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CentOS-740-TunedThroughput-LPDisabled-RUN4

CentOS-operating-system-Dell-740-Default-tuning-profile-hyperthreading-off

Automated Executive Summary

CentOS-740-TunedThroughput-LPDisabled-RUN4---07-31-2021_01-53-08 had the most wins, coming in first place for 73% of the tests.

Based on the geometric mean of all complete results, the fastest (CentOS-740-TunedThroughput-LPDisabled-RUN4---07-31-2021_01-53-08) was 1.022x the speed of the slowest (CentOS-740-TunedThroughput-LPDisabled-RUN4---07-31-2021_06-08-19).

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

MBW (Test: Memory Copy, Fixed Block Size - Array Size: 128 MiB) at 1.102x
MBW (Test: Memory Copy - Array Size: 4096 MiB) at 1.095x
MBW (Test: Memory Copy - Array Size: 128 MiB) at 1.087x
MBW (Test: Memory Copy - Array Size: 1024 MiB) at 1.082x
MBW (Test: Memory Copy - Array Size: 8192 MiB) at 1.057x
MBW (Test: Memory Copy, Fixed Block Size - Array Size: 1024 MiB) at 1.054x
MBW (Test: Memory Copy, Fixed Block Size - Array Size: 512 MiB) at 1.052x
MBW (Test: Memory Copy - Array Size: 512 MiB) at 1.038x

MBW (Test: Memory Copy, Fixed Block Size - Array Size: 4096 MiB) at 1.038x
Intel Memory Latency Checker (Test: Max Bandwidth - All Reads) at 1.026x.

Test Systems:

CentOS-740-TunedThroughput-LPDisabled-RUN4---07-31-2021_01-53-08

CentOS-740-TunedThroughput-LPDisabled-RUN4---07-31-2021_06-08-19

Processor: 2 x Intel Xeon Gold 6254 @ 4.00GHz (36 Cores), Motherboard: Dell 0YWR7D (2.10.0 BIOS), Memory: 4 x 16384 MB DDR4-2933MT/s 18ASF2G72PDZ-2G9E1, Disk: 4 x 480GB PERC H740P Adp + 31GB USB DISK 2.0, Graphics: mgadrmfb, Monitor: DELL P2217H

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: 1600x900

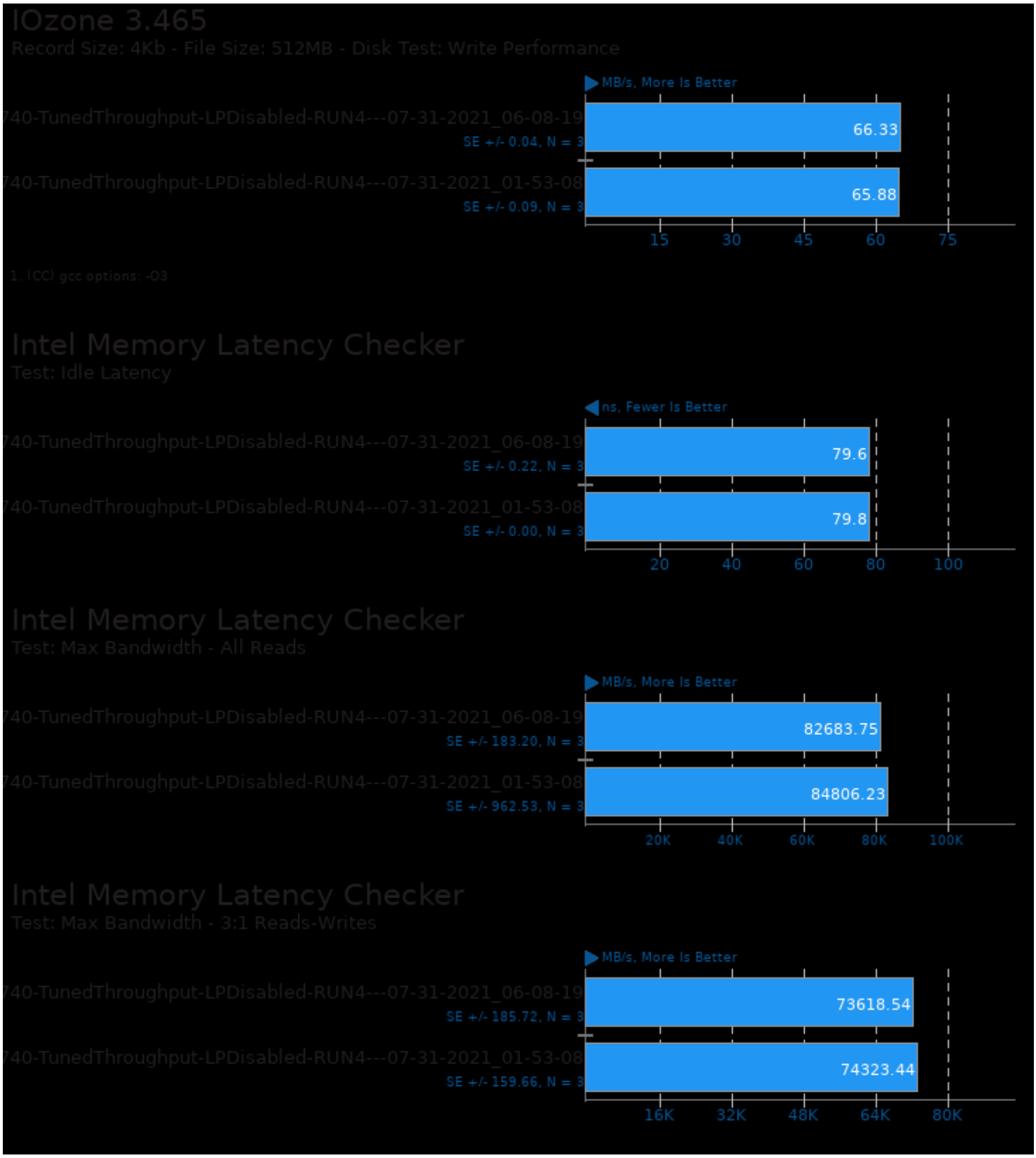
Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-redhat-linux --disable-libmpx --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,lto --enable-multilib --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,sunit=512,swidth=512 / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0x5003003
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-740-TunedThroughput-LPDisabled-RUN4---07-31-2021_01-53-08	CentOS-740-TunedThroughput-LPDisabled-RUN4---07-31-2021_06-08-19
IOzone - 4Kb - 512MB - Write Performance (MB/s)	**65.875651042**	**66.329427083**
Normalized	99.32%	100%
Standard Deviation	0.2%	0.1%
Intel Memory Latency Checker - Idle Latency (ns)	**79.8**	**79.6**
Normalized	99.75%	100%
Standard Deviation	0%	0.5%
Intel Memory Latency Checker - Max Bandwidth - All Reads (MB/s)	**84806**	**82684**
Normalized	100%	97.5%
Standard Deviation	2%	0.4%
Intel Memory Latency Checker - Max Bandwidth - 3:1 Reads-Writes (MB/s)	**74323**	**73619**
Normalized	100%	99.05%
Standard Deviation	0.4%	0.4%

