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RedHat-640-TunedBBU-LPDisabled-RUN7

Testing-RedHat-Linux-on-a-Dell-640-The-tuned-adm-profile-used-is-xran-bbu-Logical-Processors-are-disabled

Test Systems:

RedHat-640-TunedBBU-LPDisabled-RUN7---07-31-2021_03-36-02

Processor: Intel Xeon Gold 5218 @ 3.90GHz (16 Cores), Motherboard: Dell 0H28RR (2.11.2 BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 8 x GB DDR4-3200MT/s HMA81GR7CJR8N-XN, Disk: 4000GB PERC H730P Mini, Graphics: Matrox G200eW3, Network: 2 x Mellanox MT27710 + 2 x Intel I350

OS: Red Hat Enterprise Linux 8.4, Kernel: 4.18.0-305.7.1.el8_4.x86_64 (x86_64), Compiler: GCC 8.4.1 20200928, File-System: xfs, Screen Resolution: 1024x768

Kernel Notes: Transparent Huge Pages: never
Compiler Notes: --build=x86_64-redhat-linux --disable-libmpx --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver
Disk Notes: NONE / attr2,inode64,logbsize=32k,logbufs=8,noquota,relatime,rw,seclabel / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0x5003102

RedHat-640-TunedBBU-LPDisabled-RUN7

Security Notes: SELinux + itlb_multihit: KVM: Mitigation of Split huge pages + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Mitigation of TSX disabled

	RedHat-640-TunedBBU-LPDisabled-RUN7---07-31-2021_03-36-02
CacheBench - Read (MB/s)	2364
Standard Deviation	0%
CacheBench - Write (MB/s)	19492
Standard Deviation	0%
CacheBench - R.M.W (MB/s)	20771
Standard Deviation	0%
Core-Latency - A.L.B.C.C (ns)	217.543
Intel Memory Latency Checker - Idle Latency (ns)	68.4
Standard Deviation	0%
Intel Memory Latency Checker - Max Bandwidth - All Reads (MB/s)	78962
Standard Deviation	0%
Intel Memory Latency Checker - Max Bandwidth - 3:1 Reads-Writes (MB/s)	71666
Standard Deviation	0%
Intel Memory Latency Checker - Max Bandwidth - 2:1 Reads-Writes (MB/s)	70357
Standard Deviation	0%
Intel Memory Latency Checker - Max Bandwidth - 1:1 Reads-Writes (MB/s)	66093
Standard Deviation	0.1%
Intel Memory Latency Checker - Max Bandwidth - Stream-Triad Like (MB/s)	72285
Standard Deviation	0%
Intel Memory Latency Checker - P.I.B - All Reads (MB/s)	78097
Standard Deviation	0%
Intel Memory Latency Checker - P.I.B - 3:1 Reads-Writes (MB/s)	71520
Standard Deviation	0%
Intel Memory Latency Checker - P.I.B - 2:1 Reads-Writes (MB/s)	70316
Standard Deviation	0.1%
Intel Memory Latency Checker - P.I.B - 1:1 Reads-Writes (MB/s)	65988
Standard Deviation	0.2%
Intel Memory Latency Checker - P.I.B - Stream-Triad Like (MB/s)	66440
Standard Deviation	0%
IOzone - 4Kb - 512MB - Write Performance (MB/s)	61.68
Standard Deviation	2.2%
MBW - Memory Copy - 128 MiB (MiB/s)	8852
Standard Deviation	0.1%
MBW - Memory Copy - 512 MiB (MiB/s)	8621
Standard Deviation	0.1%
MBW - Memory Copy - 1024 MiB (MiB/s)	8547
Standard Deviation	0.1%
MBW - Memory Copy - 4096 MiB (MiB/s)	8323
Standard Deviation	0%

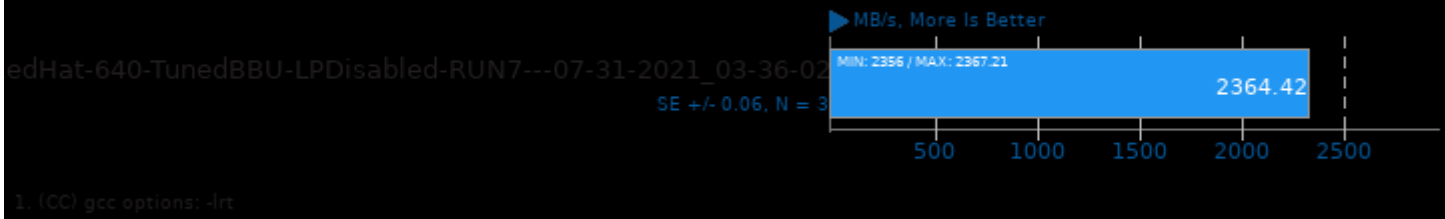
MBW - Memory Copy - 8192 MiB (MiB/s)	8279
Standard Deviation	0%
MBW - M.C.F.B.S - 128 MiB (MiB/s)	8126
Standard Deviation	0.1%
MBW - M.C.F.B.S - 512 MiB (MiB/s)	8013
Standard Deviation	0.4%
MBW - M.C.F.B.S - 1024 MiB (MiB/s)	7930
Standard Deviation	0.3%
MBW - M.C.F.B.S - 4096 MiB (MiB/s)	7522
Standard Deviation	0.5%
MBW - M.C.F.B.S - 8192 MiB (MiB/s)	7345
Standard Deviation	0.1%
pmbench - 1 - 50% (us - Page Latency)	0.0894
Standard Deviation	0%
pmbench - 4 - 50% (us - Page Latency)	0.0903
Standard Deviation	0.1%
pmbench - 16 - 50% (us - Page Latency)	0.0908
Standard Deviation	0.3%
pmbench - 1 - 100% Reads (us - Page Latency)	0.0495
Standard Deviation	0%
pmbench - 4 - 100% Reads (us - Page Latency)	0.0495
Standard Deviation	0.1%
pmbench - 1 - 100% Writes (us - Page Latency)	0.0500
Standard Deviation	0.1%
pmbench - 16 - 100% Reads (us - Page Latency)	0.0496
Standard Deviation	0%
pmbench - 4 - 100% Writes (us - Page Latency)	0.0500
Standard Deviation	0.1%
pmbench - 16 - 100% Writes (us - Page Latency)	0.0501
Standard Deviation	0.2%
pmbench - 1 - 8.R.2.W (us - Page Latency)	0.1080
Standard Deviation	0.1%
pmbench - 4 - 8.R.2.W (us - Page Latency)	0.1082
Standard Deviation	0.1%
pmbench - 16 - 8.R.2.W (us - Page Latency)	0.1084
Standard Deviation	0.1%
RAMspeed SMP - Add - Integer (MB/s)	28319
Standard Deviation	0%
RAMspeed SMP - Copy - Integer (MB/s)	28329
Standard Deviation	0.1%
RAMspeed SMP - Scale - Integer (MB/s)	26752
Standard Deviation	0%
RAMspeed SMP - Triad - Integer (MB/s)	27139
Standard Deviation	0%
RAMspeed SMP - Average - Integer (MB/s)	27633
Standard Deviation	0.1%
RAMspeed SMP - Add - Floating Point (MB/s)	27345
Standard Deviation	0%
RAMspeed SMP - Copy - Floating Point (MB/s)	28290
Standard Deviation	0.1%
RAMspeed SMP - Scale - Floating Point (MB/s)	26550
Standard Deviation	0%
RAMspeed SMP - Triad - Floating Point (MB/s)	27309

