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CentOS-640-TunedThroughput-LPDisabled-RUN6

Testing-CentOS-8-on-a-Dell-640-The-tuned-adm-profile-used-is-throughput-performance-This-is-the-default-tuned-adm-profile-Previous-tests-may-have-been-labeled-at-NoTuned-thinking-that-there-was-no-default-tuning-profile-after-a-new-install-Logical-Processors-are-disabled

Test Systems:

CentOS-640-TunedThroughput-LPDisabled-RUN6---07-31-2021_01-05-20

Processor: Intel Xeon Gold 5218 @ 3.90GHz (16 Cores), Motherboard: Dell 0H28RR (2.11.2 BIOS), Memory: 8 x 8192 MB DDR4-3200MT/s HMA81GR7CJR8N-XN, Disk: 4000GB PERC H730P Mini, Graphics: mgadrmfb, Monitor: DELL P2210

OS: CentOS Linux 8, Kernel: 4.18.0-147.el8.x86_64 (x86_64), Compiler: GCC 8.4.1 20200928, File-System: xfs, Screen Resolution: 1680x1050

Kernel Notes: Transparent Huge Pages: always
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

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--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: MQ-DEADLINE / attr2,inode64,noquota,relatime,rw,seclabel / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0x5003102
Security Notes: SELinux + 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

	CentOS-640-TunedThroughput-LPDisabled-RUN6---07-31-2021_01-05-20
Sysbench - CPU (Events/sec)	15811
Standard Deviation	0%
IOzone - 4Kb - 512MB - Write Performance (MB/s)	62.039713542
Standard Deviation	2%
Intel Memory Latency Checker - Max Bandwidth - All Reads (MB/s)	79769
Standard Deviation	0%
Intel Memory Latency Checker - Max Bandwidth - 3:1 Reads-Writes (MB/s)	70645
Standard Deviation	0.1%
Intel Memory Latency Checker - Max Bandwidth - 2:1 Reads-Writes (MB/s)	68824
Standard Deviation	0.1%
Intel Memory Latency Checker - Max Bandwidth - 1:1 Reads-Writes (MB/s)	63382
Standard Deviation	0.3%
Intel Memory Latency Checker - Max Bandwidth - Stream-Triad Like (MB/s)	72574
Standard Deviation	0.1%
Intel Memory Latency Checker - P.I.B - All Reads (MB/s)	78823
Standard Deviation	0%
Intel Memory Latency Checker - P.I.B - 3:1 Reads-Writes (MB/s)	70674
Standard Deviation	0%
Intel Memory Latency Checker - P.I.B - 2:1 Reads-Writes (MB/s)	68971
Standard Deviation	0%
Intel Memory Latency Checker - P.I.B - 1:1 Reads-Writes (MB/s)	63004
Standard Deviation	0.2%
Intel Memory Latency Checker - P.I.B - Stream-Triad Like (MB/s)	66588
Standard Deviation	0.2%
RAMspeed SMP - Add - Integer (MB/s)	28265
Standard Deviation	0.1%
RAMspeed SMP - Copy - Integer (MB/s)	28900
Standard Deviation	0.1%
RAMspeed SMP - Scale - Integer (MB/s)	27551
Standard Deviation	0.3%
RAMspeed SMP - Triad - Integer (MB/s)	27245
Standard Deviation	0.1%
RAMspeed SMP - Average - Integer (MB/s)	27912
Standard Deviation	0%
RAMspeed SMP - Add - Floating Point (MB/s)	27684
Standard Deviation	1%

RAMspeed SMP - Copy - Floating Point (MB/s)	28843
Standard Deviation	0.5%
RAMspeed SMP - Scale - Floating Point (MB/s)	27525
Standard Deviation	0.3%
RAMspeed SMP - Triad - Floating Point (MB/s)	27268
Standard Deviation	0.5%
RAMspeed SMP - Average - Floating Point (MB/s)	27823
Standard Deviation	0.4%
Stream - Copy (MB/s)	62312
Standard Deviation	0.5%
Stream - Scale (MB/s)	46575
Standard Deviation	0.4%
Stream - Triad (MB/s)	52820
Standard Deviation	0.5%
Stream - Add (MB/s)	52846
Standard Deviation	0.4%
CacheBench - Read (MB/s)	3289
Standard Deviation	0%
CacheBench - Write (MB/s)	27120
Standard Deviation	0%
CacheBench - R.M.W (MB/s)	28898
Standard Deviation	0%
MBW - Memory Copy - 128 MiB (MiB/s)	9328
Standard Deviation	0.4%
MBW - Memory Copy - 512 MiB (MiB/s)	9090
Standard Deviation	0.4%
MBW - Memory Copy - 1024 MiB (MiB/s)	9015
Standard Deviation	0%
MBW - Memory Copy - 4096 MiB (MiB/s)	9035
Standard Deviation	0.5%
MBW - Memory Copy - 8192 MiB (MiB/s)	9055
Standard Deviation	0%
MBW - M.C.F.B.S - 128 MiB (MiB/s)	8243
Standard Deviation	0.1%
MBW - M.C.F.B.S - 512 MiB (MiB/s)	8208
Standard Deviation	0.3%
MBW - M.C.F.B.S - 1024 MiB (MiB/s)	8181
Standard Deviation	0.1%
MBW - M.C.F.B.S - 4096 MiB (MiB/s)	8078
Standard Deviation	0.1%
MBW - M.C.F.B.S - 8192 MiB (MiB/s)	8039
Standard Deviation	0.2%
Intel Memory Latency Checker - Idle Latency (ns)	68.3
Standard Deviation	0%
Core-Latency - A.L.B.C.C (ns)	271.444
pmbench - 1 - 50% (us - Page Latency)	0.0682
Standard Deviation	0.1%
pmbench - 4 - 50% (us - Page Latency)	0.0708
Standard Deviation	0%
pmbench - 16 - 50% (us - Page Latency)	0.0821
Standard Deviation	0.2%
pmbench - 1 - 100% Reads (us - Page Latency)	0.0398
Standard Deviation	0.1%

pmbench - 4 - 100% Reads (us - Page Latency) 0.0415

Standard Deviation 0.6%

pmbench - 1 - 100% Writes (us - Page Latency) 0.0313

Standard Deviation 0.2%

pmbench - 16 - 100% Reads (us - Page Latency) 0.0524

Standard Deviation 0.2%

pmbench - 4 - 100% Writes (us - Page Latency) 0.0332

Standard Deviation 0%

pmbench - 16 - 100% Writes (us - Page Latency) 0.0436

Standard Deviation 0%

pmbench - 1 - 8.R.2.W (us - Page Latency) 0.0853

Standard Deviation 0.1%

pmbench - 4 - 8.R.2.W (us - Page Latency) 0.0884

Standard Deviation 0.1%

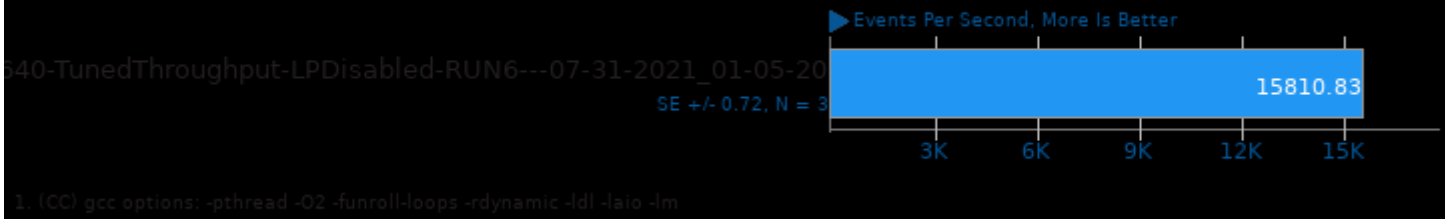
pmbench - 16 - 8.R.2.W (us - Page Latency) 0.1001

