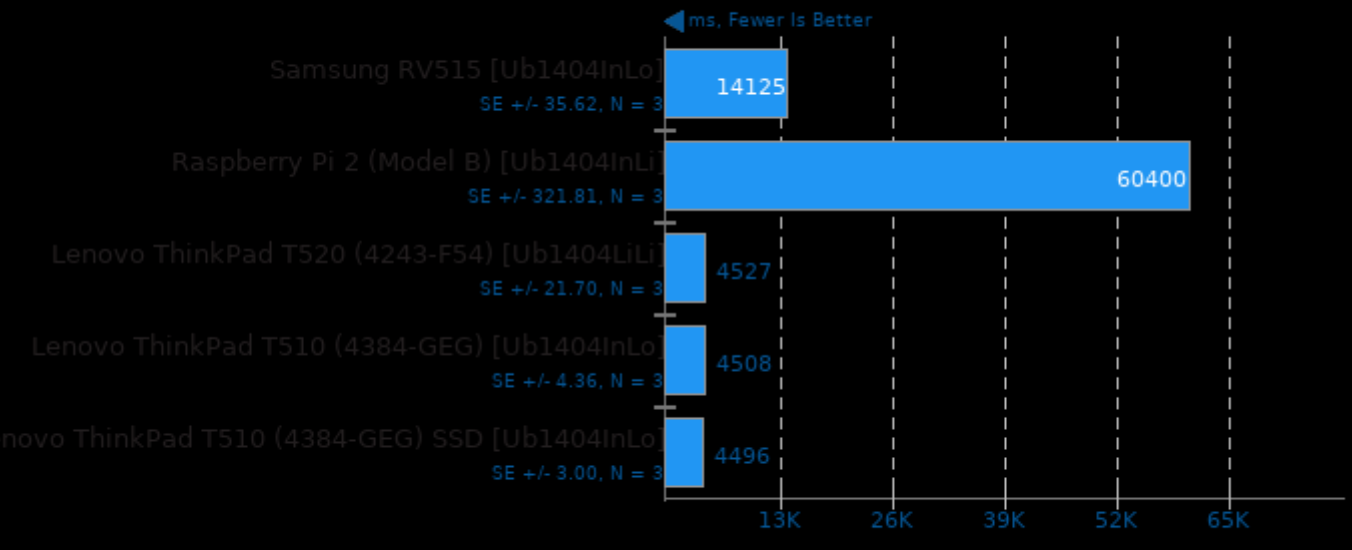
Static Web Page Serving



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

Stockfish 2014-11-26

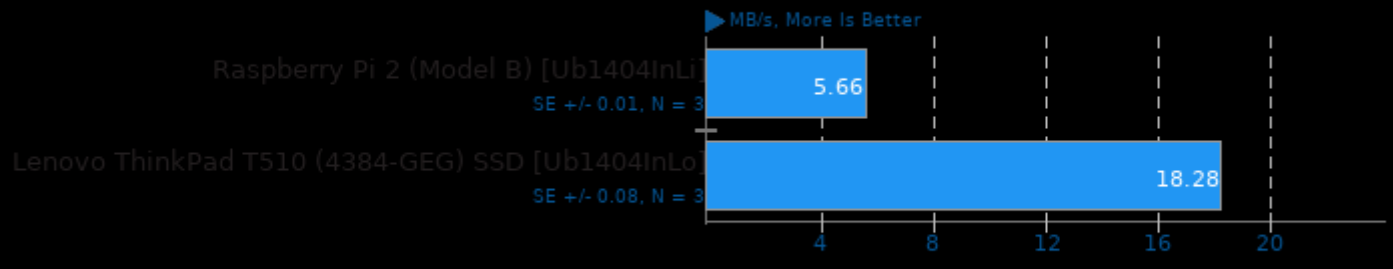
Total Time



1. (CXX) g++ options: -lpthread -fno-exceptions -fno-rtti -ansi -pedantic -O3 -flto

Flexible IO Tester 2.1.13

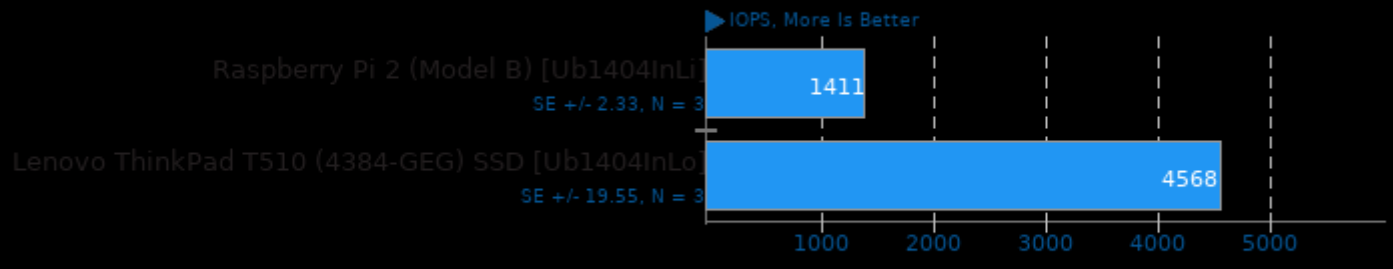
Type: Random Read - IO Engine: POSIX AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory



1. (CC) gcc options: -rdynamic -std=gnu99 -O3 -ffast-math -include -libverbs -lrt -laio -lz -lm -lpthread -ldl

Flexible IO Tester 2.1.13

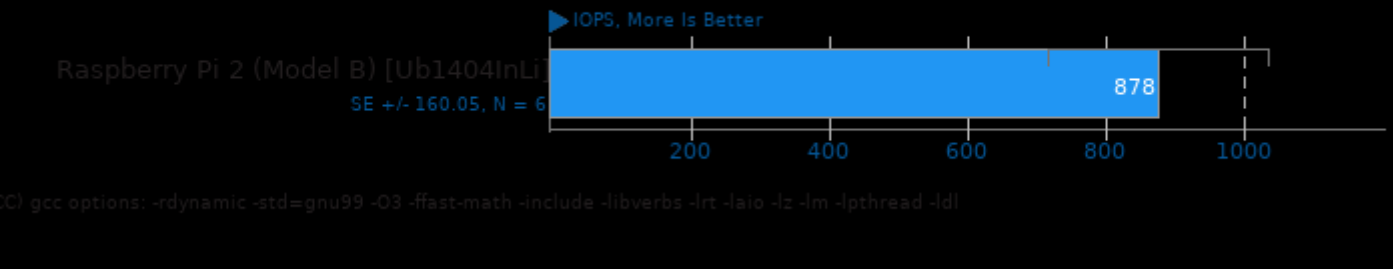
Type: Random Read - IO Engine: POSIX AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory



1. (CC) gcc options: -rdynamic -std=gnu99 -O3 -ffast-math -include -libverbs -lrt -laio -lz -lm -lpthread -ldl

Flexible IO Tester 2.1.13

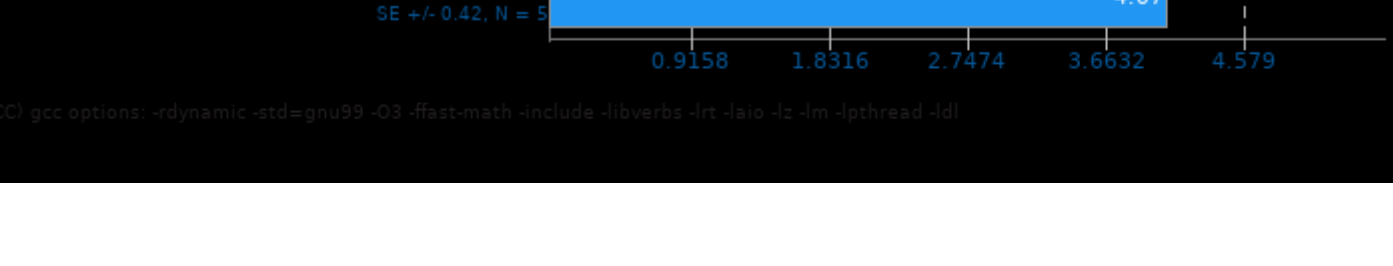
Type: Random Write - IO Engine: POSIX AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory



1. (CC) gcc options: -rdynamic -std=gnu99 -O3 -ffast-math -include -libverbs -lrt -laio -lz -lm -lpthread -ldl