RedHat-640-TunedBBU-LPDisabled-RUN7

Standard Deviation	0%
RAMspeed SMP - Average - Floating Point (MB/s)	27371
Standard Deviation	0%
Stream - Copy (MB/s)	60906
Standard Deviation	0.4%
Stream - Scale (MB/s)	46947
Standard Deviation	0.3%
Stream - Triad (MB/s)	52475
Standard Deviation	0.2%
Stream - Add (MB/s)	52880
Standard Deviation	0.2%
Sysbench - CPU (Events/sec)	15812
Standard Deviation	0%

CacheBench

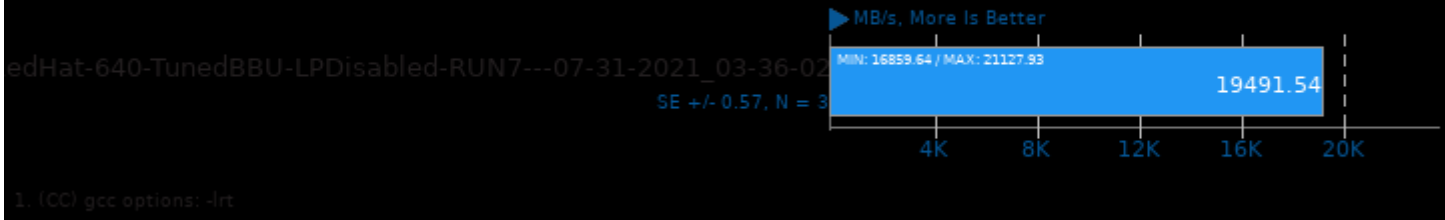
Test: Read



1. (CC) gcc options: -lrt

CacheBench

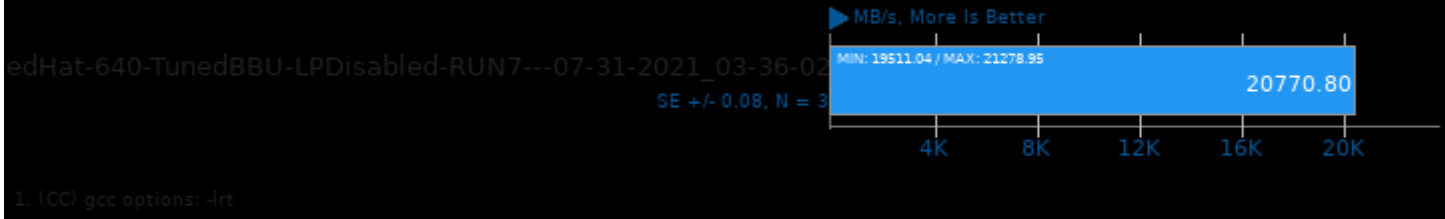
Test: Write



1. (CC) gcc options: -lrt

CacheBench

Test: Read / Modify / Write



1. (CC) gcc options: -lrt

Core-Latency

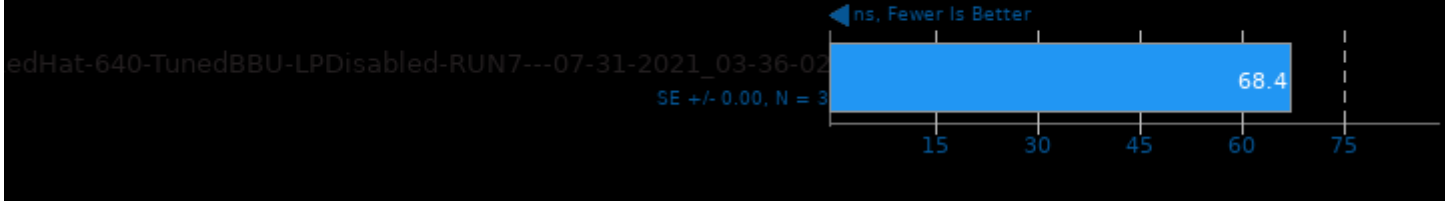
Average Latency Between CPU Cores



1. (CXX) g++ options: -std=c++11 -pthread -O3

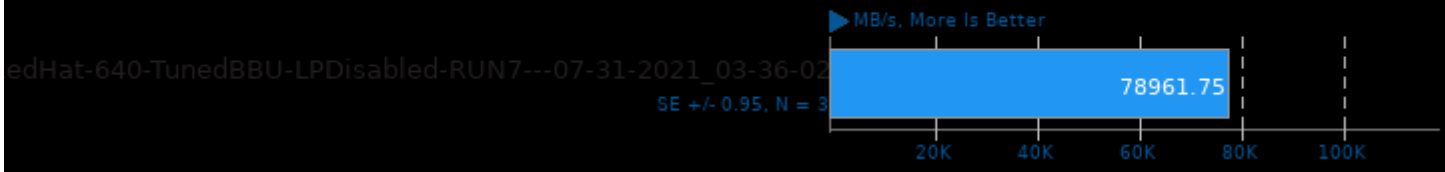
Intel Memory Latency Checker

Test: Idle Latency



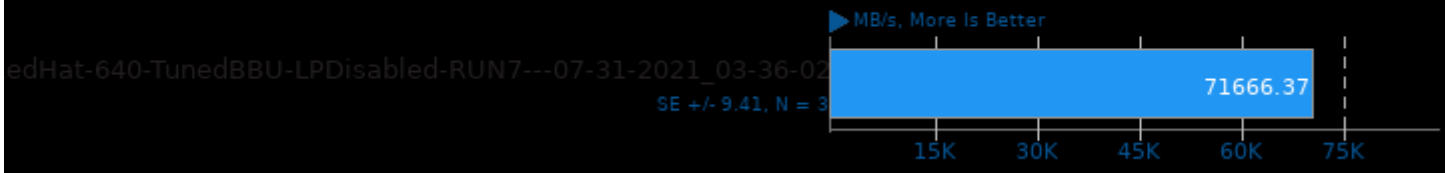
Intel Memory Latency Checker

Test: Max Bandwidth - All Reads