Standard Deviation 0%

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Sysbench 1.0.20

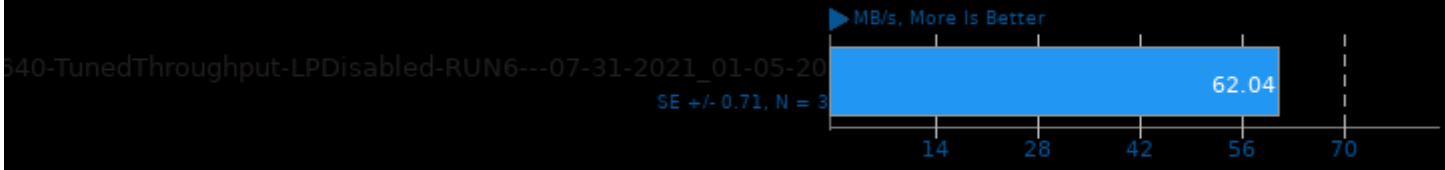
Test: CPU



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

IOzone 3.465

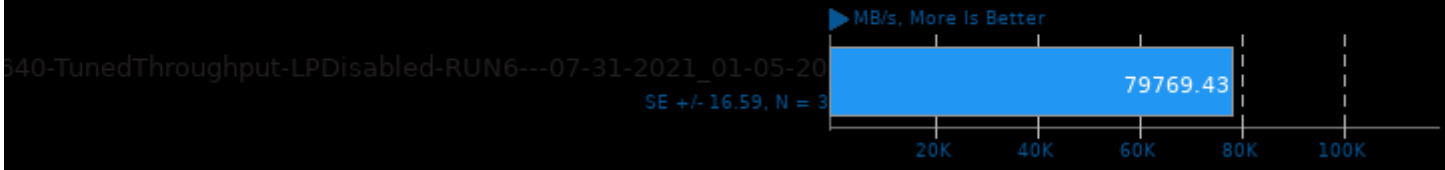
Record Size: 4Kb - File Size: 512MB - Disk Test: Write Performance