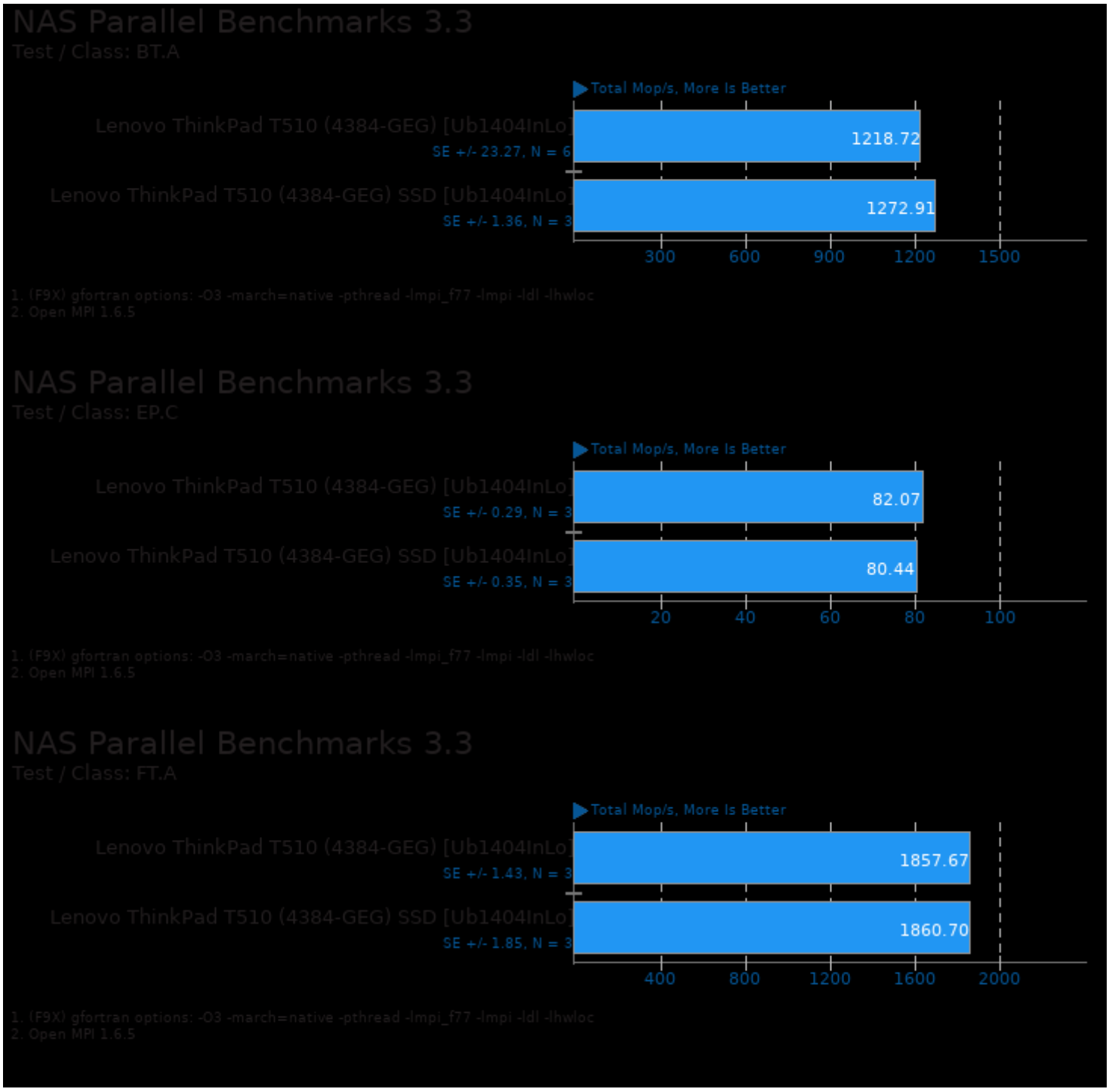
Flexible IO Tester 2.1.13

Type: Random Write - IO Engine: POSIX AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory



1. (CC) gcc options: -rdynamic -std=gnu99 -O3 -ffast-math -include -libverbs -lrt -laio -lz -lm -lpthread -ldl

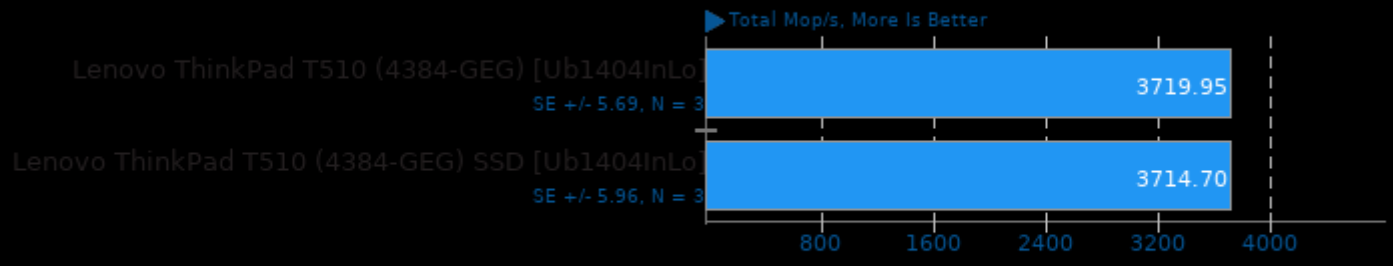
Notebook screening (timtaw test suite)



Notebook screening (timtaw test suite)

NAS Parallel Benchmarks 3.3

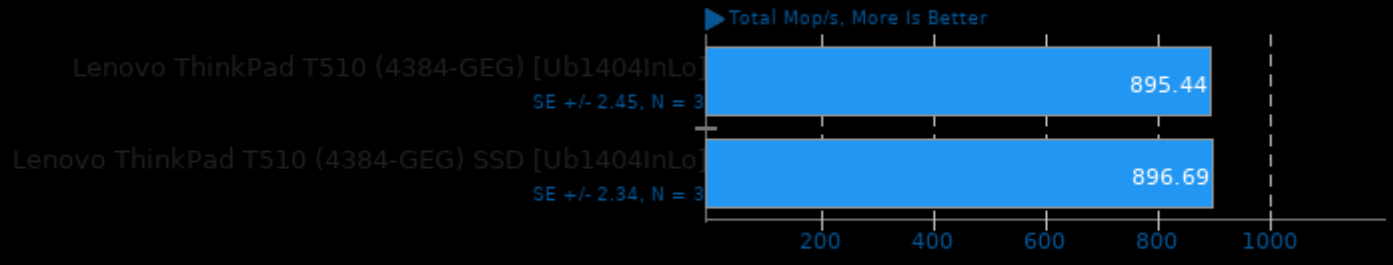
Test / Class: LU.A



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_f77 -lmpi -ldl -lhwloc
2. Open MPI 1.6.5

NAS Parallel Benchmarks 3.3

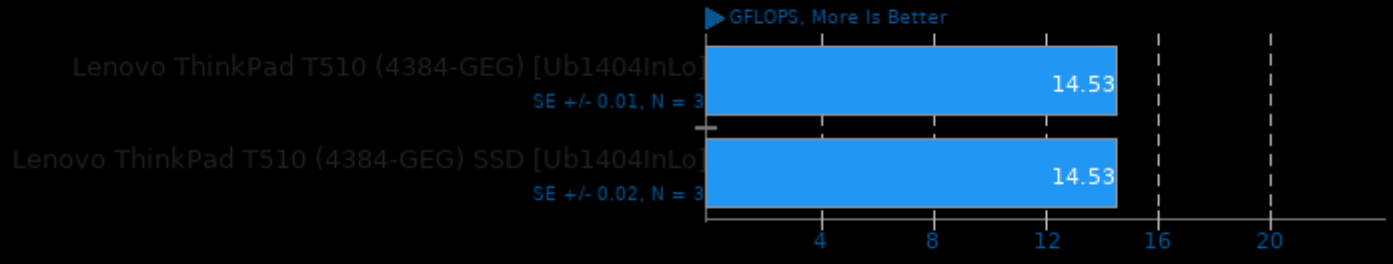
Test / Class: SP.A



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_f77 -lmpi -ldl -lhwloc
2. Open MPI 1.6.5

HPC Challenge 1.4.3

Test / Class: G-HPL

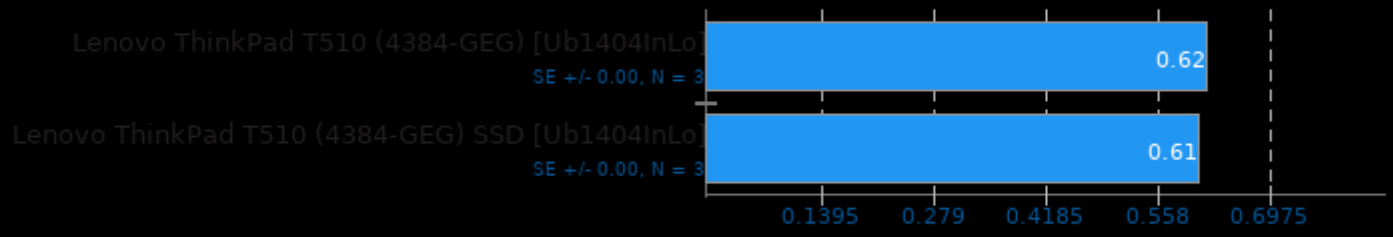


1. (CC) gcc options: -lblas -lm -pthread -lmpi -ldl -lhwloc -fomit-frame-pointer -O3 -march=native -funroll-loops
2. BLAS + Open MPI 1.6.5

Notebook screening (timtaw test suite)

High Performance Conjugate Gradient 1.1

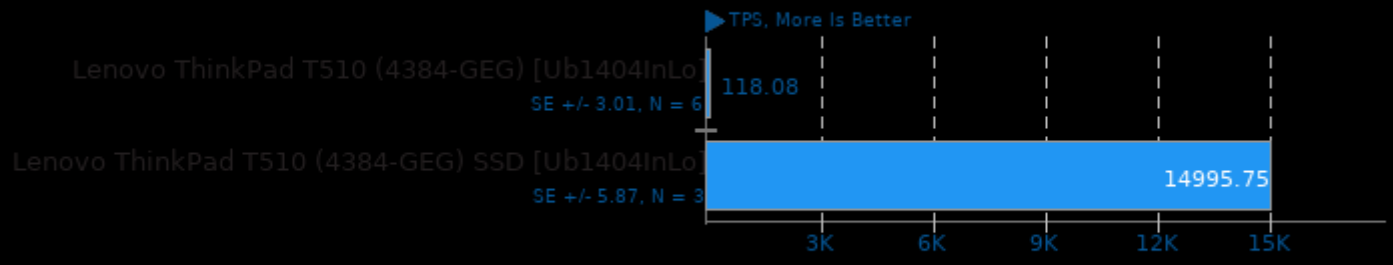
Phoronix Test Suite v7.2.1



1. (CXX) g++ options: -fopenmp -O3 -march=native -ffast-math -ftree-vectorize -lstdc++ -pthread -lmpi_cxx -lmpi -ldl -lhwloc
2. Open MPI 1.6.5