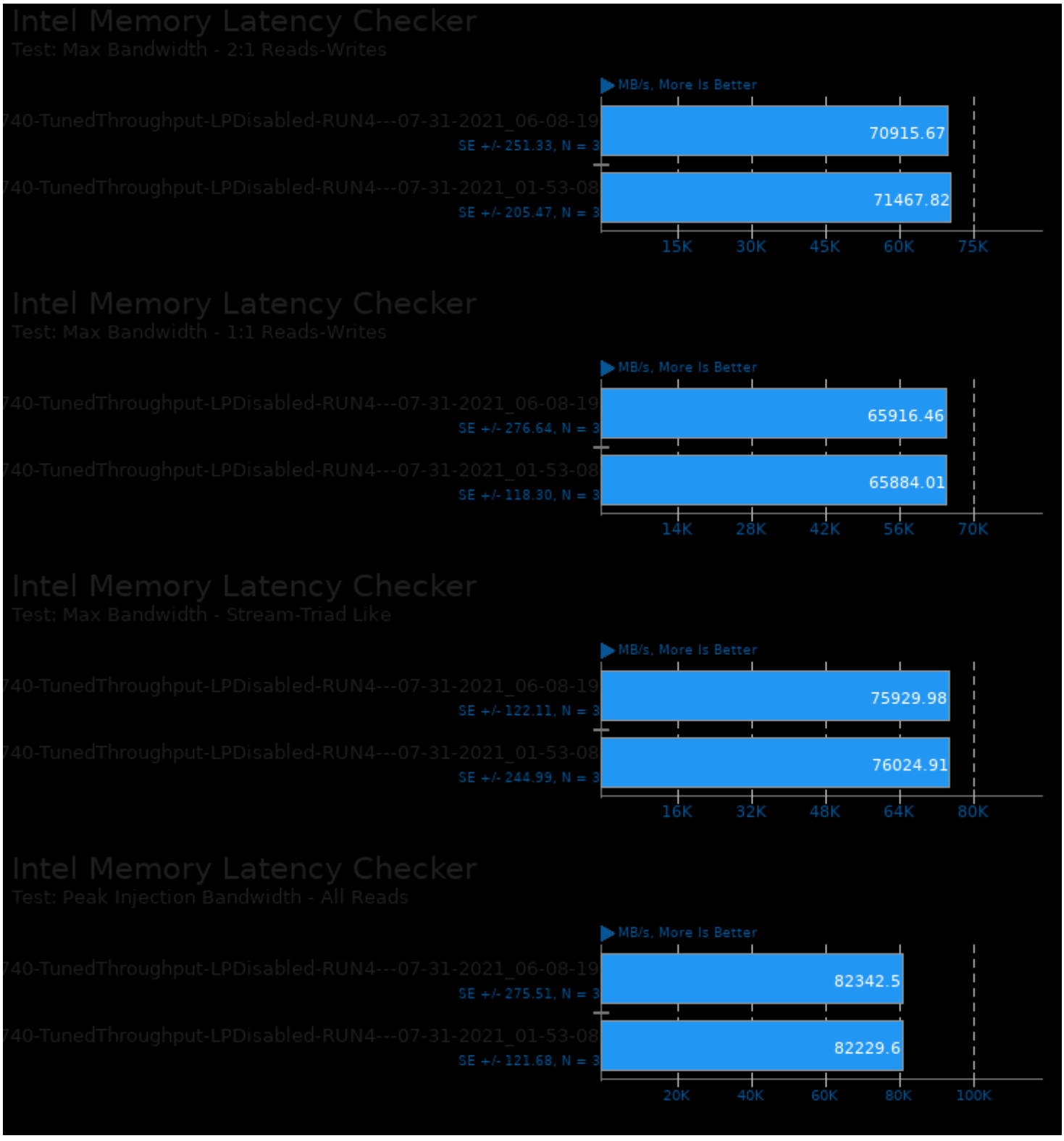
Intel Memory Latency Checker - Max Bandwidth - 2:1 Reads-Writes (MB/s)	**71468**	**70916**
Normalized	100%	99.23%
Standard Deviation	0.5%	0.6%
Intel Memory Latency Checker - Max Bandwidth - 1:1 Reads-Writes (MB/s)	**65884**	**65916**
Normalized	99.95%	100%
Standard Deviation	0.3%	0.7%
Intel Memory Latency Checker - Max Bandwidth - Stream-Triad Like (MB/s)	**76025**	**75930**
Normalized	100%	99.88%
Standard Deviation	0.6%	0.3%
Intel Memory Latency Checker - P.I.B - All Reads	**82230**	**82343**
Normalized	99.86%	100%
Standard Deviation	0.3%	0.6%
Intel Memory Latency Checker - P.I.B - 3:1 Reads-Writes (MB/s)	**73293**	**72967**
Normalized	100%	99.56%
Standard Deviation	0.1%	0.7%
Intel Memory Latency Checker - P.I.B - 2:1 Reads-Writes (MB/s)	**70954**	**70486**
Normalized	100%	99.34%
Standard Deviation	0.4%	0.4%
Intel Memory Latency Checker - P.I.B - 1:1 Reads-Writes (MB/s)	**65279**	**65268**
Normalized	100%	99.98%
Standard Deviation	0.1%	0.6%
Intel Memory Latency Checker - P.I.B - Stream-Triad Like (MB/s)	**67965**	**67742**
Normalized	100%	99.67%
Standard Deviation	0.3%	0.6%
RAMspeed SMP - Add - Integer (MB/s)	15516	
Standard Deviation	2.3%	
RAMspeed SMP - Copy - Integer (MB/s)	14450	
Standard Deviation	0.9%	
RAMspeed SMP - Scale - Integer (MB/s)	11352	
Standard Deviation	0.5%	
RAMspeed SMP - Triad - Integer (MB/s)	14125	
Standard Deviation	1.8%	
RAMspeed SMP - Average - Integer (MB/s)	13369	
Standard Deviation	1.6%	
RAMspeed SMP - Add - Floating Point (MB/s)	11588	
Standard Deviation	1.3%	
RAMspeed SMP - Copy - Floating Point (MB/s)	14371	
Standard Deviation	0.4%	
RAMspeed SMP - Scale - Floating Point (MB/s)	10835	
Standard Deviation	0.1%	
RAMspeed SMP - Triad - Floating Point (MB/s)	11138	
Standard Deviation	1.1%	
RAMspeed SMP - Average - Floating Point (MB/s)	11998	
Standard Deviation	0.7%	
Stream - Copy (MB/s)	**38885**	**38492**
Normalized	100%	98.99%