1. (CC) gcc options: -O3

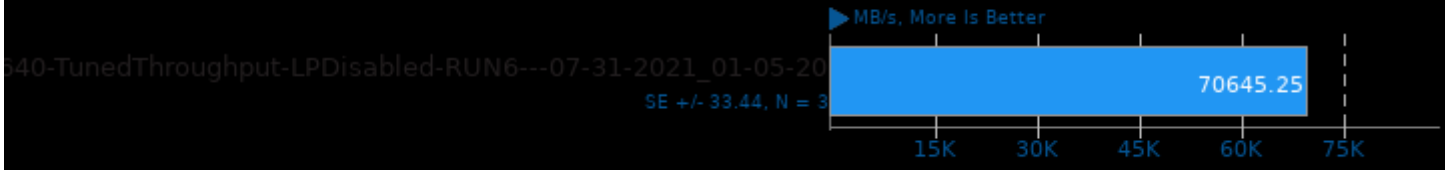
Intel Memory Latency Checker

Test: Max Bandwidth - All Reads



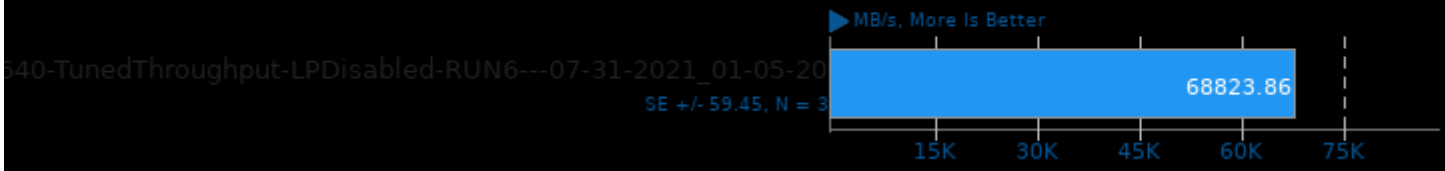
Intel Memory Latency Checker

Test: Max Bandwidth - 3:1 Reads-Writes

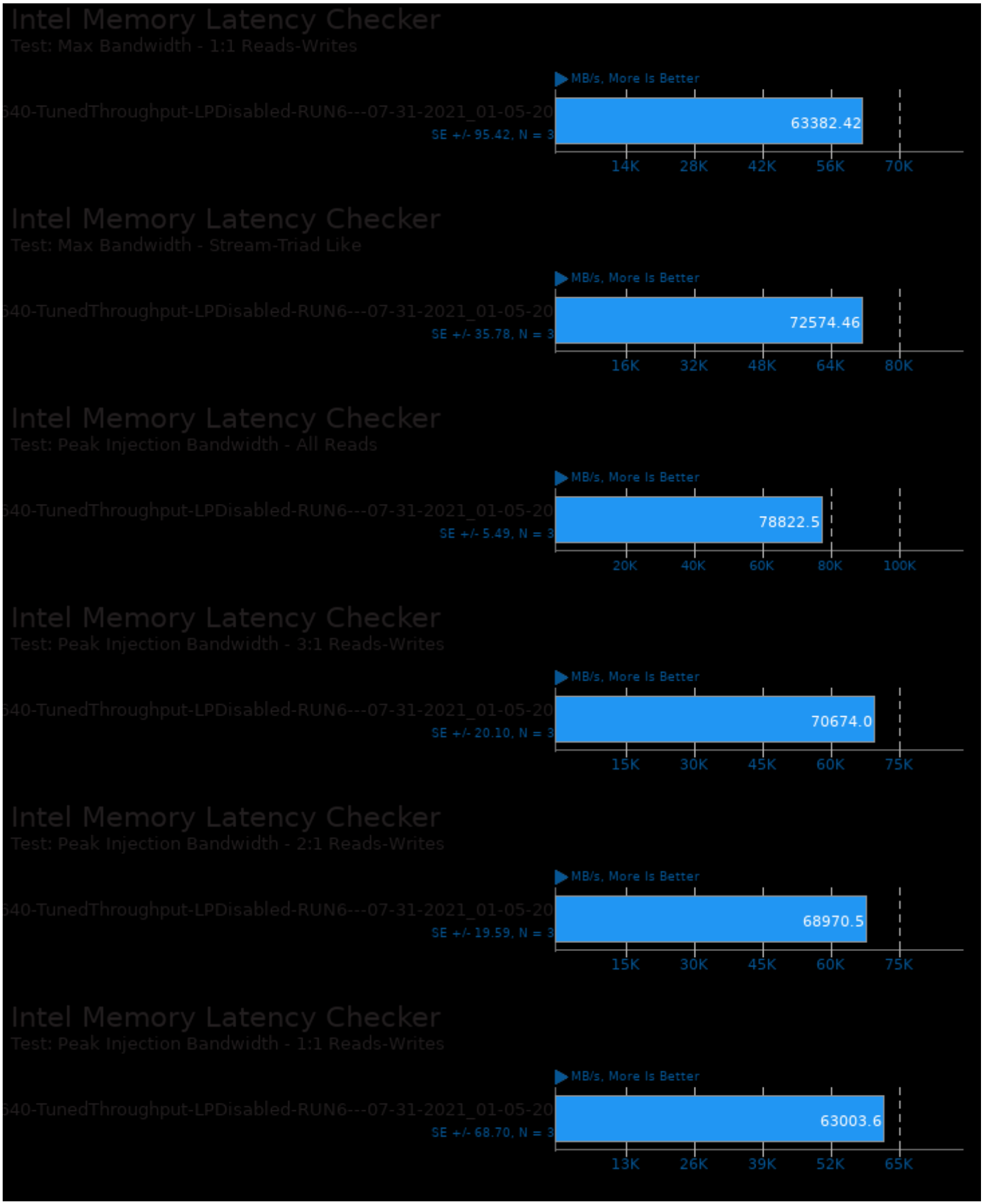


Intel Memory Latency Checker

Test: Max Bandwidth - 2:1 Reads-Writes

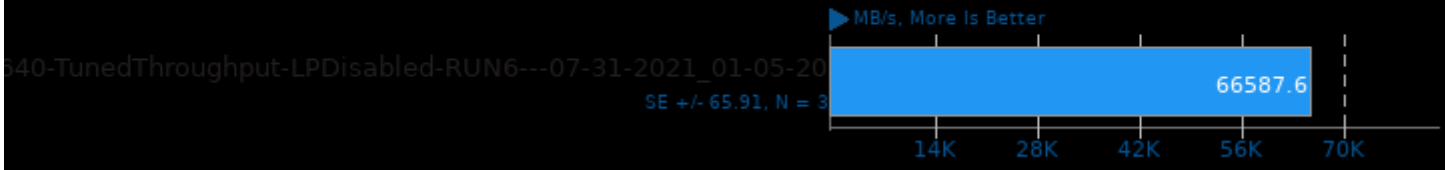


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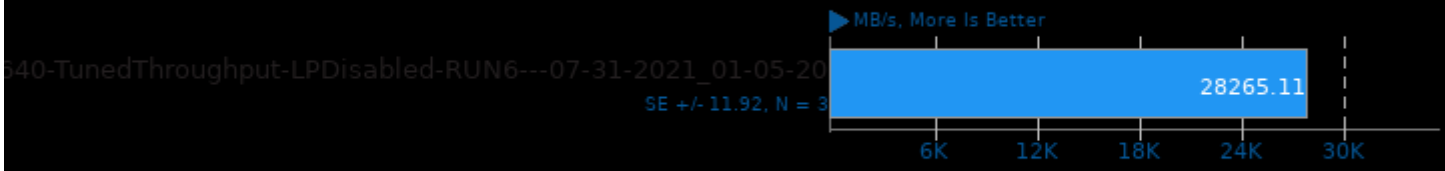
Intel Memory Latency Checker