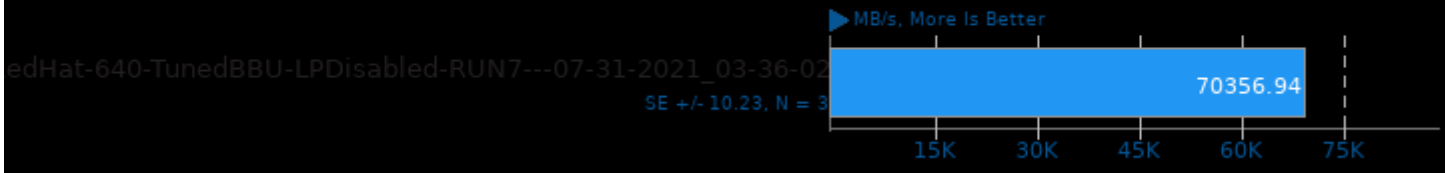
Intel Memory Latency Checker

Test: Max Bandwidth - 3:1 Reads-Writes



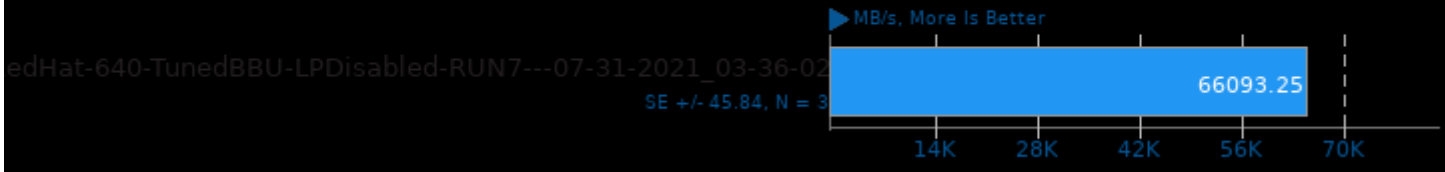
Intel Memory Latency Checker

Test: Max Bandwidth - 2:1 Reads-Writes



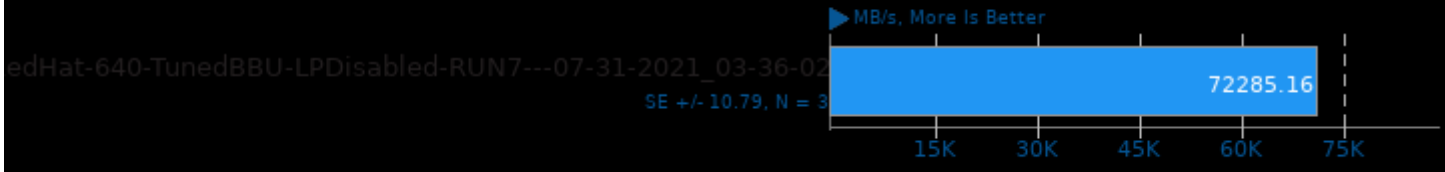
Intel Memory Latency Checker

Test: Max Bandwidth - 1:1 Reads-Writes



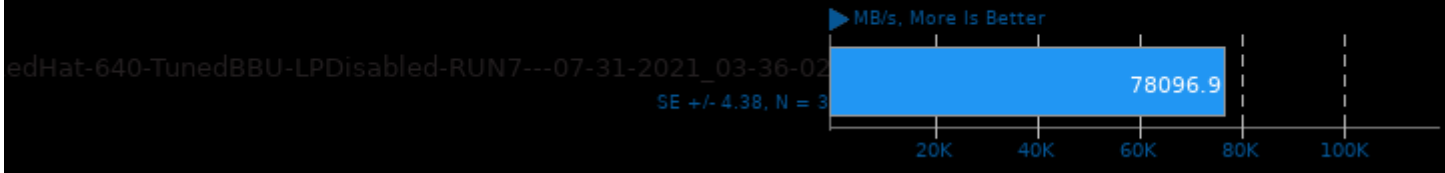
Intel Memory Latency Checker

Test: Max Bandwidth - Stream-Triad Like



Intel Memory Latency Checker

Test: Peak Injection Bandwidth - All Reads

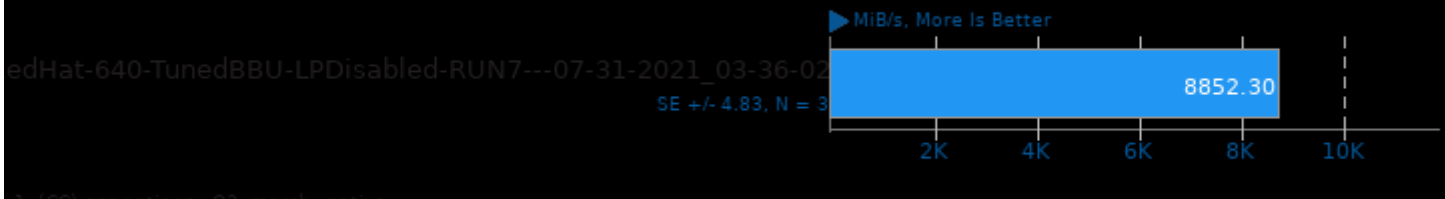


RedHat-640-TunedBBU-LPDisabled-RUN7



MBW 2018-09-08

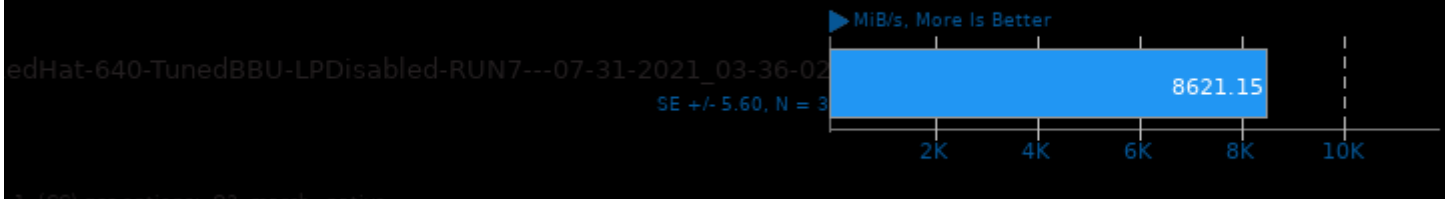
Test: Memory Copy - Array Size: 128 MiB



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

MBW 2018-09-08

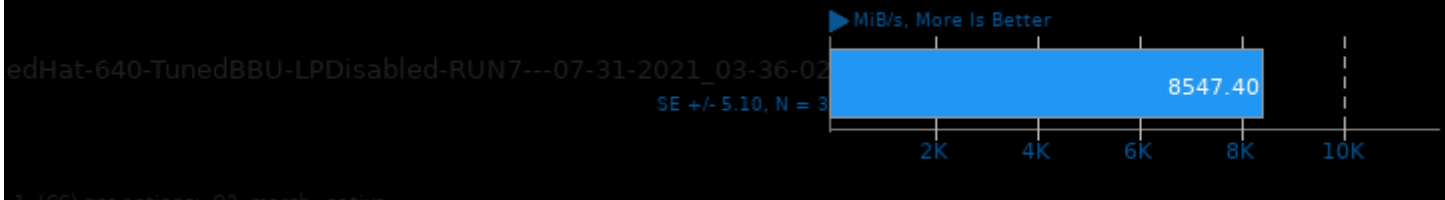
Test: Memory Copy - Array Size: 512 MiB



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

MBW 2018-09-08

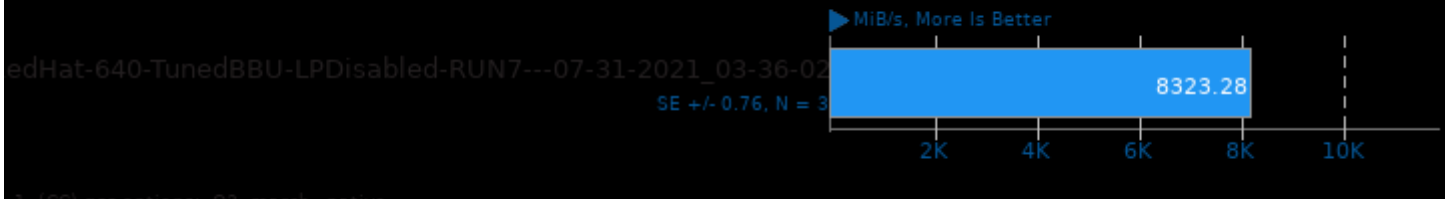