Standard Deviation	4.5%	2.4%
Stream - Scale (MB/s)	**42672**	**42271**
Normalized	100%	99.06%
Standard Deviation	2.6%	3.5%
Stream - Triad (MB/s)	**45478**	**45729**
Normalized	99.45%	100%
Standard Deviation	1.4%	2.2%
Stream - Add (MB/s)	**46067**	**45253**
Normalized	100%	98.23%
Standard Deviation	2.4%	1.9%
MBW - Memory Copy - 128 MiB (MiB/s)	**3612**	**3323**
Normalized	100%	92.01%
Standard Deviation	0.2%	0.7%
MBW - Memory Copy - 512 MiB (MiB/s)	**3487**	**3360**
Normalized	100%	96.36%
Standard Deviation	0%	2%
MBW - Memory Copy - 1024 MiB (MiB/s)	**3465**	**3204**
Normalized	100%	92.46%
Standard Deviation	0%	1.4%
MBW - Memory Copy - 4096 MiB (MiB/s)	**3447**	**3148**
Normalized	100%	91.33%
Standard Deviation	0%	1.4%
MBW - Memory Copy - 8192 MiB (MiB/s)	**3415**	**3230**
Normalized	100%	94.58%
Standard Deviation	0.8%	2.4%
MBW - M.C.F.B.S - 128 MiB (MiB/s)	**3620**	**3284**
Normalized	100%	90.73%
Standard Deviation	0.1%	6%
MBW - M.C.F.B.S - 512 MiB (MiB/s)	**3620**	**3440**
Normalized	100%	95.03%
Standard Deviation	0%	4.9%
MBW - M.C.F.B.S - 1024 MiB (MiB/s)	**3626**	**3441**
Normalized	100%	94.89%
Standard Deviation	0%	1.8%
MBW - M.C.F.B.S - 4096 MiB (MiB/s)	**3624**	**3493**
Normalized	100%	96.37%
Standard Deviation	0.1%	1.1%
MBW - M.C.F.B.S - 8192 MiB (MiB/s)	**3416**	**3500**
Normalized	97.6%	100%
Standard Deviation	4.9%	2.3%
CacheBench - Read (MB/s)	**3292**	**3294**
Normalized	99.94%	100%
Standard Deviation	0%	0%
CacheBench - Write (MB/s)	**27109**	**27101**
Normalized	100%	99.97%
Standard Deviation	0%	0%
CacheBench - R.M.W (MB/s)	**41235**	**41083**
Normalized	100%	99.63%
Standard Deviation	0.6%	0.4%
Sysbench - CPU (Events/sec)	**47976**	**48104**
Normalized	99.73%	100%
Standard Deviation	0.1%	0.1%
pmbench - 1 - 50% (us - Page Latency)		0.0727
Standard Deviation		5.3%
pmbench - 4 - 50% (us - Page Latency)		0.0933