Test: Peak Injection Bandwidth - Stream-Triad Like



RAMspeed SMP 3.5.0

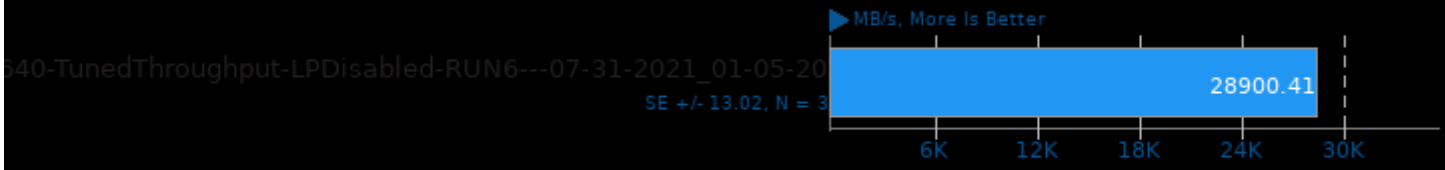
Type: Add - Benchmark: Integer



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

RAMspeed SMP 3.5.0

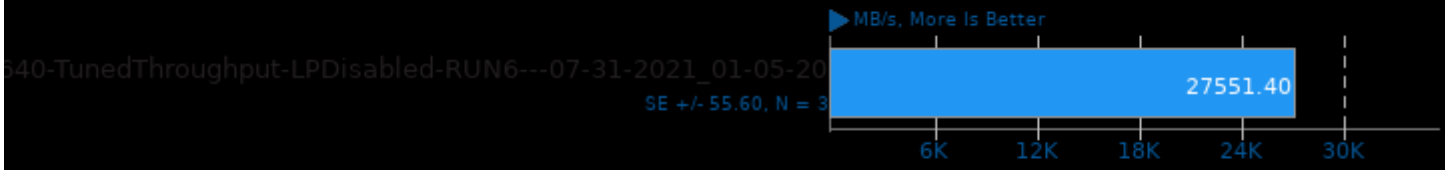
Type: Copy - Benchmark: Integer



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

RAMspeed SMP 3.5.0

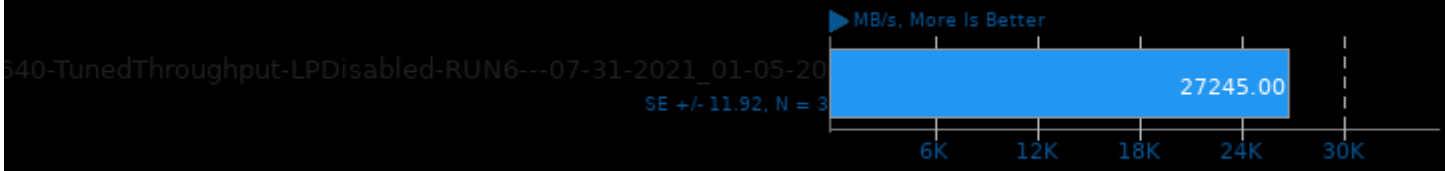
Type: Scale - Benchmark: Integer



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

RAMspeed SMP 3.5.0

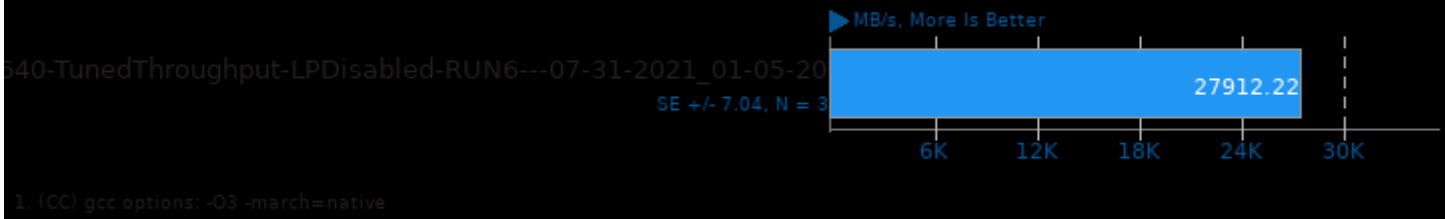
Type: Triad - Benchmark: Integer



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

RAMspeed SMP 3.5.0

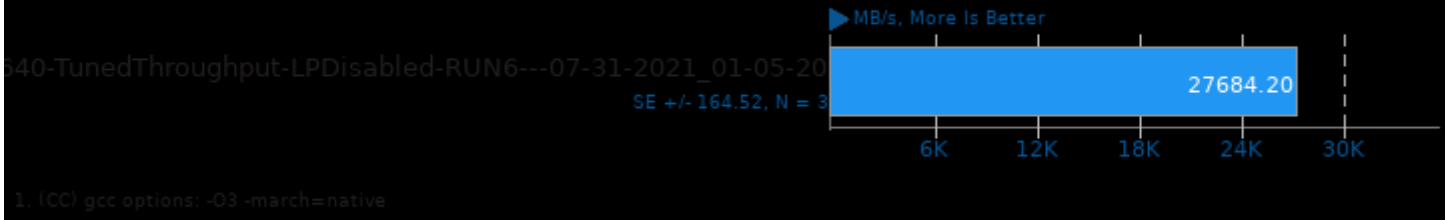
Type: Average - Benchmark: Integer



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

RAMspeed SMP 3.5.0

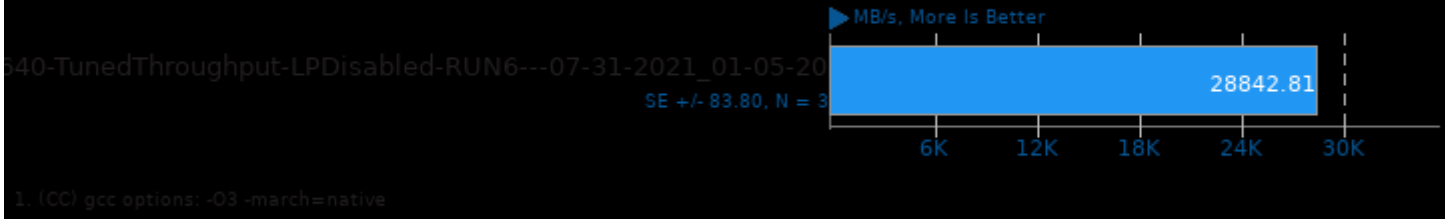
Type: Add - Benchmark: Floating Point



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

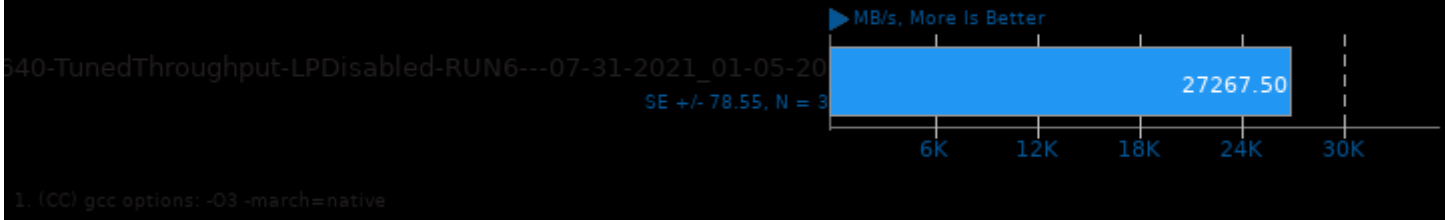
Type: Scale - Benchmark: Floating Point



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

RAMspeed SMP 3.5.0

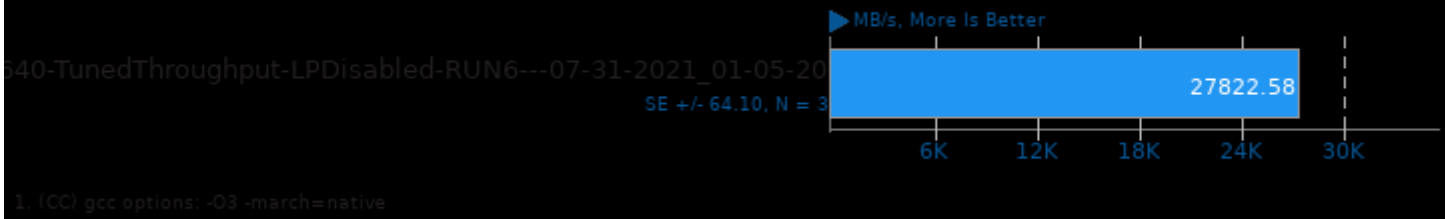
Type: Triad - Benchmark: Floating Point



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

RAMspeed SMP 3.5.0

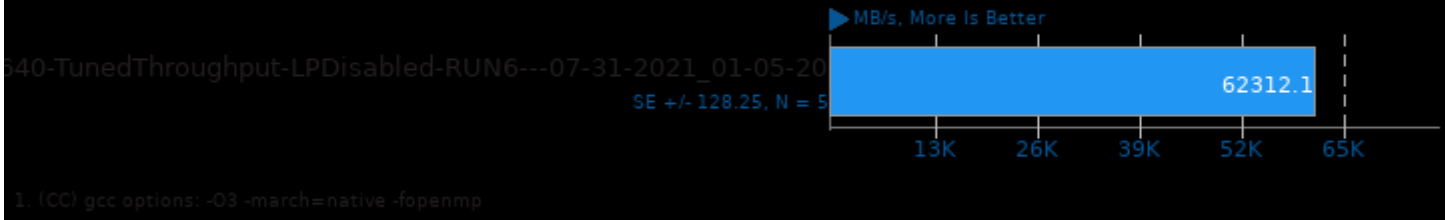
Type: Average - Benchmark: Floating Point