PostgreSQL pgbench 9.6.3

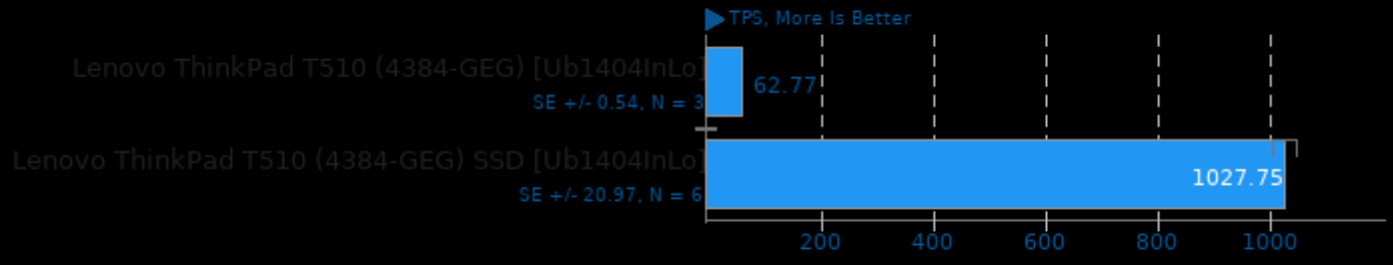
Scaling: On-Disk - Test: Normal Load - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -fpic -lpgcommon -lpgport -lrt -lcrypt -ldl -lm

PostgreSQL pgbench 9.6.3

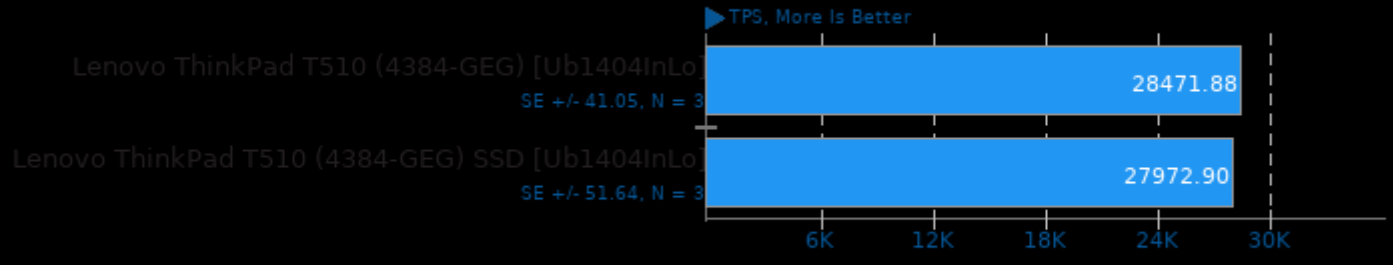
Scaling: On-Disk - Test: Normal Load - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -fpic -lpgcommon -lpgport -lrt -lcrypt -ldl -lm

PostgreSQL pgbench 9.6.3

Scaling: Mostly RAM - Test: Normal Load - Mode: Read Only

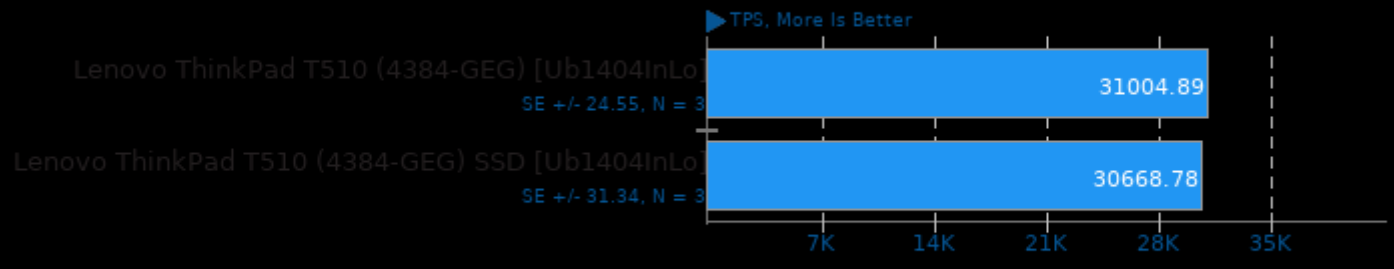


1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -fpic -lpgcommon -lpgport -lrt -lcrypt -ldl -lm

Notebook screening (timtaw test suite)

PostgreSQL pgbench 9.6.3

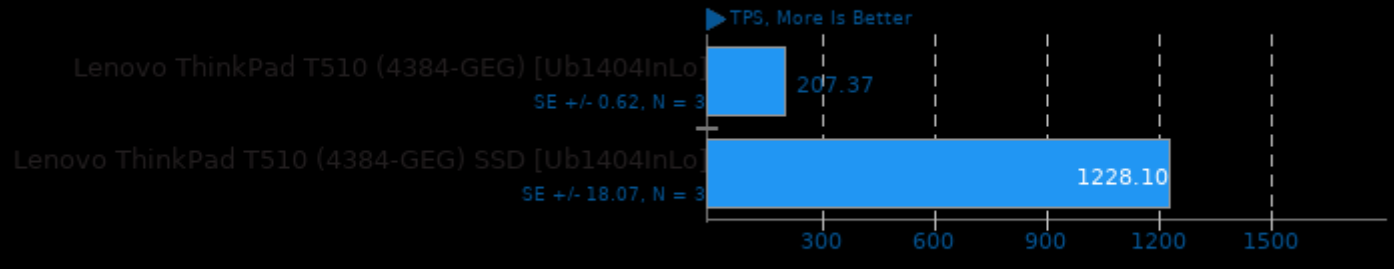
Scaling: Buffer Test - Test: Normal Load - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -fpic -lpgcommon -lpgport -lrt -lcrypt -ldl -lm

PostgreSQL pgbench 9.6.3

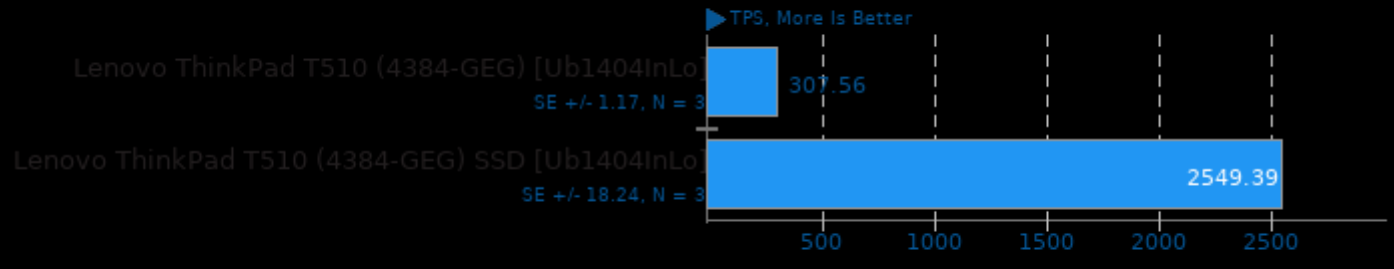
Scaling: Mostly RAM - Test: Normal Load - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -fpic -lpgcommon -lpgport -lrt -lcrypt -ldl -lm

PostgreSQL pgbench 9.6.3

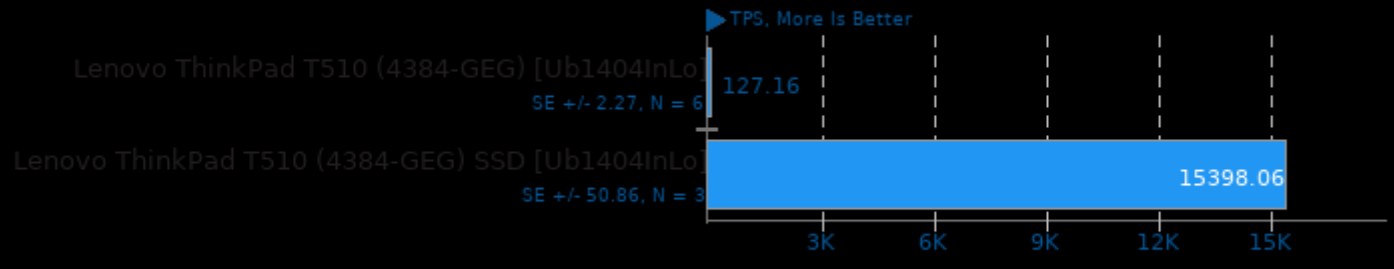
Scaling: Buffer Test - Test: Normal Load - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -fpic -lpgcommon -lpgport -lrt -lcrypt -ldl -lm

PostgreSQL pgbench 9.6.3

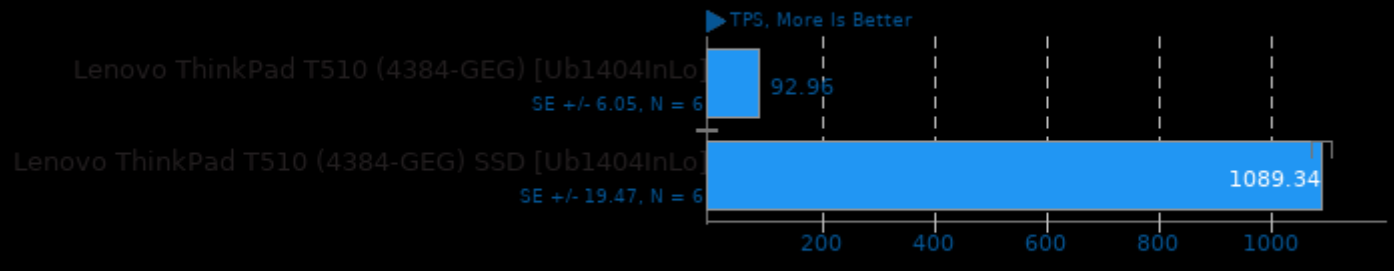
Scaling: On-Disk - Test: Heavy Contention - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -fpic -lpgcommon -lpgport -lrt -lcrypt -ldl -lm