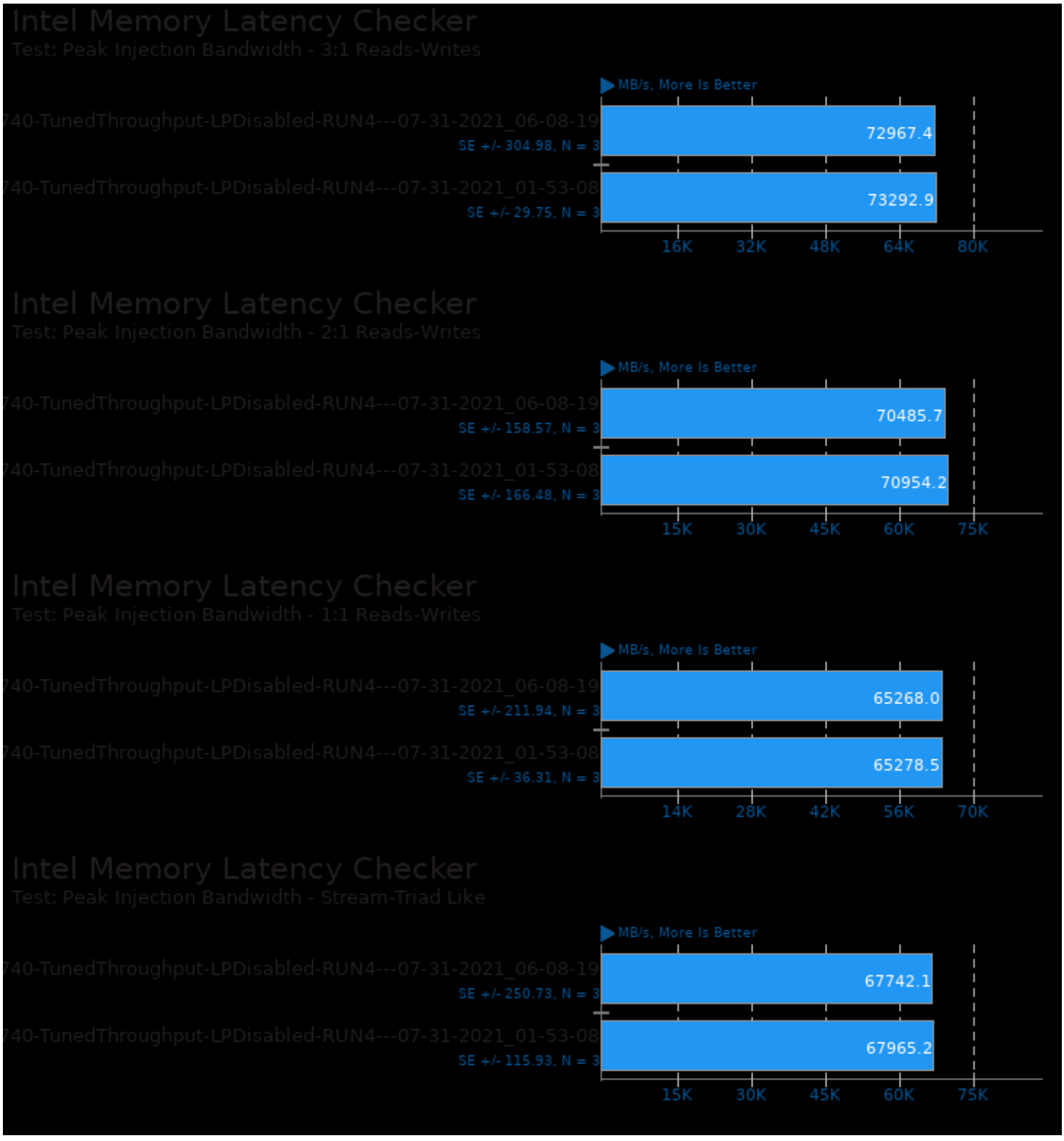
Standard Deviation	0.8%
pmbench - 16 - 50% (us - Page Latency)	0.0991
Standard Deviation	0.6%
pmbench - 1 - 100% Reads (us - Page Latency)	0.0398
Standard Deviation	0.1%
pmbench - 4 - 100% Reads (us - Page Latency)	0.0396
Standard Deviation	1.2%
pmbench - 1 - 100% Writes (us - Page Latency)	0.0355
Standard Deviation	2%
pmbench - 16 - 100% Reads (us - Page Latency)	0.0398
Standard Deviation	0.4%
pmbench - 4 - 100% Writes (us - Page Latency)	0.0395
Standard Deviation	1.8%
pmbench - 16 - 100% Writes (us - Page Latency)	0.0507
Standard Deviation	2.5%
pmbench - 1 - 8.R.2.W (us - Page Latency)	0.0972
Standard Deviation	8.1%
pmbench - 4 - 8.R.2.W (us - Page Latency)	0.1362
Standard Deviation	7.8%
pmbench - 16 - 8.R.2.W (us - Page Latency)	0.1500
Standard Deviation	18%
Core-Latency - A.L.B.C.C (ns)	248.47