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

Stream 2013-01-17

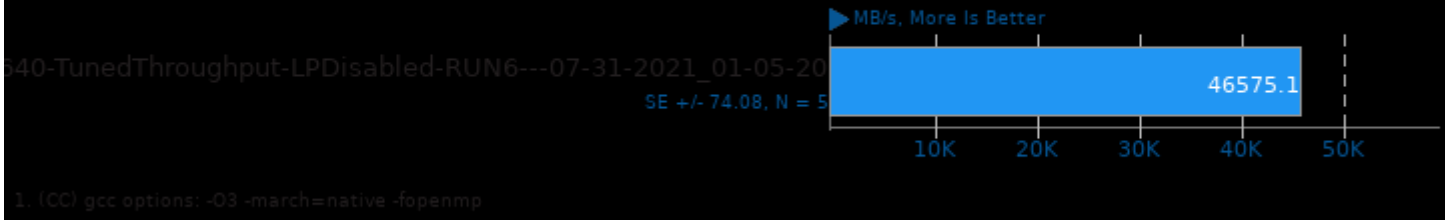
Type: Copy



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

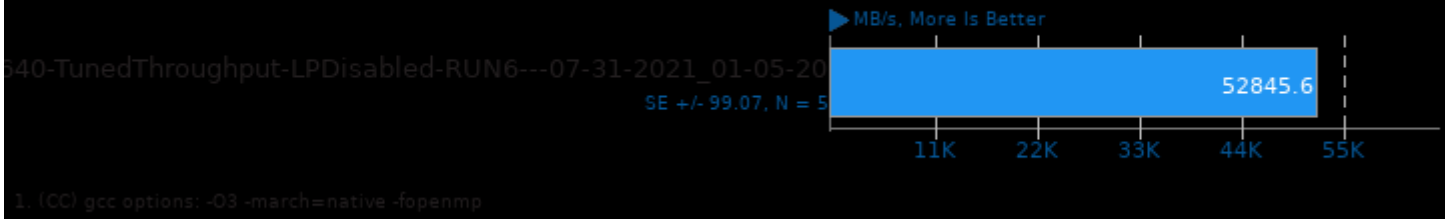
Type: Triad



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

Stream 2013-01-17

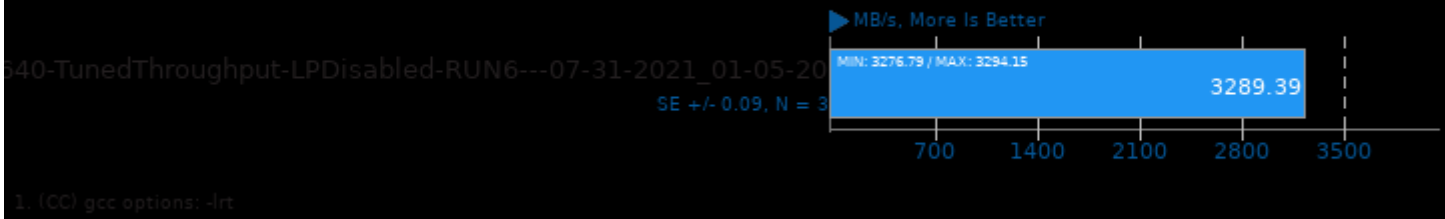
Type: Add



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

CacheBench

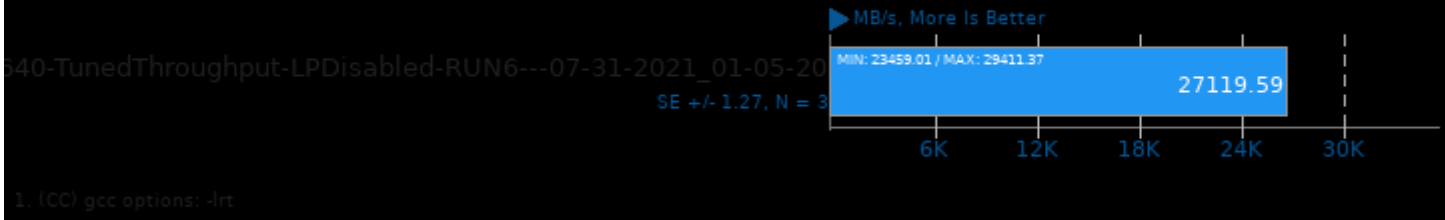
Test: Read



1. (CC) gcc options: -lrt

CacheBench

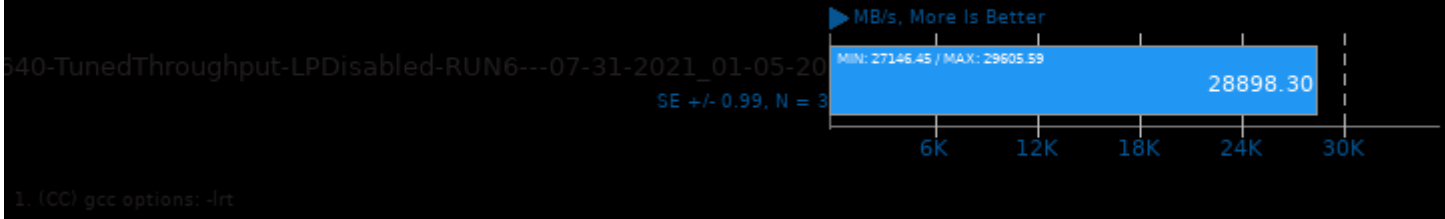
Test: Write



1. (CC) gcc options: -lrt

CacheBench

Test: Read / Modify / Write



1. (CC) gcc options: -lrt

MBW 2018-09-08

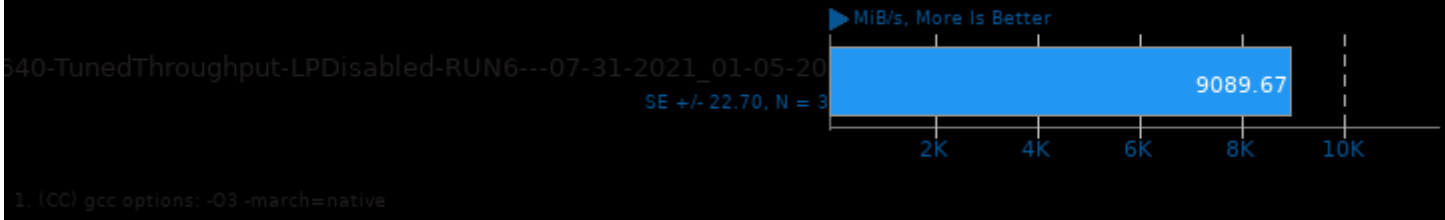
Test: Memory Copy - Array Size: 128 MiB



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

MBW 2018-09-08

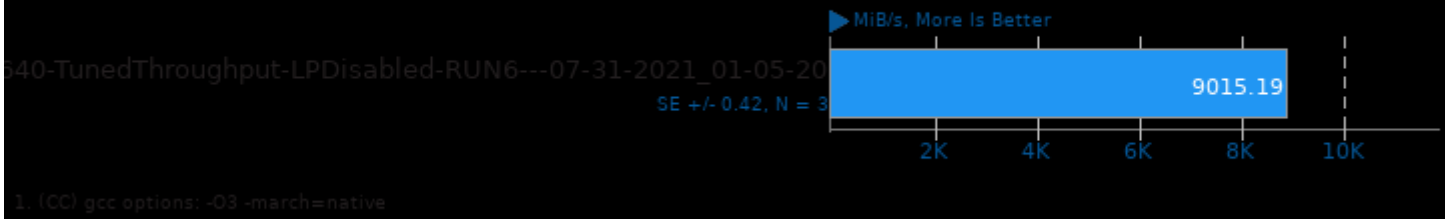
Test: Memory Copy - Array Size: 512 MiB



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

MBW 2018-09-08

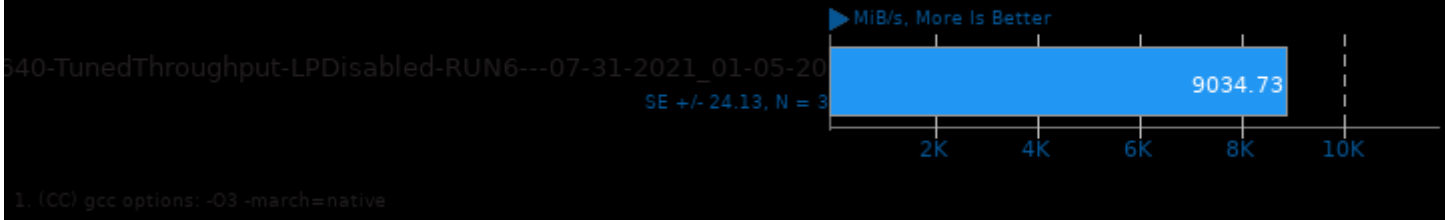
Test: Memory Copy - Array Size: 1024 MiB