Test: Memory Copy - Array Size: 1024 MiB



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

MBW 2018-09-08

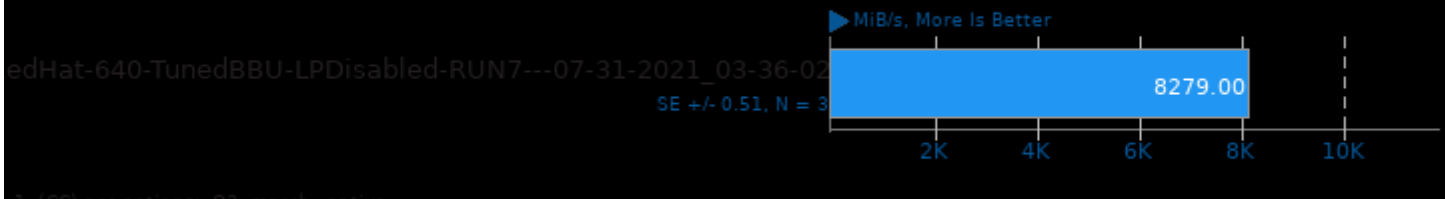
Test: Memory Copy - Array Size: 4096 MiB



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

MBW 2018-09-08

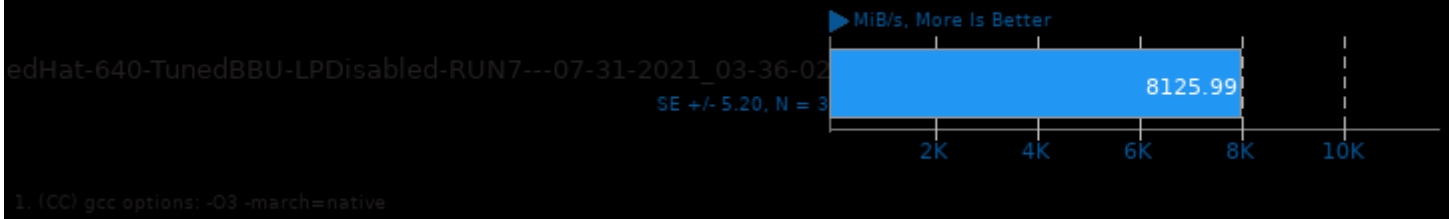
Test: Memory Copy - Array Size: 8192 MiB



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

MBW 2018-09-08

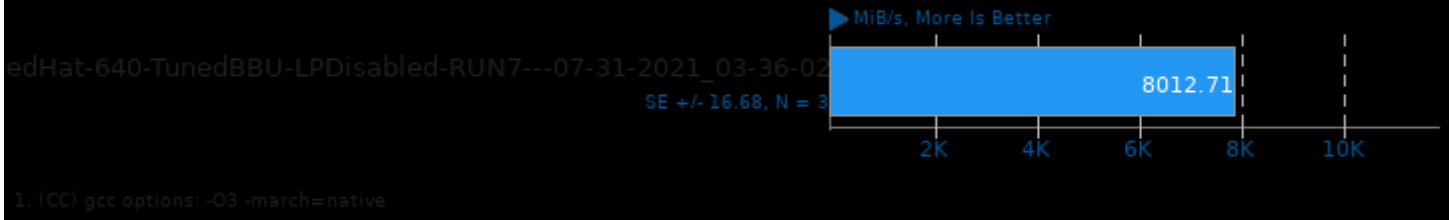
Test: Memory Copy, Fixed Block Size - Array Size: 128 MiB



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

MBW 2018-09-08

Test: Memory Copy, Fixed Block Size - Array Size: 512 MiB



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

MBW 2018-09-08

Test: Memory Copy, Fixed Block Size - Array Size: 1024 MiB



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

MBW 2018-09-08

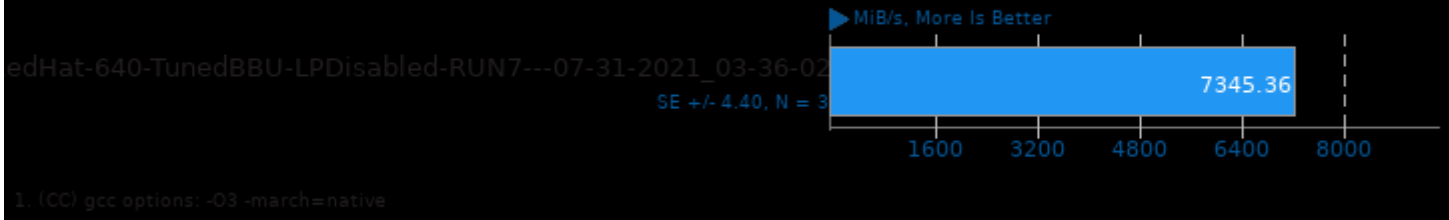
Test: Memory Copy, Fixed Block Size - Array Size: 4096 MiB