IOzone 3.465
Record Size: 4Kb - File Size: 512MB - Disk Test: Write Performance
MB/s, More Is Better
740-TunedThroughput-LPDisabled-RUN4---07-31-2021_06-08-19
SE +/- 0.04, N = 3
66.33
740-TunedThroughput-LPDisabled-RUN4---07-31-2021_01-53-08
SE +/- 0.09, N = 3
65.88
15
30
45
60
75
1. (CC) gcc options: -O3
Intel Memory Latency Checker
Test: Idle Latency
ns, Fewer Is Better
740-TunedThroughput-LPDisabled-RUN4---07-31-2021_06-08-19
SE +/- 0.22, N = 3
79.6
740-TunedThroughput-LPDisabled-RUN4---07-31-2021_01-53-08
SE +/- 0.00, N = 3
79.8
20
40
60
80
100
Intel Memory Latency Checker
Test: Max Bandwidth - All Reads
MB/s, More Is Better
740-TunedThroughput-LPDisabled-RUN4---07-31-2021_06-08-19
SE +/- 183.20, N = 3
82683.75
740-TunedThroughput-LPDisabled-RUN4---07-31-2021_01-53-08
SE +/- 962.53, N = 3
84806.23
20K
40K
60K
80K
100K
Intel Memory Latency Checker
Test: Max Bandwidth - 3:1 Reads-Writes
MB/s, More Is Better
740-TunedThroughput-LPDisabled-RUN4---07-31-2021_06-08-19
SE +/- 185.72, N = 3
73618.54
740-TunedThroughput-LPDisabled-RUN4---07-31-2021_01-53-08
SE +/- 159.66, N = 3
74323.44
16K
32K
48K
64K
80K