PostgreSQL pgbench 9.6.3

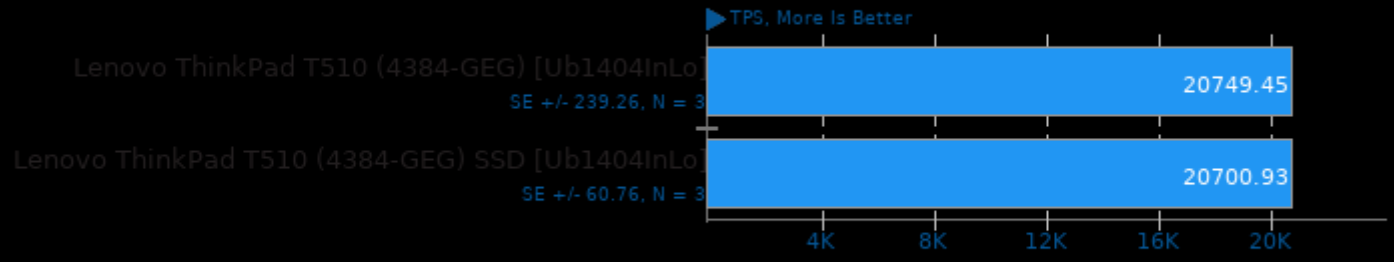
Scaling: On-Disk - Test: Heavy Contention - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -fpic -lpgcommon -lpgport -lrt -lcrypt -ldl -lm

PostgreSQL pgbench 9.6.3

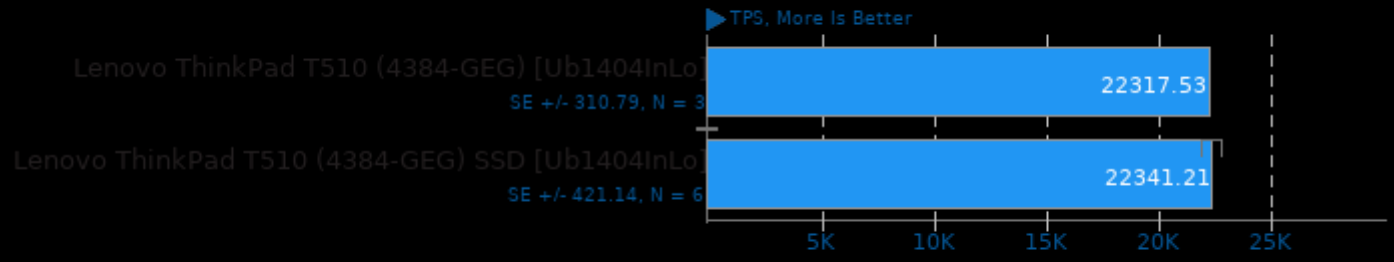
Scaling: Mostly RAM - Test: Heavy Contention - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -fpic -lpgcommon -lpgport -lrt -lcrypt -ldl -lm

PostgreSQL pgbench 9.6.3

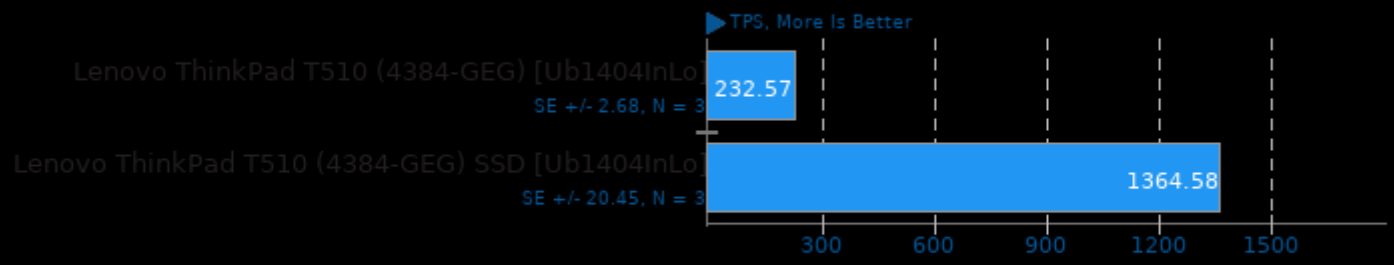
Scaling: Buffer Test - Test: Heavy Contention - Mode: Read Only



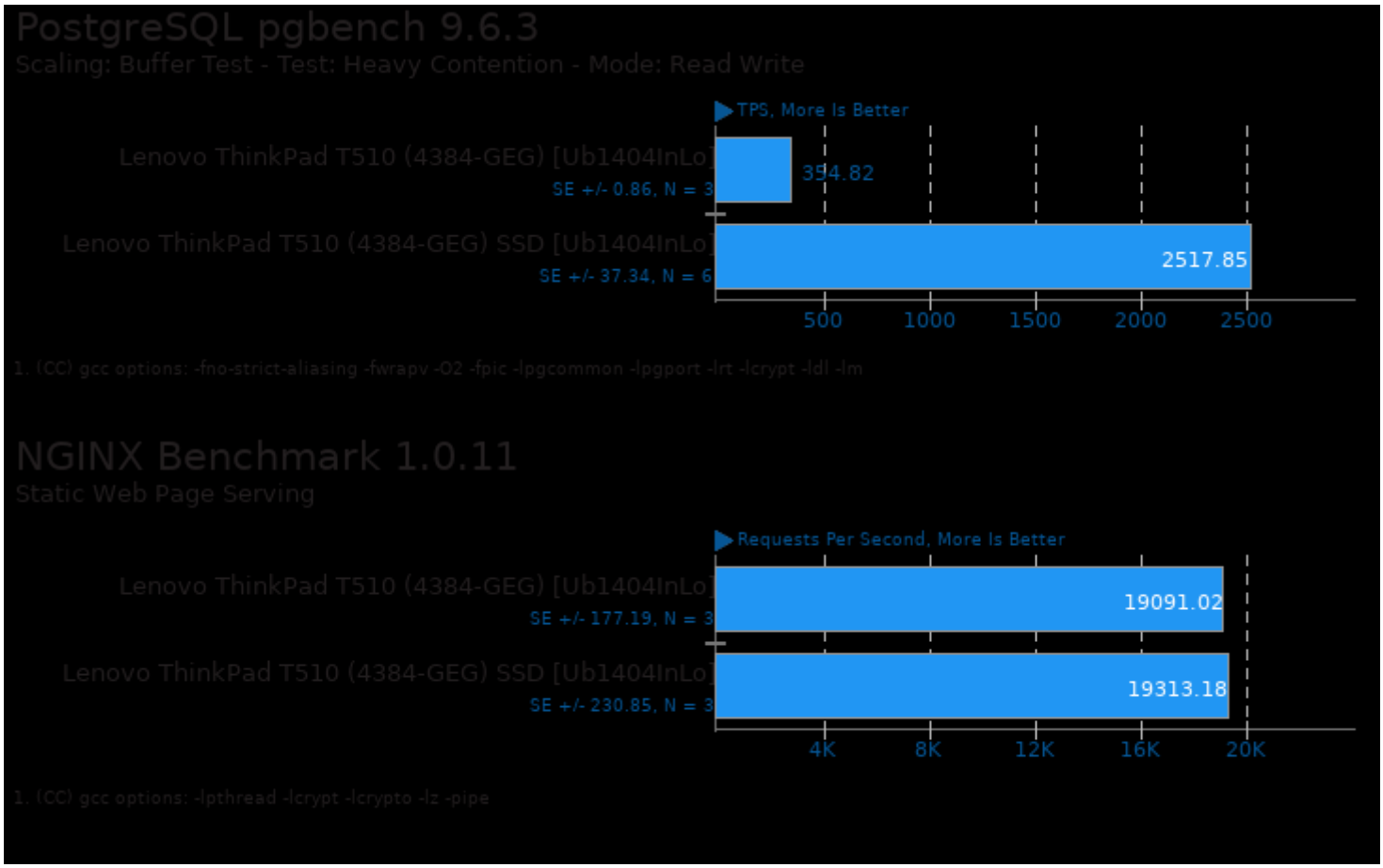
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -fpic -lpgcommon -lpgport -lrt -lcrypt -ldl -lm