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

MBW 2018-09-08

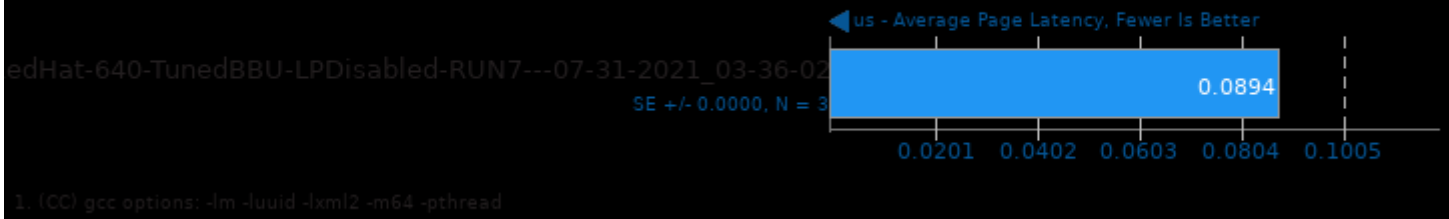
Test: Memory Copy, Fixed Block Size - Array Size: 8192 MiB



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

pmbench

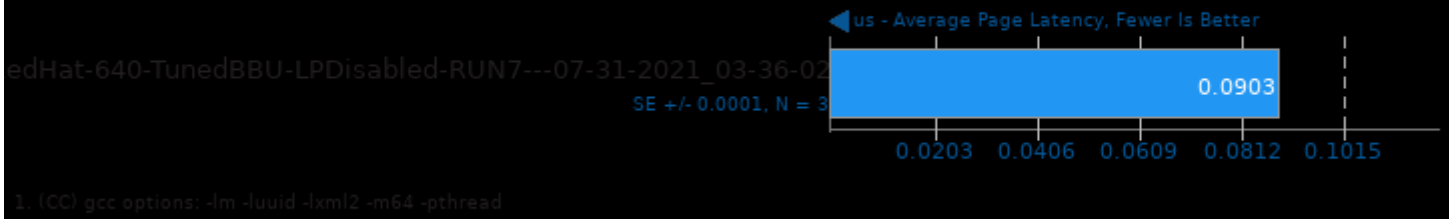
Concurrent Worker Threads: 1 - Read-Write Ratio: 50%



1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

pmbench

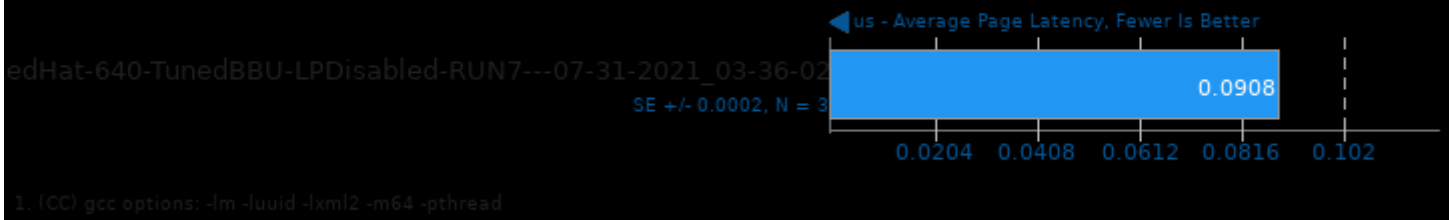
Concurrent Worker Threads: 4 - Read-Write Ratio: 50%



1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

pmbench

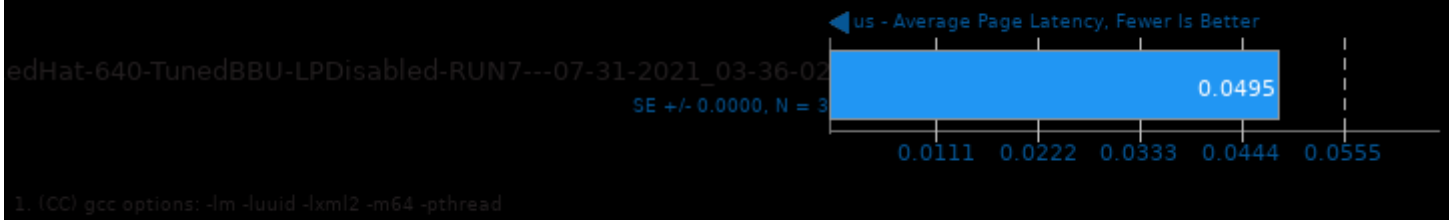
Concurrent Worker Threads: 16 - Read-Write Ratio: 50%



1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

pmbench

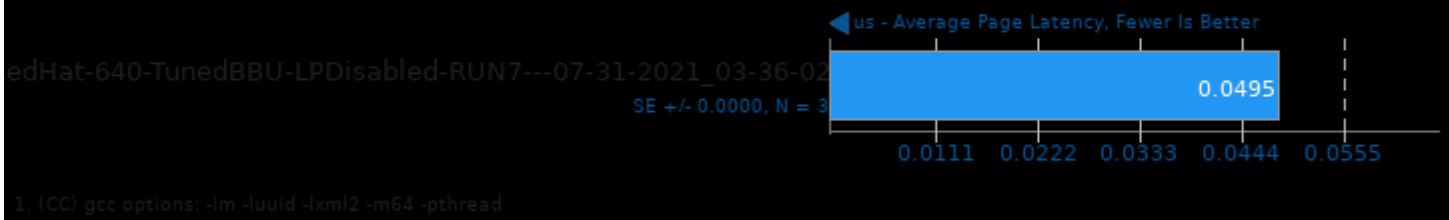
Concurrent Worker Threads: 1 - Read-Write Ratio: 100% Reads



1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

pmbench

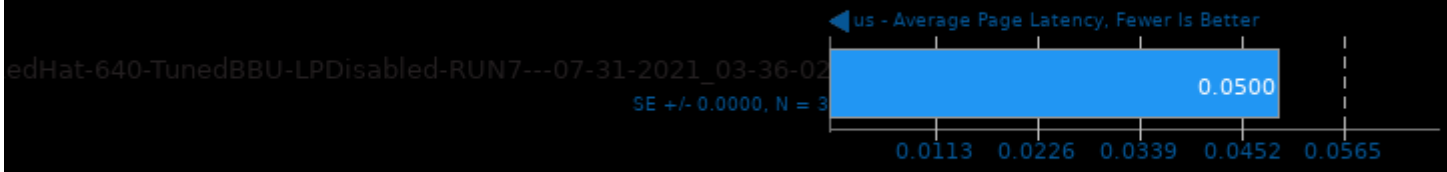
Concurrent Worker Threads: 4 - Read-Write Ratio: 100% Reads