CentOS-740-TunedThroughput-LPDisabled-RUN4

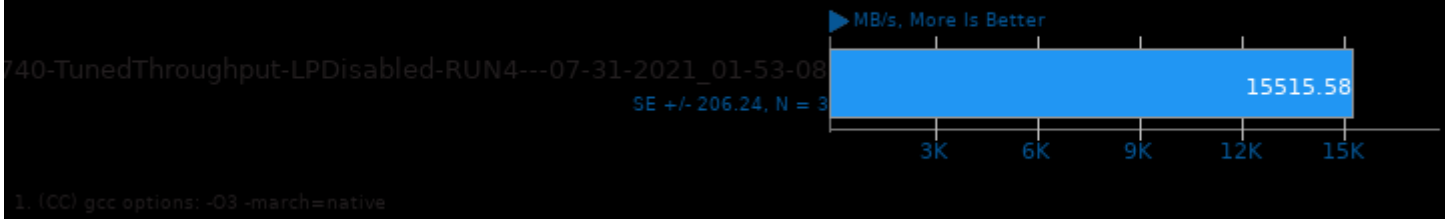


CentOS-740-TunedThroughput-LPDisabled-RUN4



RAMspeed SMP 3.5.0

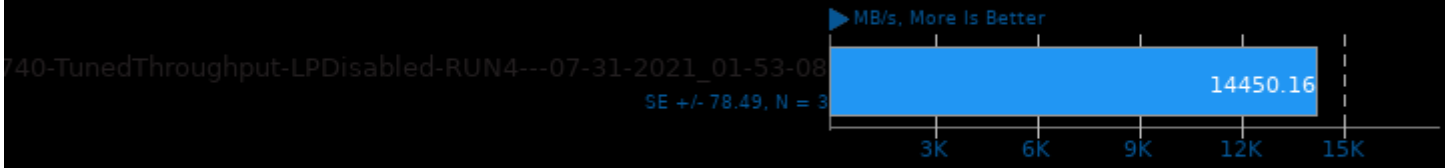
Type: Add - Benchmark: Integer



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

RAMspeed SMP 3.5.0

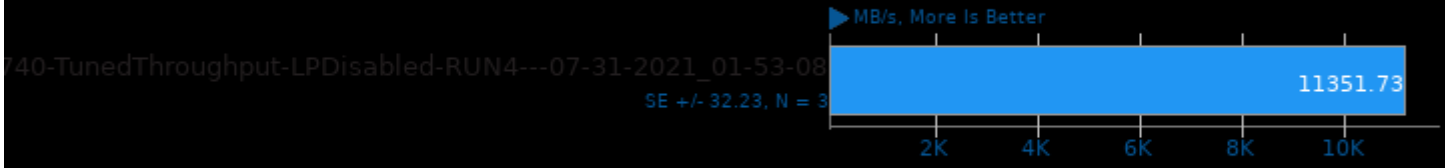
Type: Copy - Benchmark: Integer



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

RAMspeed SMP 3.5.0

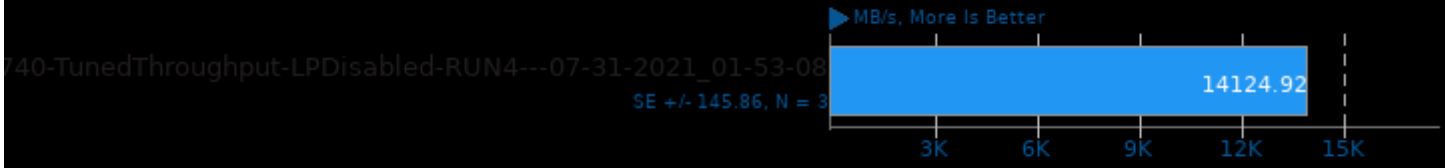
Type: Scale - Benchmark: Integer



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

RAMspeed SMP 3.5.0

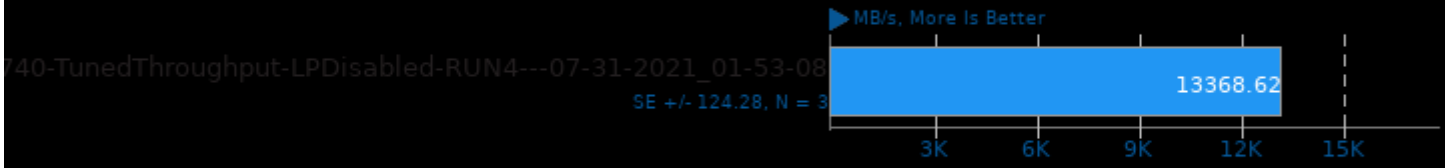
Type: Triad - Benchmark: Integer



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

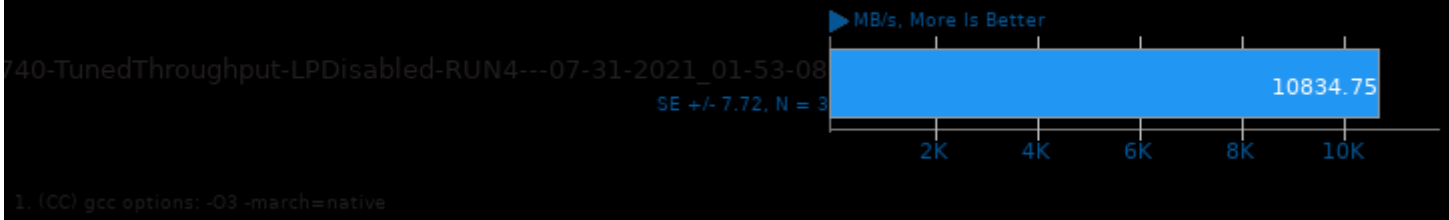
Type: Copy - Benchmark: Floating Point



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

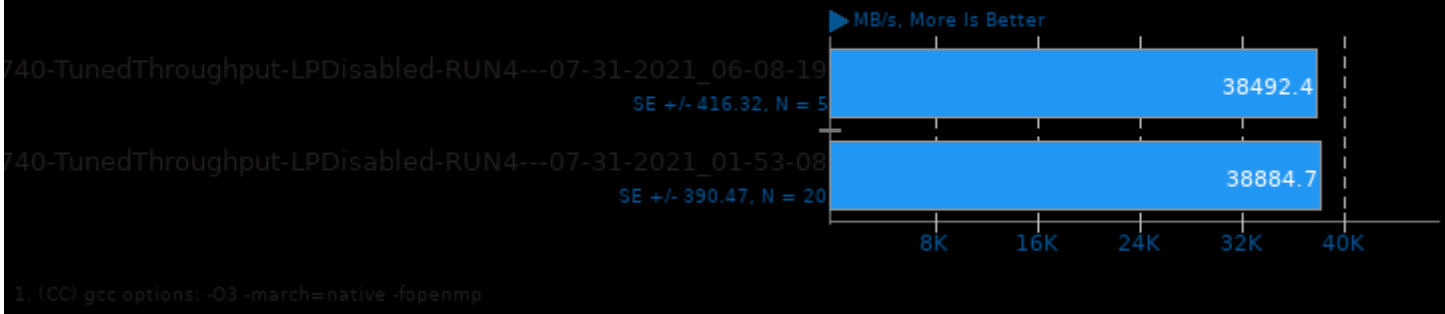
Type: Average - Benchmark: Floating Point