PostgreSQL pgbench 9.6.3

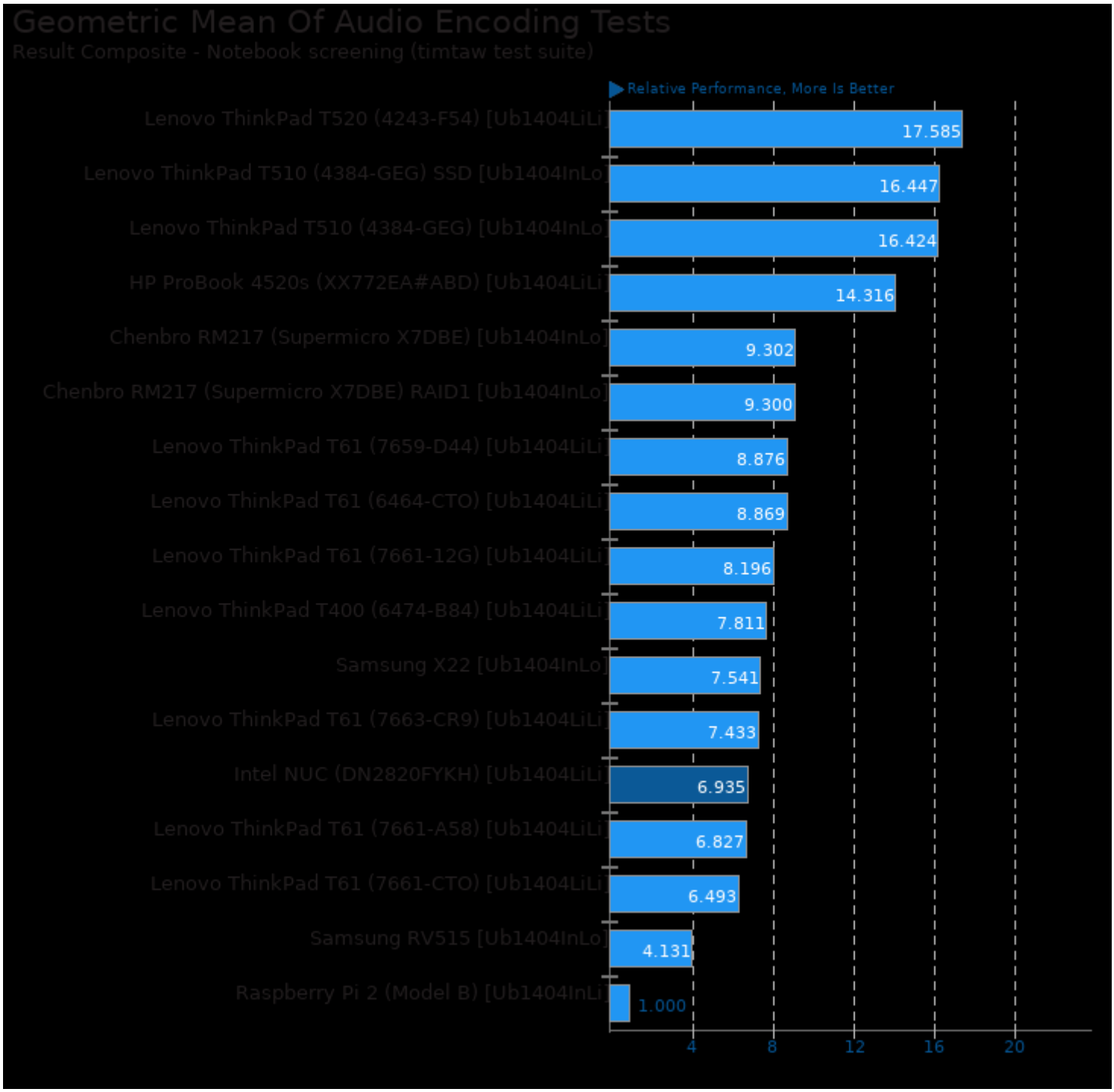
Scaling: Mostly RAM - Test: Heavy Contention - Mode: Read Write



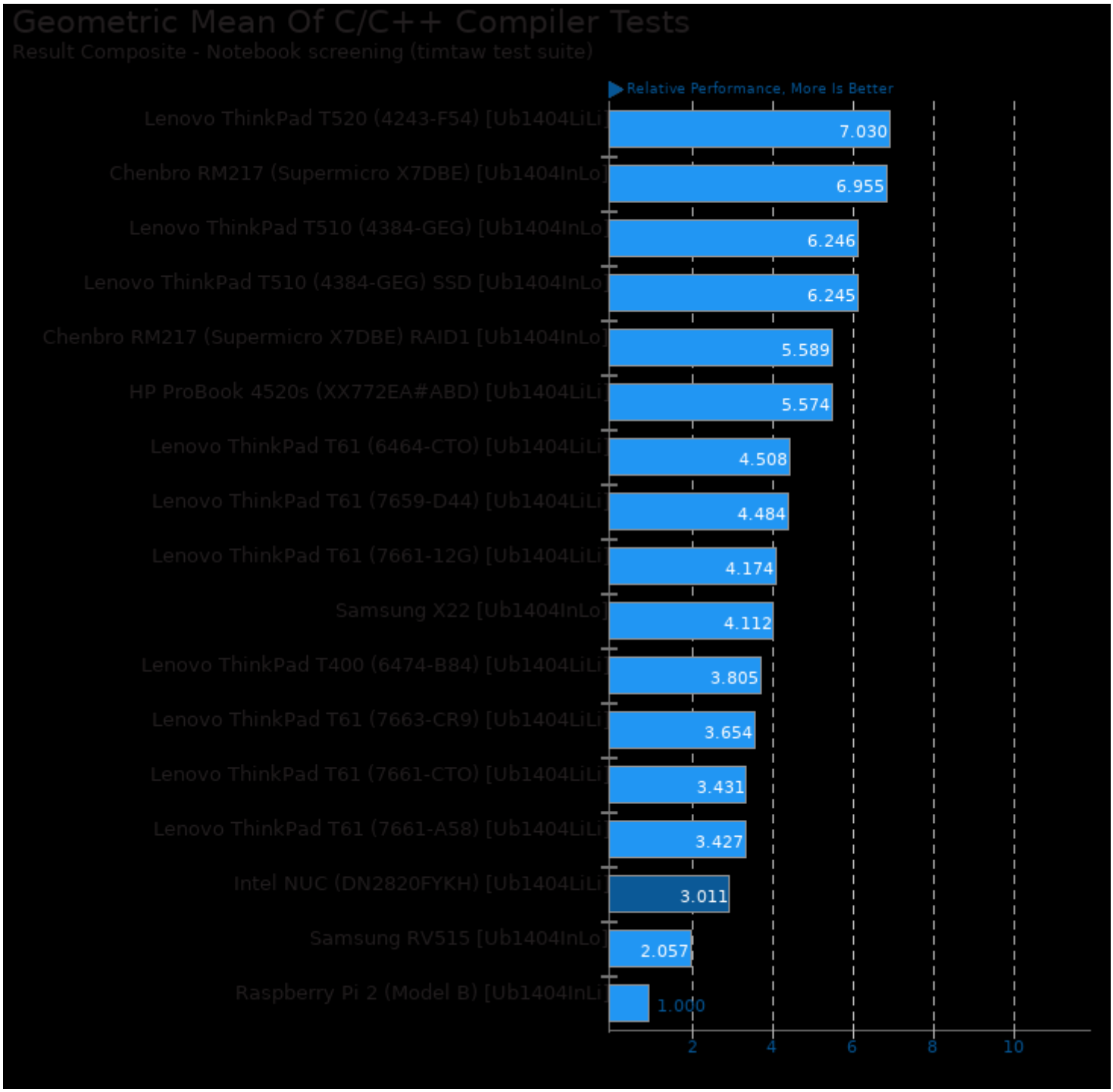
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -fpic -lpgcommon -lpgport -lrt -lcrypt -ldl -lm


PostgreSQL pgbench 9.6.3
Scaling: Buffer Test - Test: Heavy Contention - Mode: Read Write
TPS, More Is Better
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo
SE +/- 0.86, N = 3
394.82
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo
SE +/- 37.34, N = 6
2517.85
500
1000
1500
2000
2500
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -fpic -lpgcommon -lpgport -lrt -lcrypt -ldl -lm
NGINX Benchmark 1.0.11
Static Web Page Serving
Requests Per Second, More Is Better
Lenovo ThinkPad T510 (4384-GEG) [Ub1404InLo
SE +/- 177.19, N = 3
19091.02
Lenovo ThinkPad T510 (4384-GEG) SSD [Ub1404InLo
SE +/- 230.85, N = 3
19313.18
4K
8K
12K
16K
20K
1. (CC) gcc options: -lpthread -lcrypt -lcrypto -lz -pipe

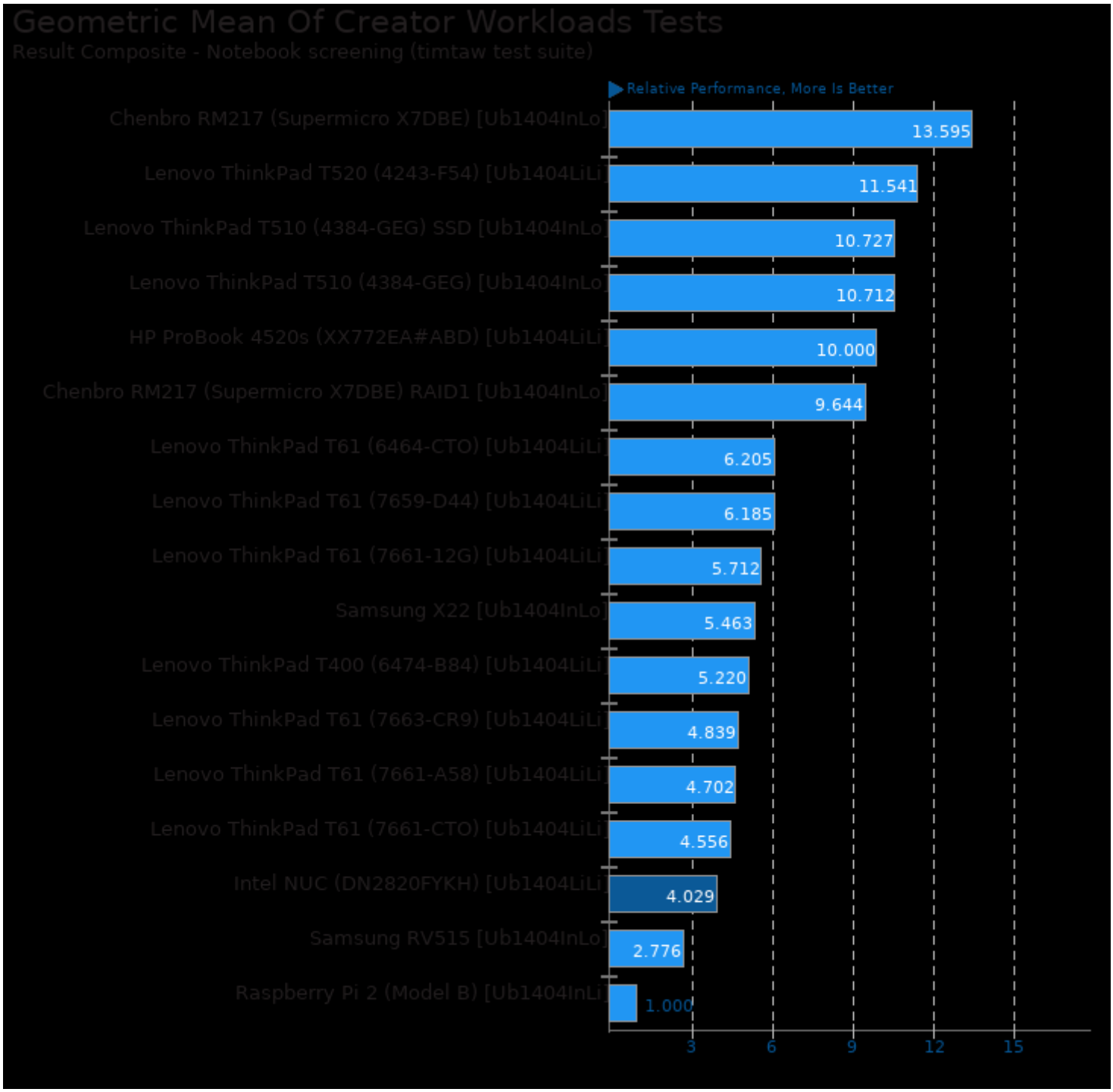
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/encode-mp3 and pts/encode-flac