1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

pmbench

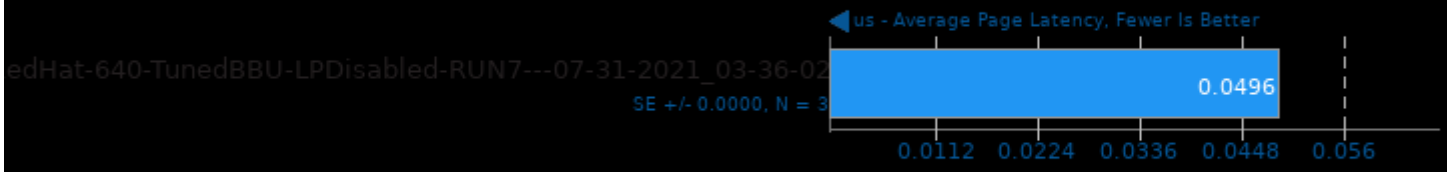
Concurrent Worker Threads: 1 - Read-Write Ratio: 100% Writes



1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

pmbench

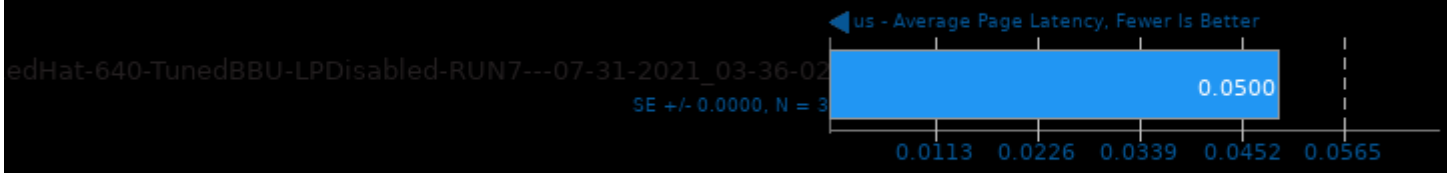
Concurrent Worker Threads: 16 - Read-Write Ratio: 100% Reads



1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

pmbench

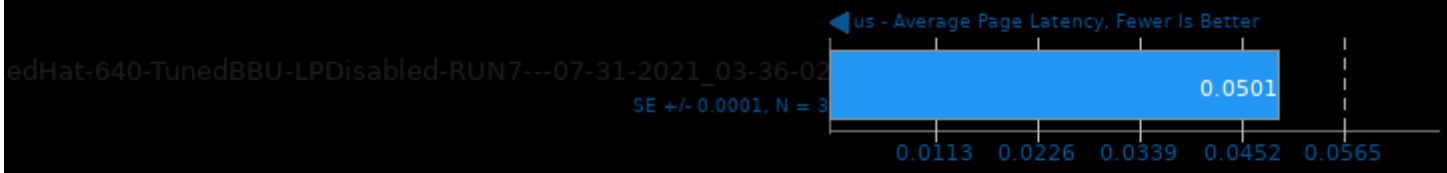
Concurrent Worker Threads: 4 - Read-Write Ratio: 100% Writes



1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

pmbench

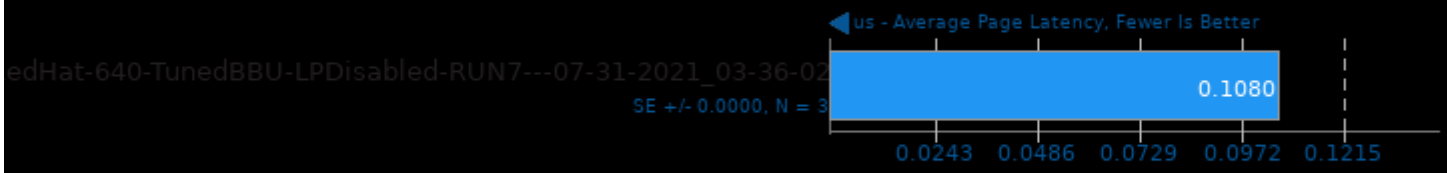
Concurrent Worker Threads: 16 - Read-Write Ratio: 100% Writes



1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

pmbench

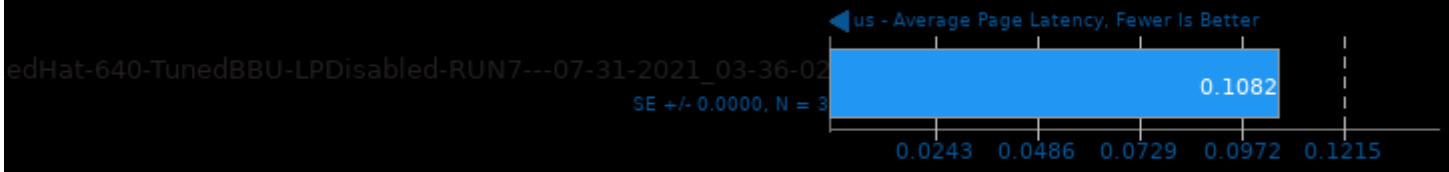
Concurrent Worker Threads: 1 - Read-Write Ratio: 80% Reads 20% Writes



1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

pmbench

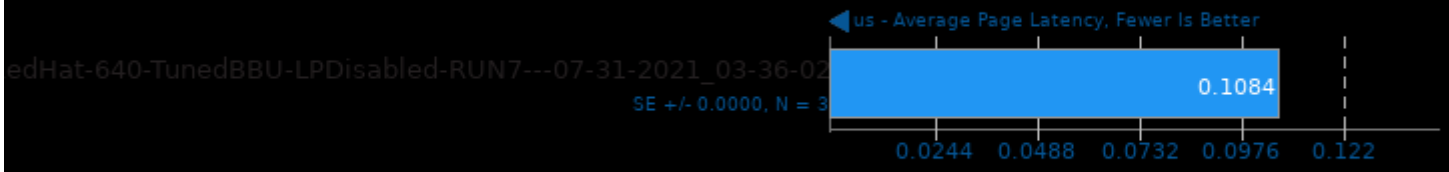
Concurrent Worker Threads: 4 - Read-Write Ratio: 80% Reads 20% Writes



1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

pmbench

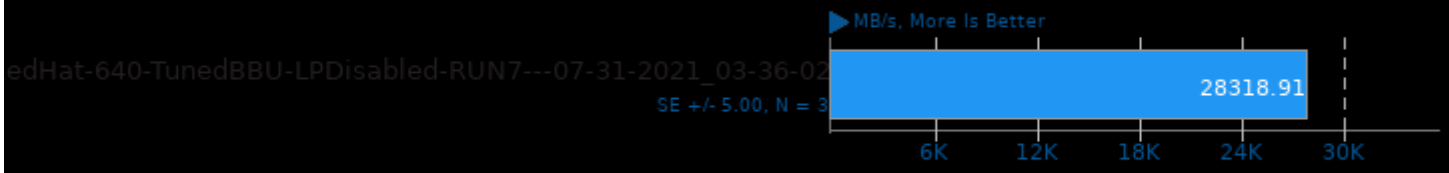
Concurrent Worker Threads: 16 - Read-Write Ratio: 80% Reads 20% Writes