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

MBW 2018-09-08

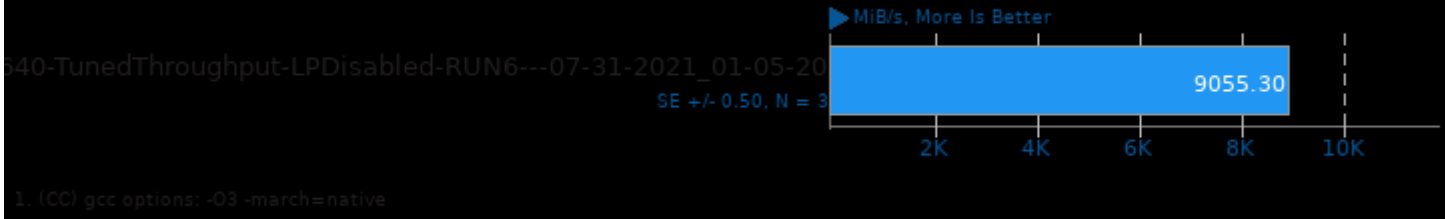
Test: Memory Copy - Array Size: 4096 MiB



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

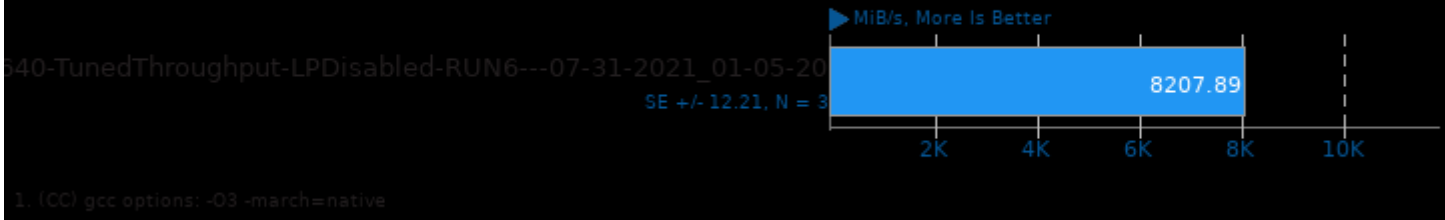
Test: Memory Copy, Fixed Block Size - Array Size: 128 MiB



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

MBW 2018-09-08

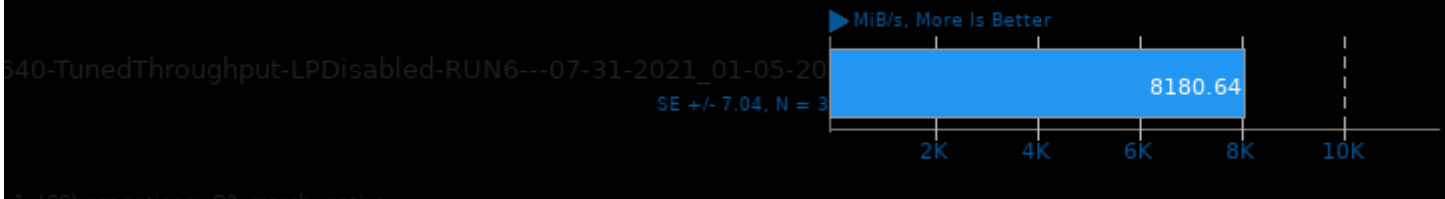
Test: Memory Copy, Fixed Block Size - Array Size: 512 MiB



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

MBW 2018-09-08

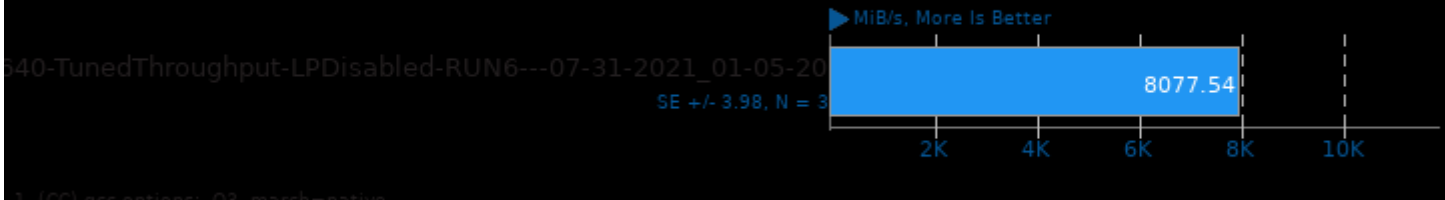
Test: Memory Copy, Fixed Block Size - Array Size: 1024 MiB



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

MBW 2018-09-08

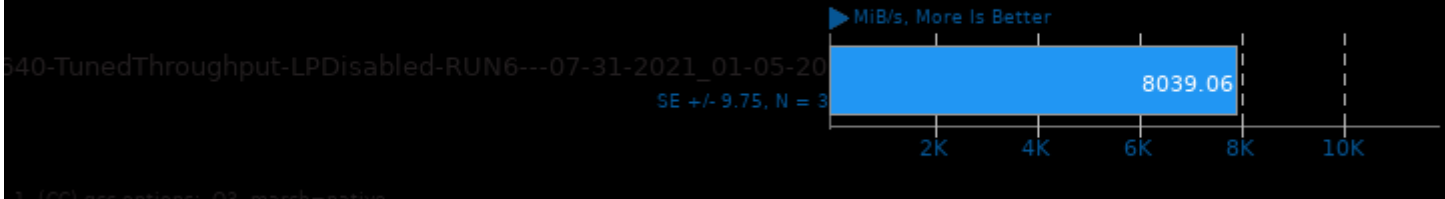
Test: Memory Copy, Fixed Block Size - Array Size: 4096 MiB



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

MBW 2018-09-08

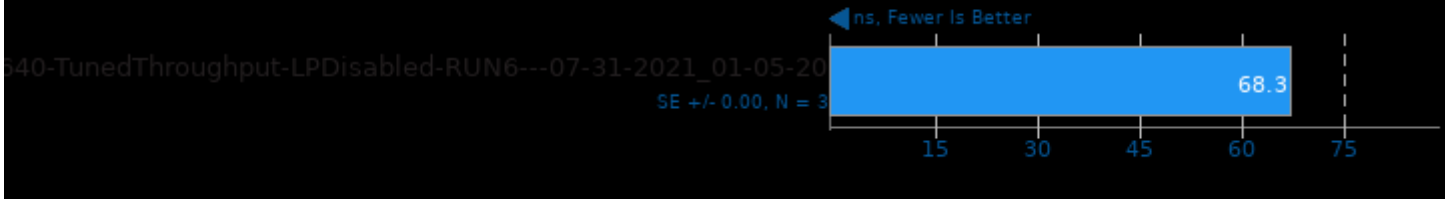
Test: Memory Copy, Fixed Block Size - Array Size: 8192 MiB