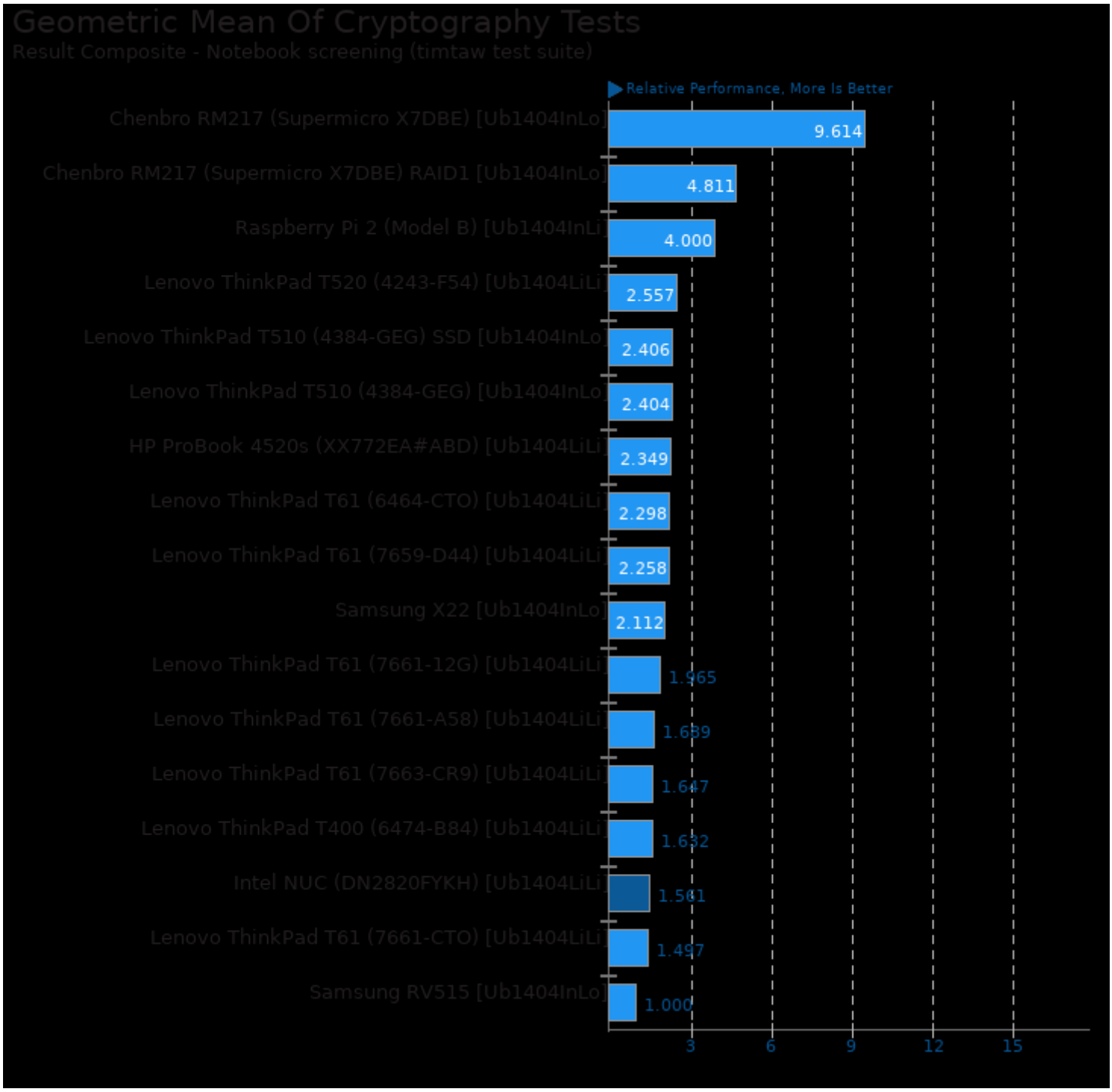


Geometric mean based upon tests: pts/scimark2, pts/graphics-magick, pts/himeno, pts/stockfish, pts/c-ray, pts/compress-7zip, pts/encode-mp3, pts/encode-flac, pts/pgbench, pts/apache, pts/john-the-ripper, pts/x264, pts/clomp and pts/nginx



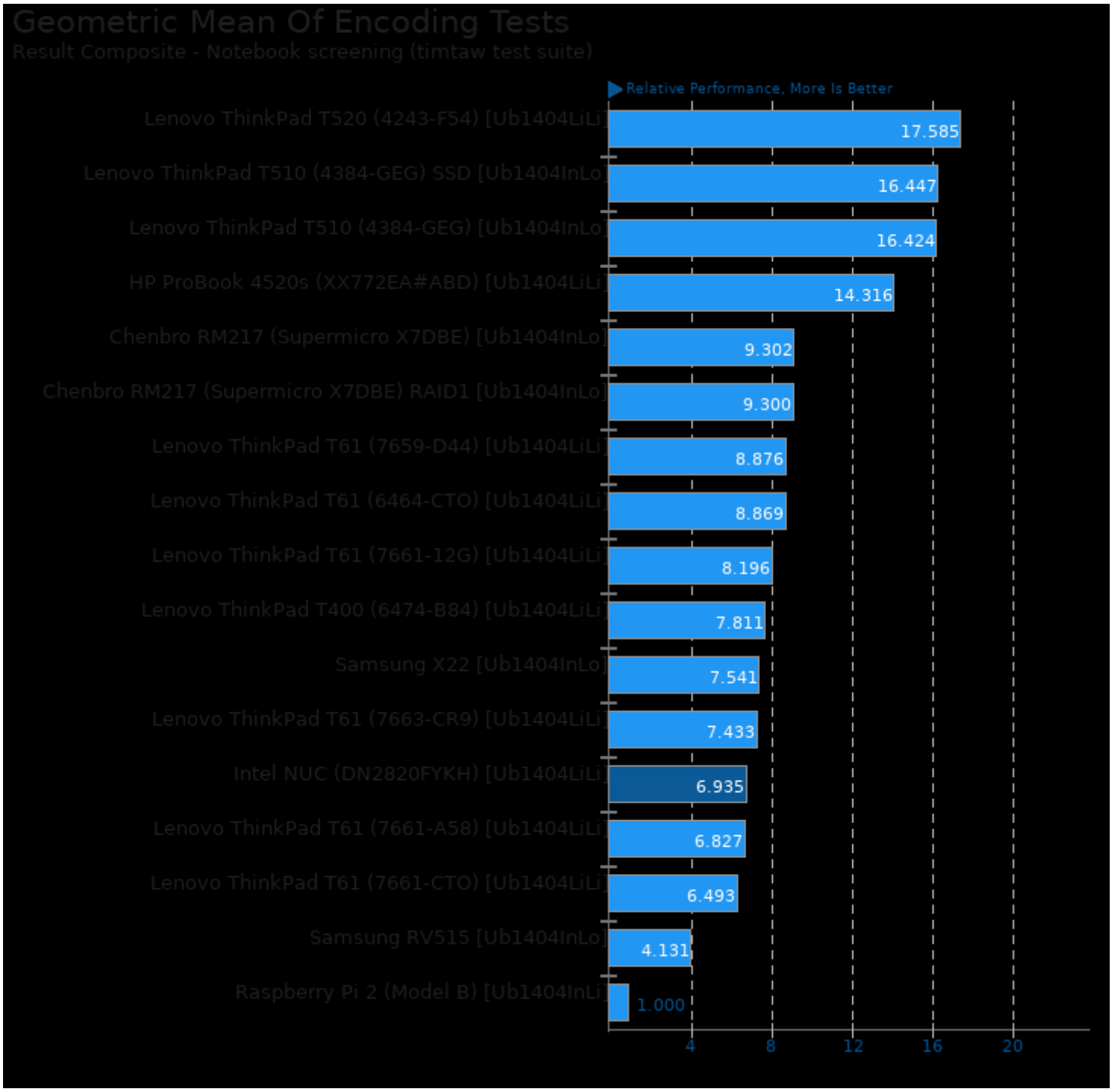
Geometric mean based upon tests: pts/c-ray, pts/smallpt, pts/x264, pts/encode-mp3, pts/encode-flac and pts/graphics-magick

Notebook screening (timtaw test suite)