1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

RAMspeed SMP 3.5.0

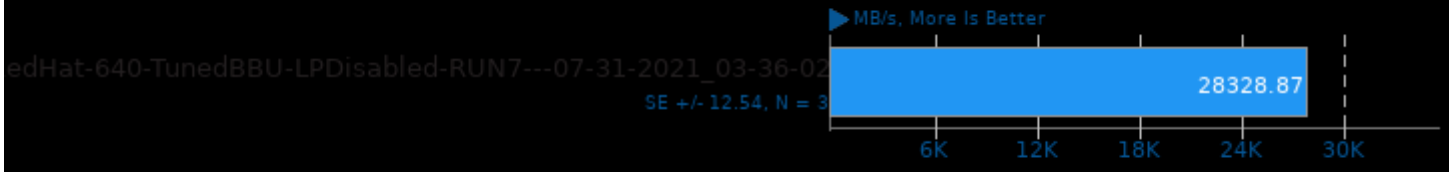
Type: Add - Benchmark: Integer



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

RAMspeed SMP 3.5.0

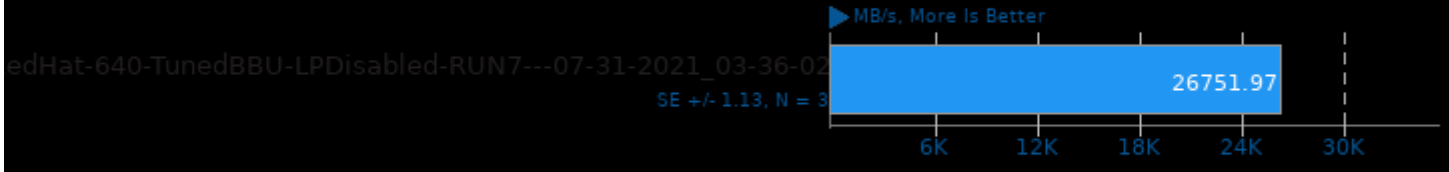
Type: Copy - Benchmark: Integer



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

RAMspeed SMP 3.5.0

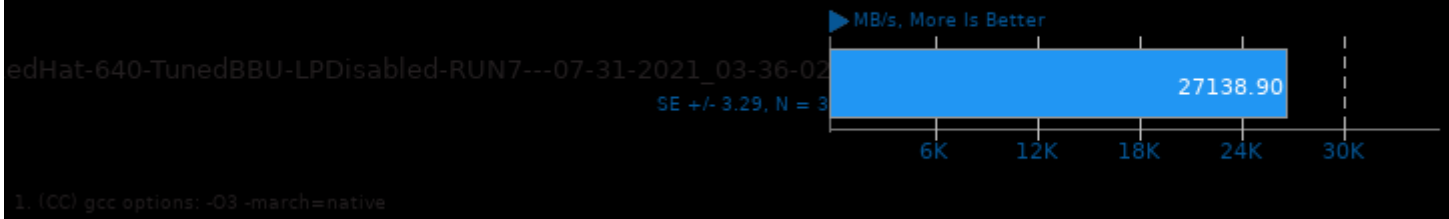
Type: Scale - Benchmark: Integer



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

RAMspeed SMP 3.5.0

Type: Triad - Benchmark: Integer



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

RAMspeed SMP 3.5.0

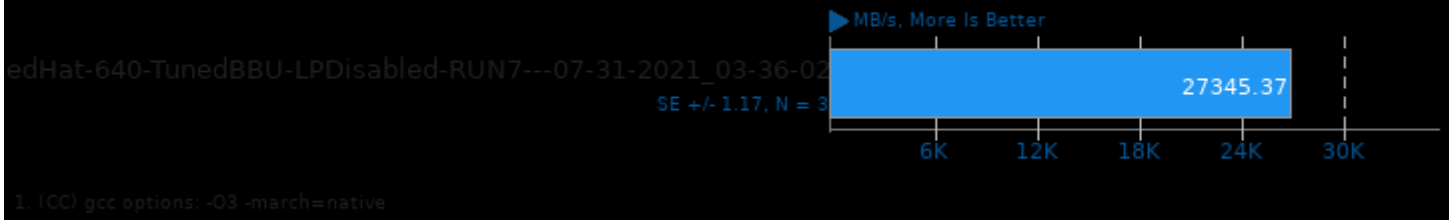
Type: Average - Benchmark: Integer



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

RAMspeed SMP 3.5.0

Type: Add - Benchmark: Floating Point



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

RAMspeed SMP 3.5.0

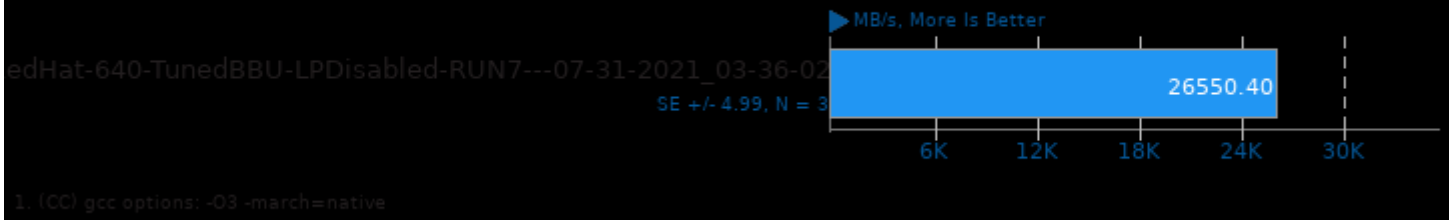