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

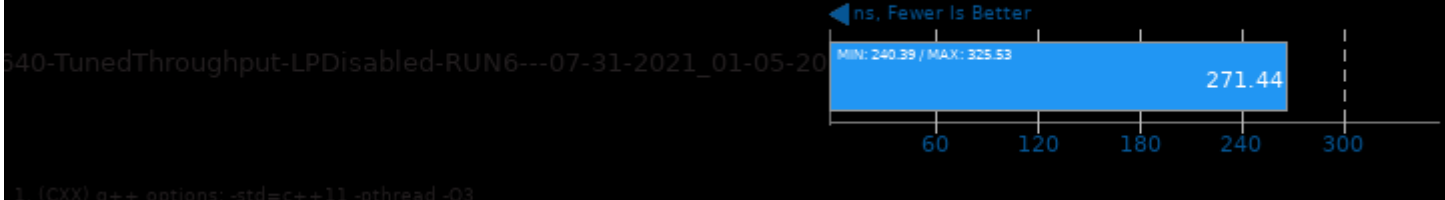
Intel Memory Latency Checker

Test: Idle Latency



Core-Latency

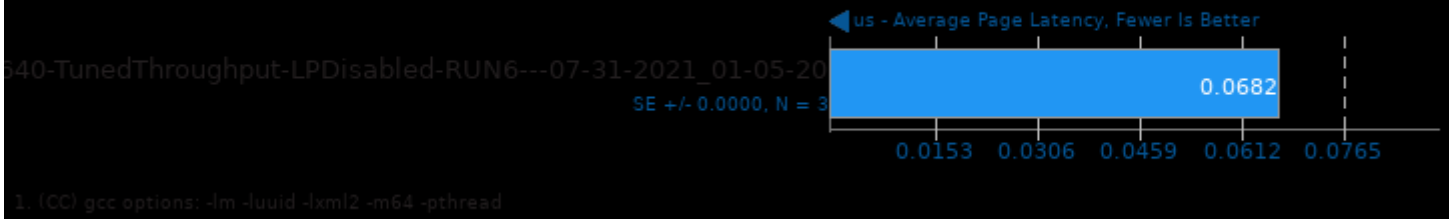
Average Latency Between CPU Cores



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

pmbench

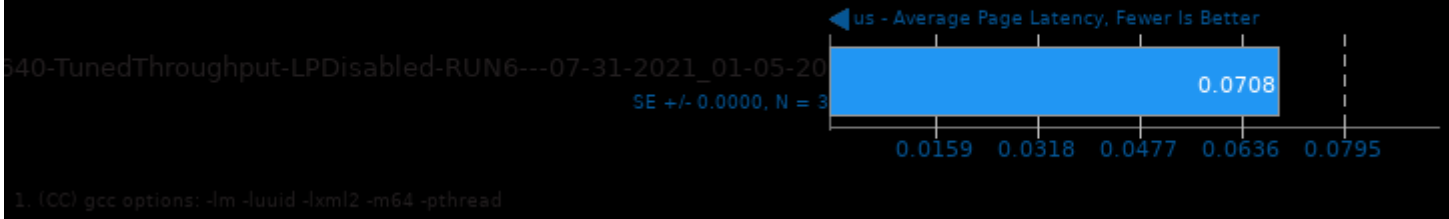
Concurrent Worker Threads: 1 - Read-Write Ratio: 50%



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

pmbench

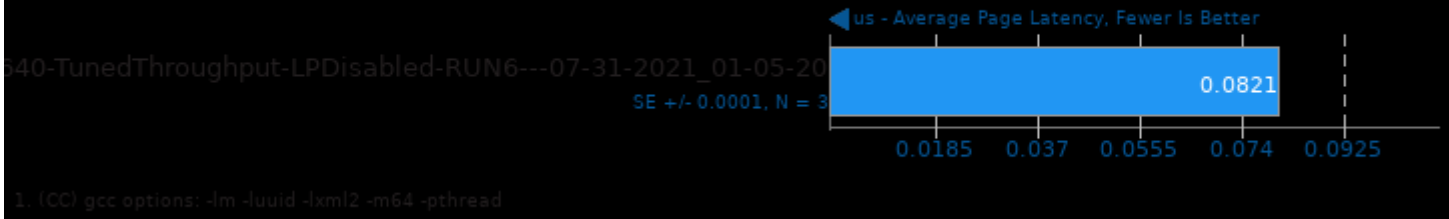
Concurrent Worker Threads: 4 - Read-Write Ratio: 50%



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

pmbench

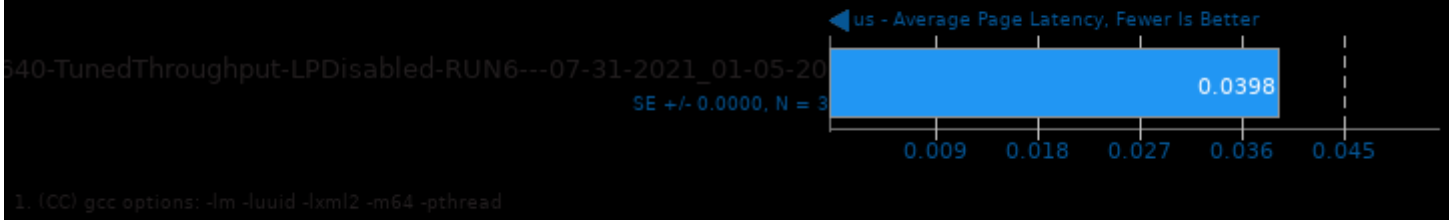
Concurrent Worker Threads: 16 - Read-Write Ratio: 50%



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

pmbench

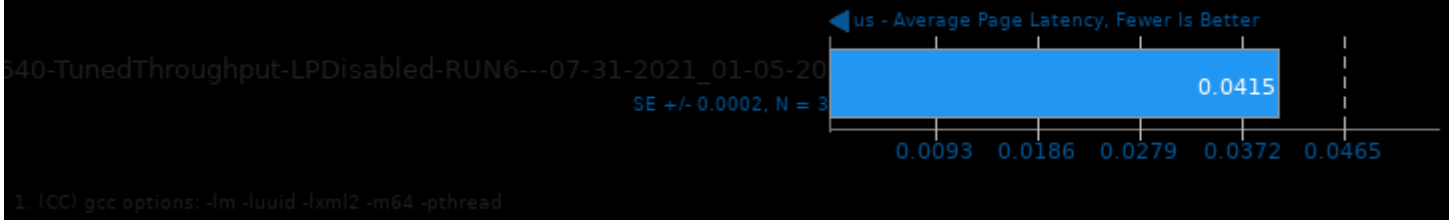
Concurrent Worker Threads: 1 - Read-Write Ratio: 100% Reads



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

pmbench

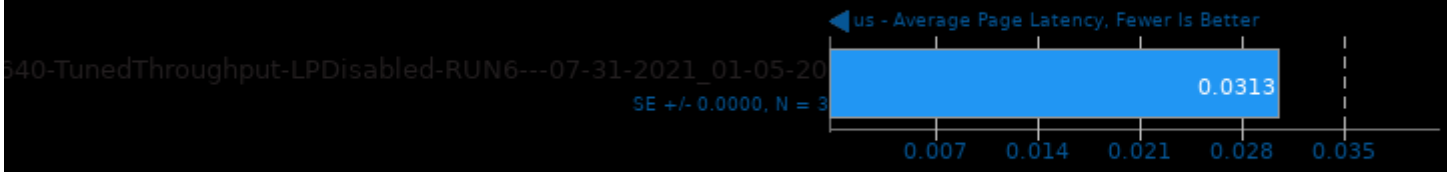
Concurrent Worker Threads: 4 - Read-Write Ratio: 100% Reads