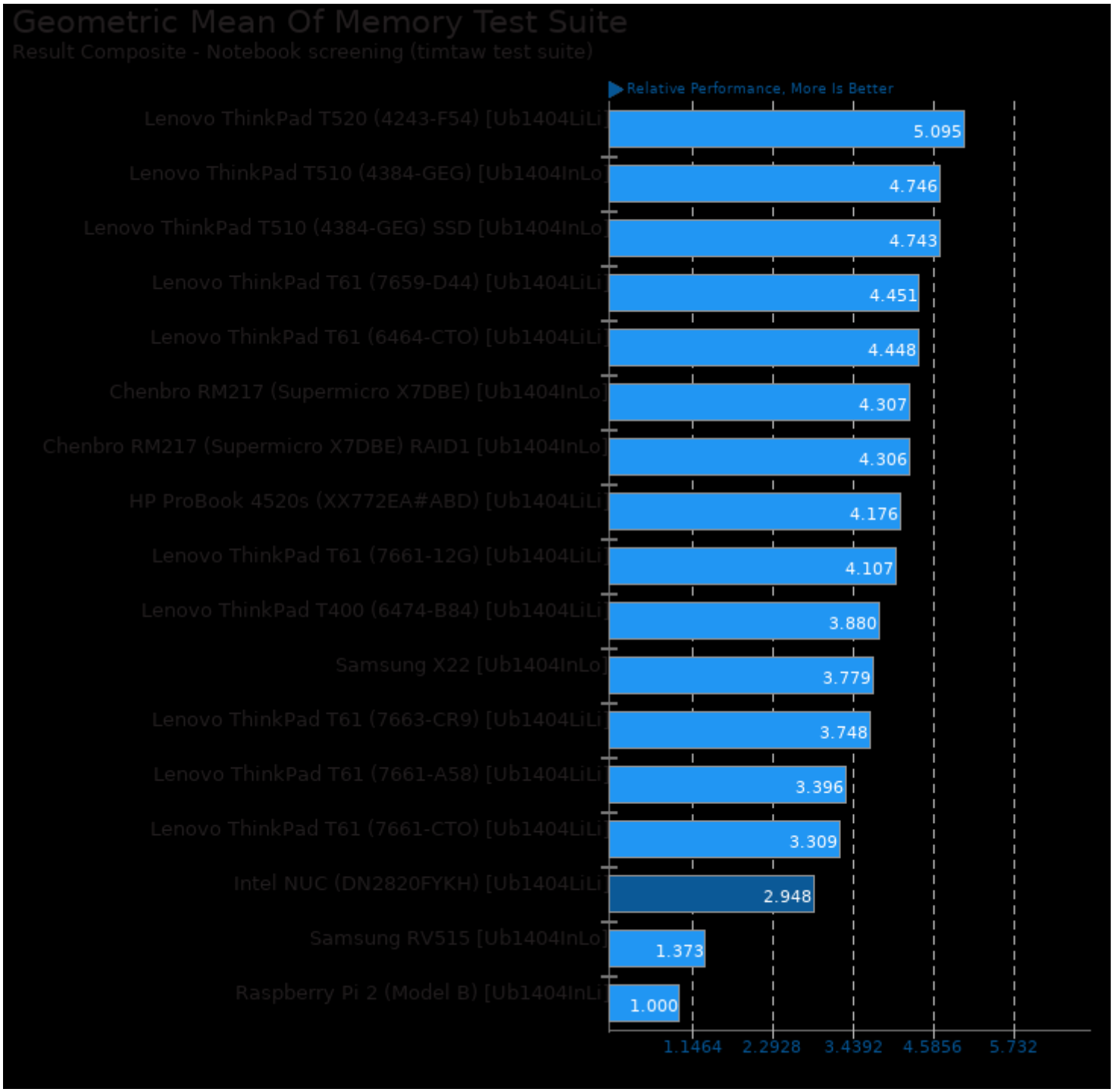
Geometric mean based upon tests: pts/gnupg, pts/gcrypt, pts/blake2 and pts/john-the-ripper

Notebook screening (timtaw test suite)



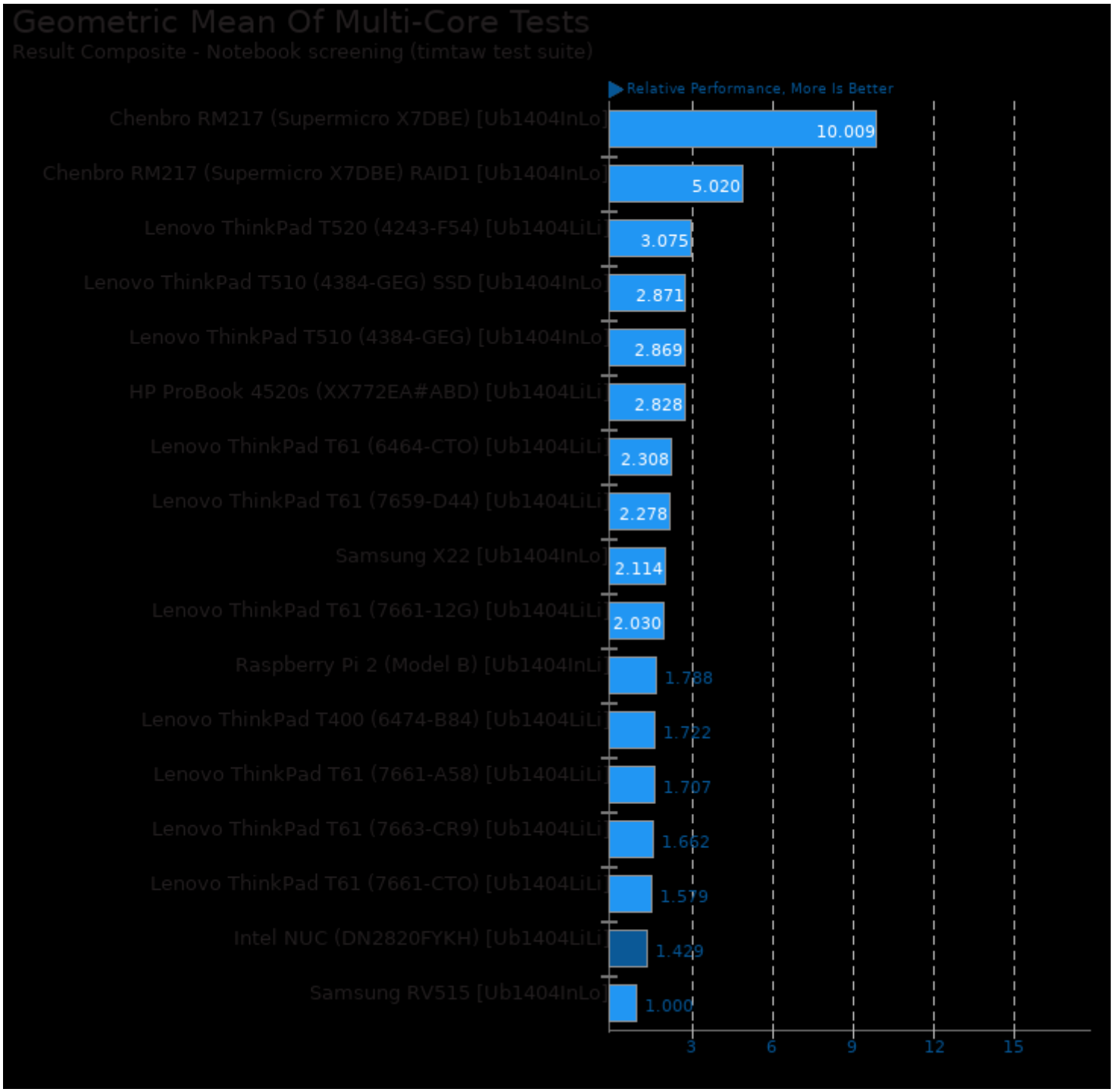
Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac and pts/x264

Notebook screening (timtaw test suite)



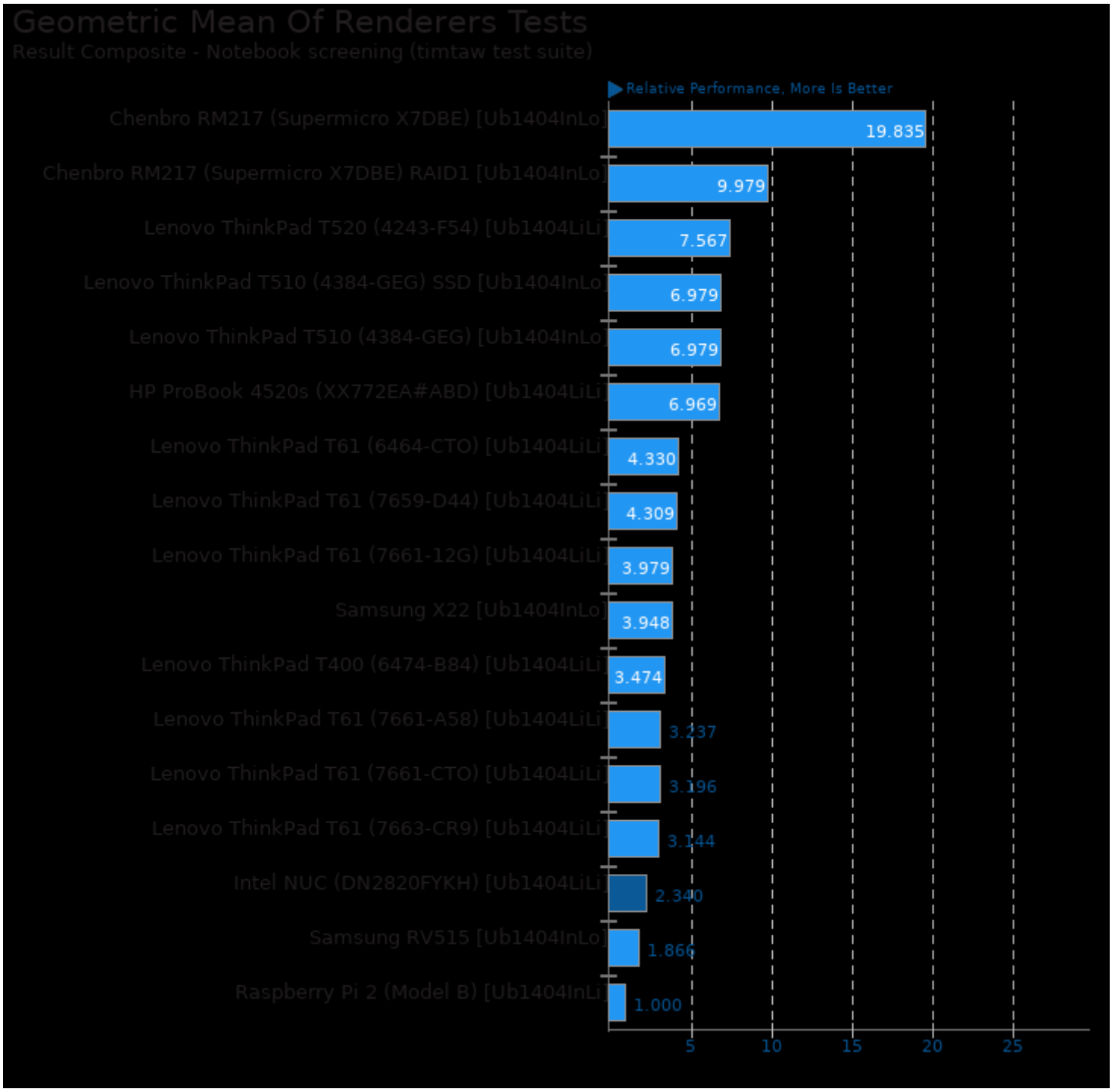
Geometric mean based upon tests: pts/ramspeed, pts/stream and pts/cachebench