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

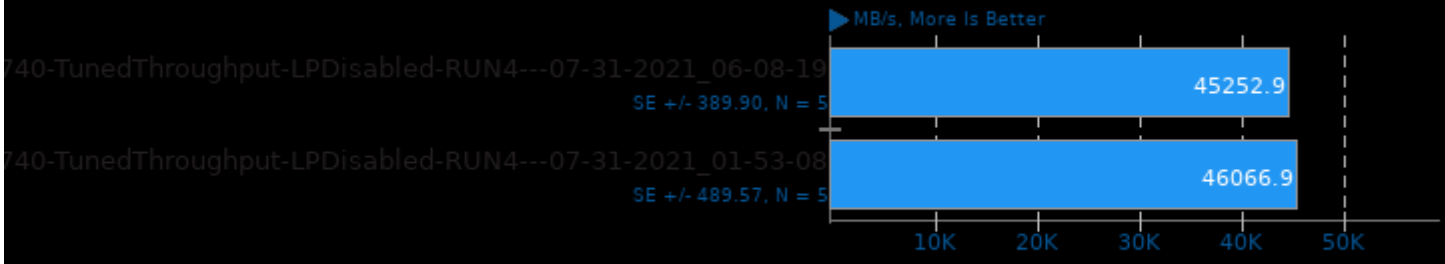
Type: Triad



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

Stream 2013-01-17

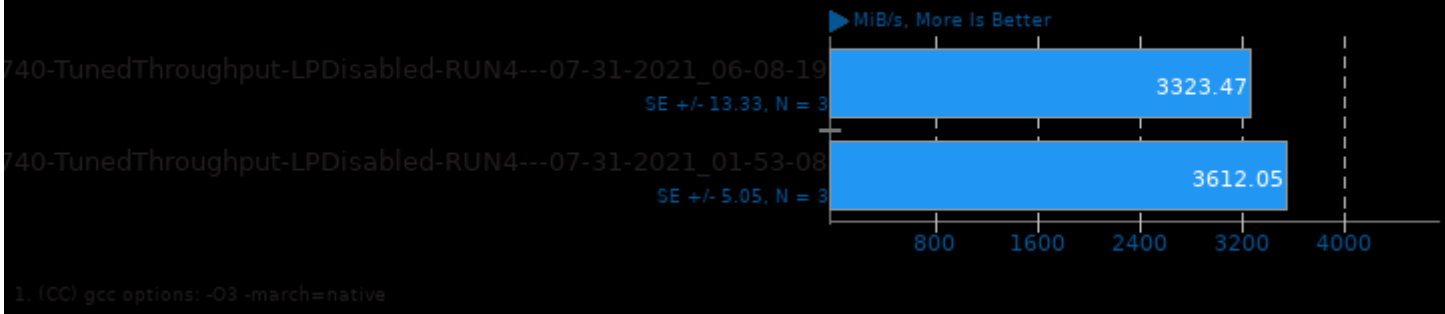
Type: Add



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

MBW 2018-09-08

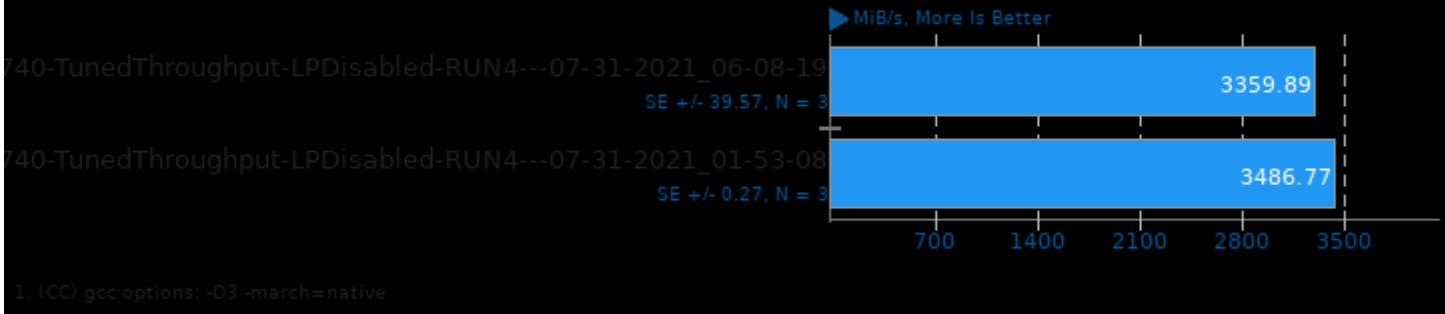
Test: Memory Copy - Array Size: 128 MiB