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

pmbench

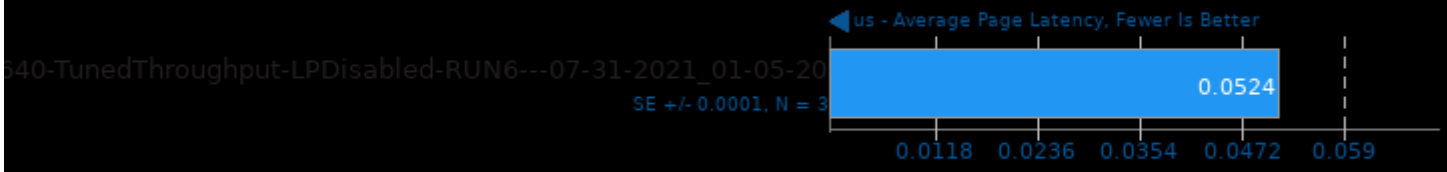
Concurrent Worker Threads: 1 - Read-Write Ratio: 100% Writes



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

pmbench

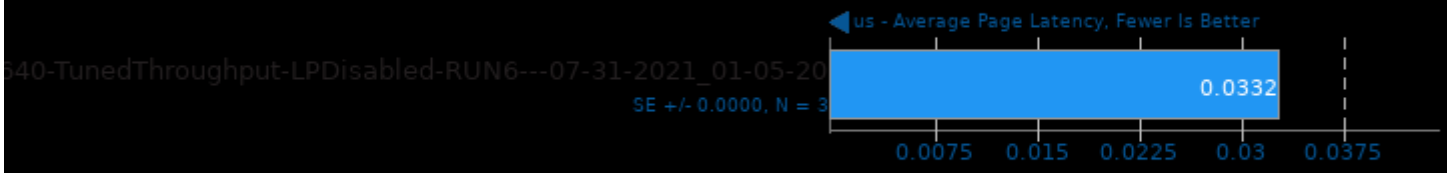
Concurrent Worker Threads: 16 - Read-Write Ratio: 100% Reads



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

pmbench

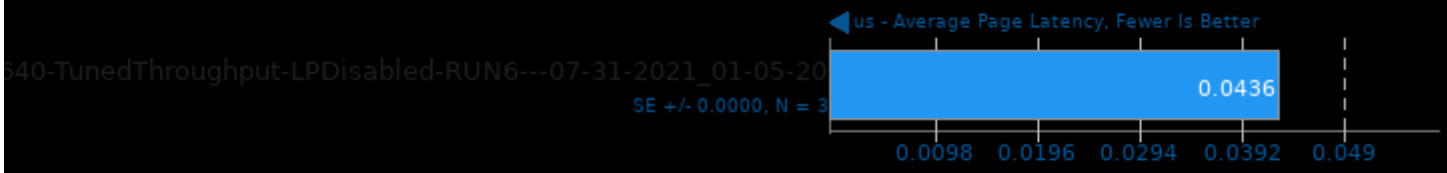
Concurrent Worker Threads: 4 - Read-Write Ratio: 100% Writes



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

pmbench

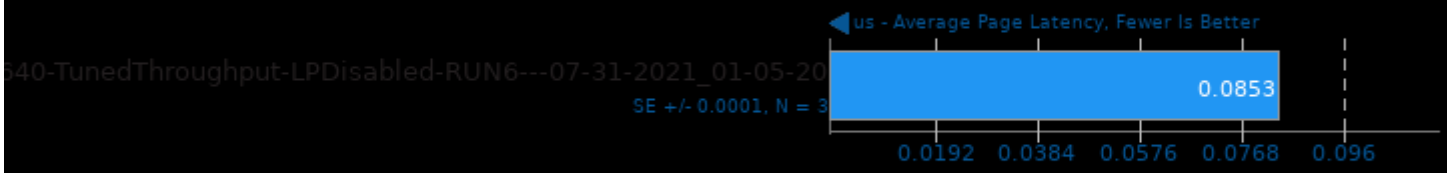
Concurrent Worker Threads: 16 - Read-Write Ratio: 100% Writes



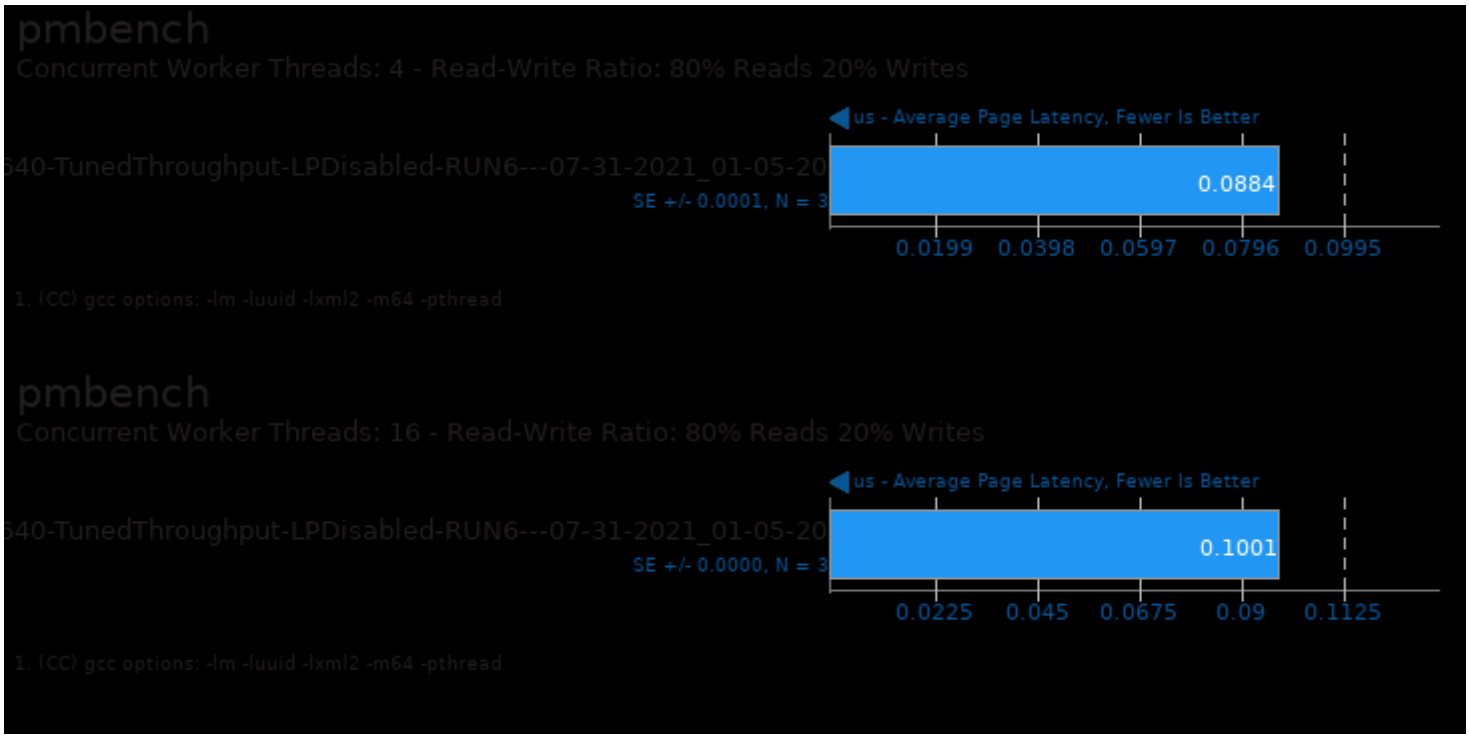
1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

pmbench

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



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



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