Notebook screening (timtaw test suite)



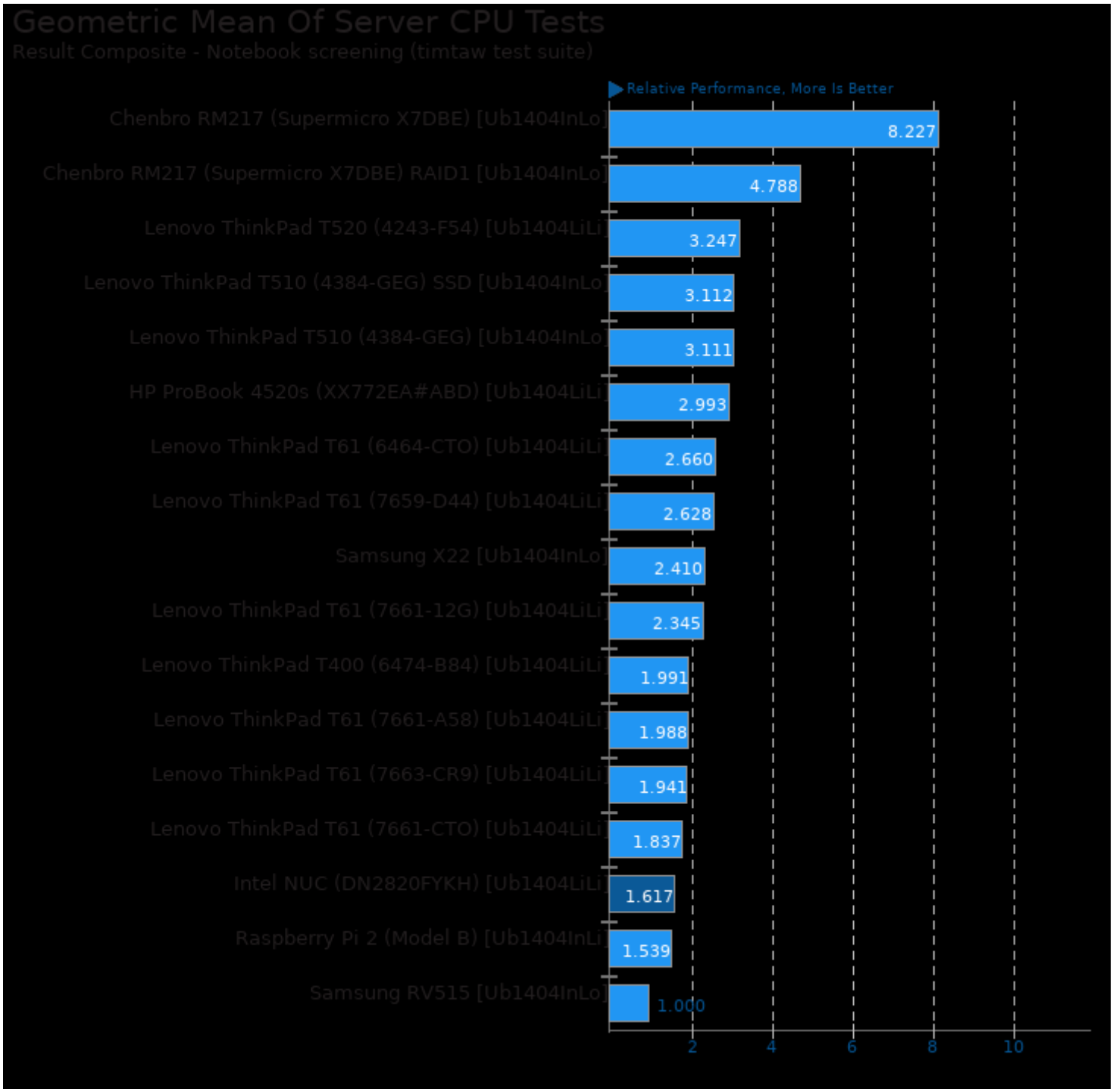
Geometric mean based upon tests: pts/c-ray, pts/stockfish, pts/x264, pts/primesieve, pts/npb, pts/john-the-ripper, pts/smallpt, pts/ebizzy, pts/graphics-magick, pts/compress-7zip, pts/hpcg and pts/pgbench

Notebook screening (timtaw test suite)



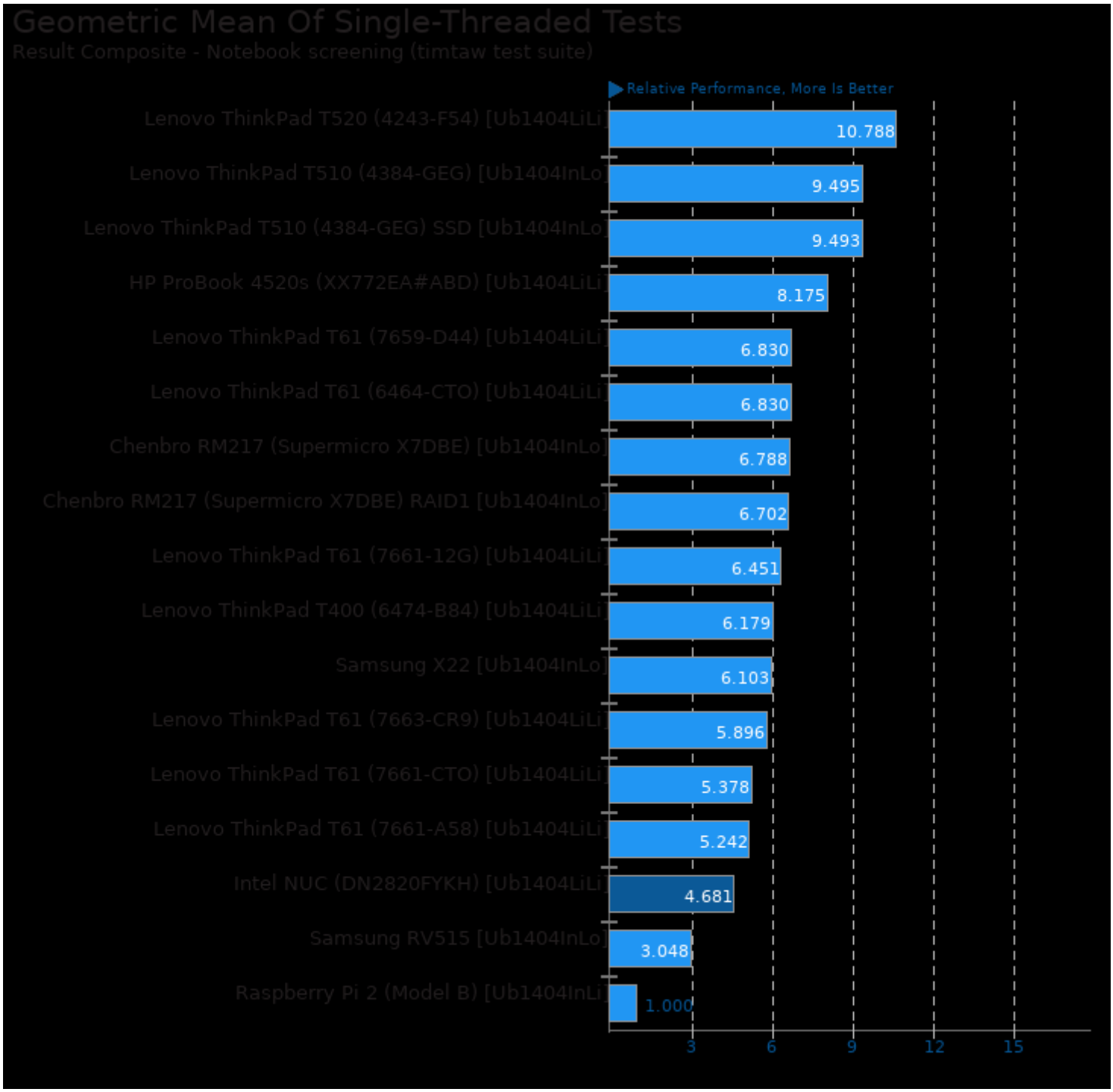
Geometric mean based upon tests: pts/c-ray and pts/smallpt

Notebook screening (timtaw test suite)



Geometric mean based upon tests: pts/npb, pts/john-the-ripper, pts/x264, pts/himeno, pts/compress-7zip, pts/stockfish, pts/c-ray, pts/ramspeed and pts/stream

Notebook screening (timtaw test suite)



Geometric mean based upon tests: pts/blake2, pts/cachebench, pts/scimark2, pts/compress-gzip, pts/encode-flac, pts/encode-mp3, pts/gnupg, pts/hint and pts/nginx

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