Type: Copy - Benchmark: Floating Point



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

RAMspeed SMP 3.5.0

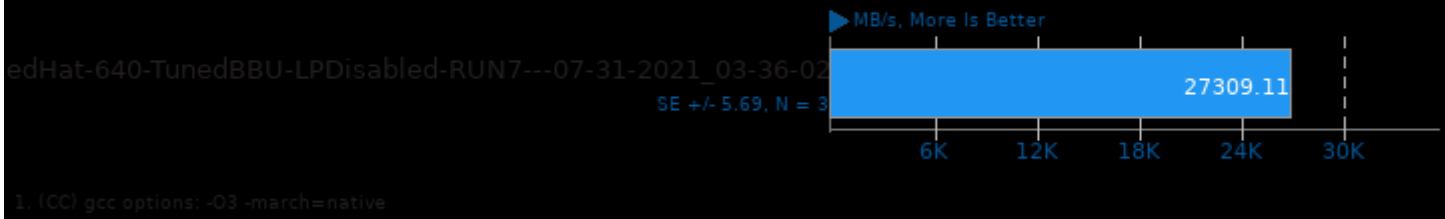
Type: Scale - Benchmark: Floating Point



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

RAMspeed SMP 3.5.0

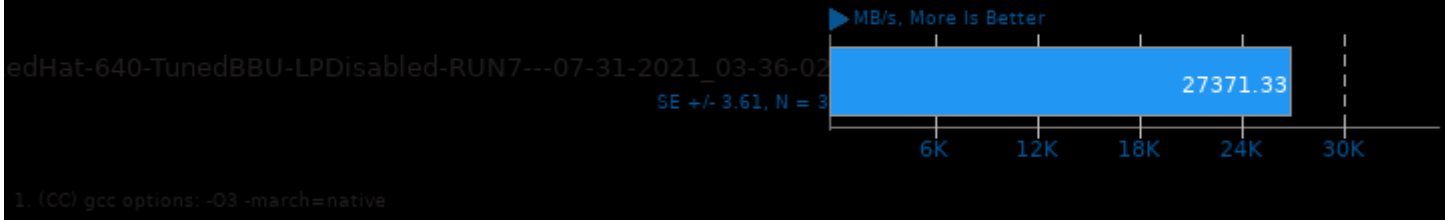
Type: Triad - Benchmark: Floating Point



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

RAMspeed SMP 3.5.0

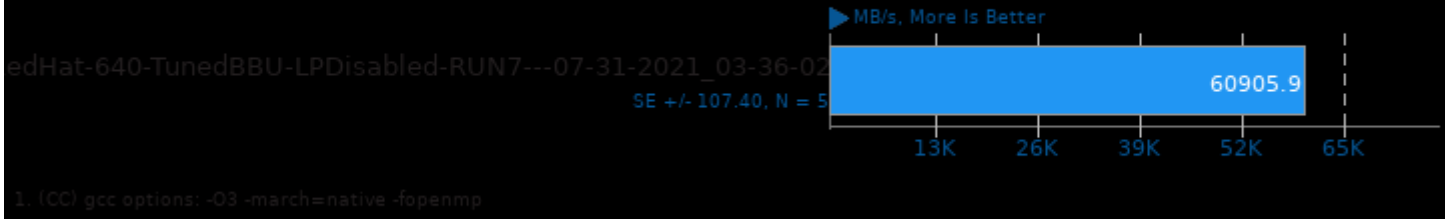
Type: Average - Benchmark: Floating Point



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

Stream 2013-01-17

Type: Copy



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

Stream 2013-01-17

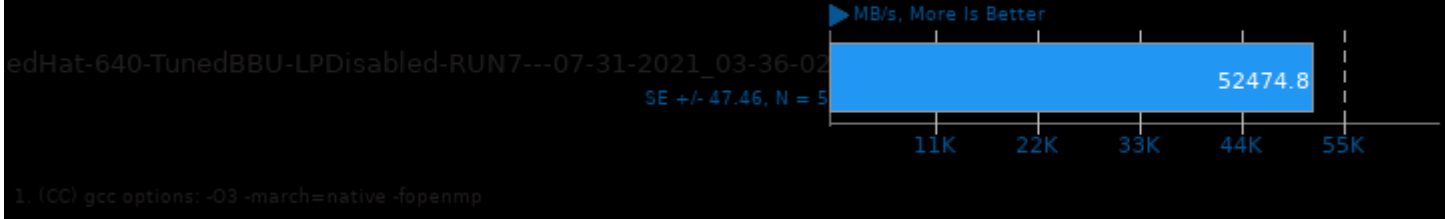
Type: Scale



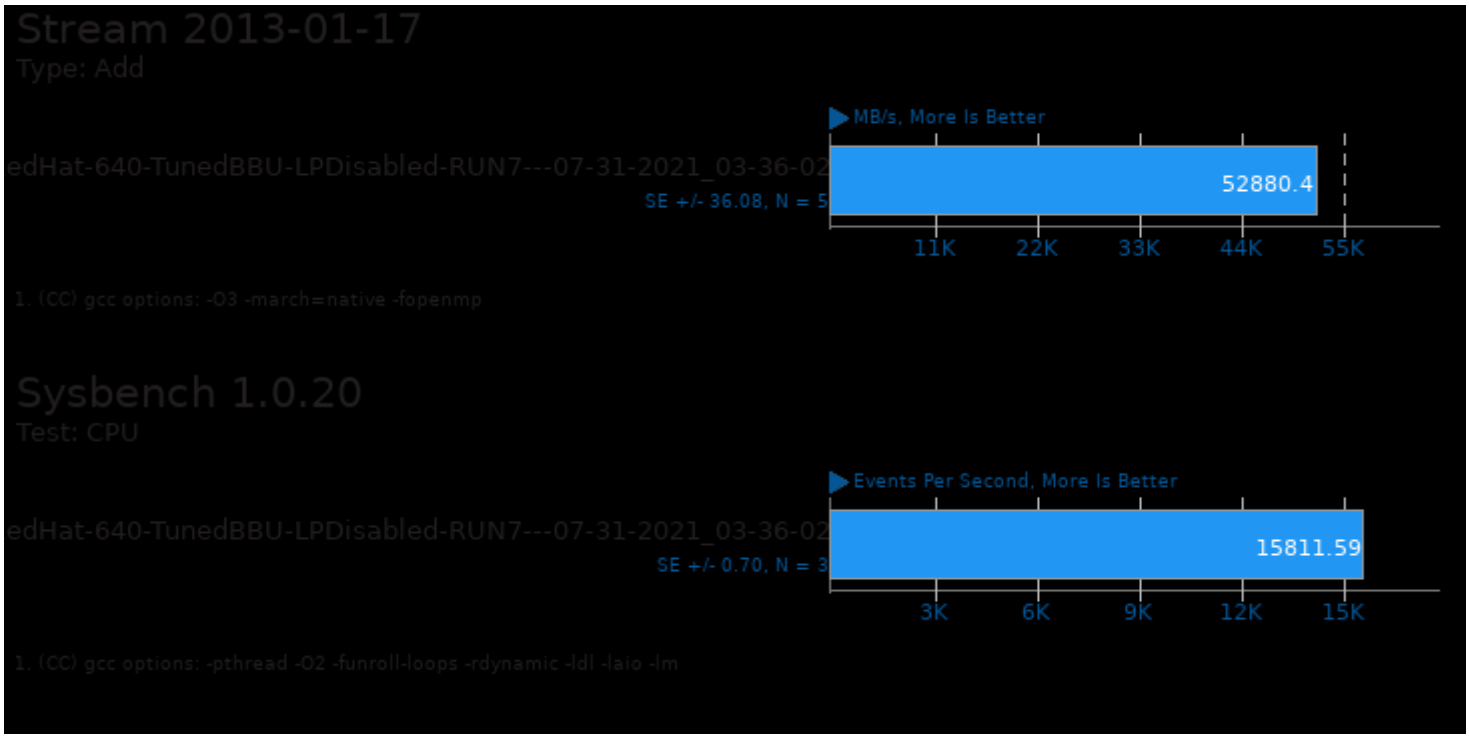
1. (CC) gcc options: -O3 -march=native -fopenmp

Stream 2013-01-17

Type: Triad



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



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