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

MBW 2018-09-08

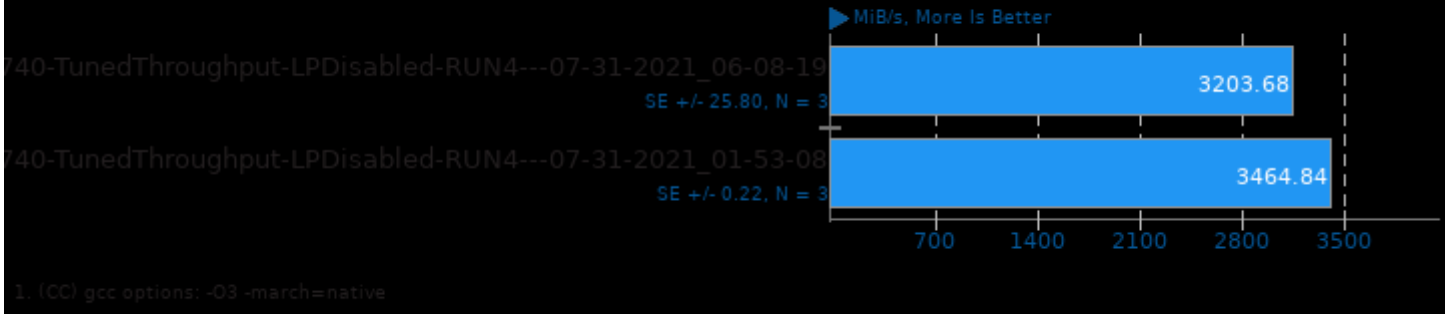
Test: Memory Copy - Array Size: 512 MiB



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

MBW 2018-09-08

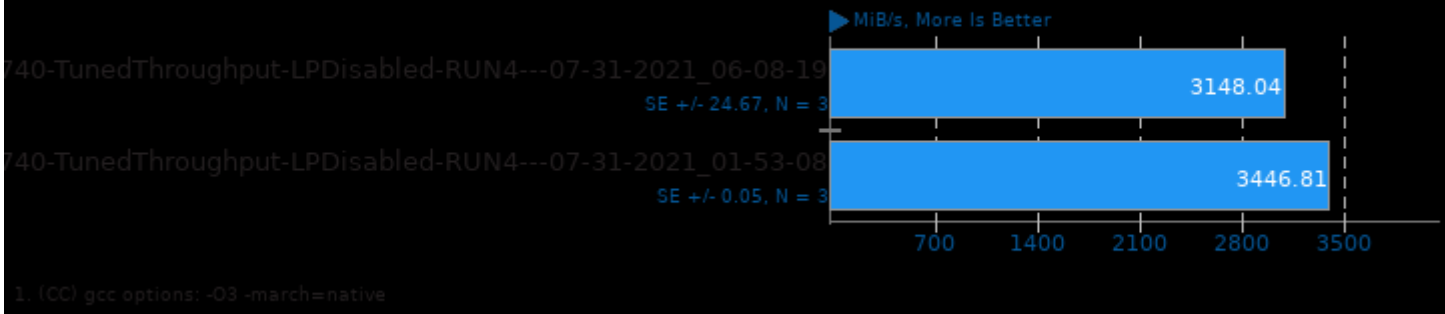
Test: Memory Copy - Array Size: 1024 MiB



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

MBW 2018-09-08

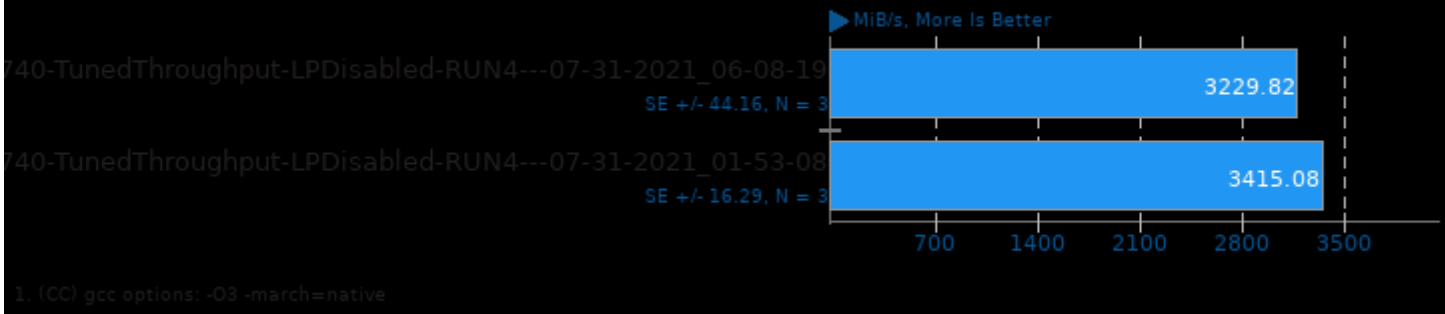
Test: Memory Copy - Array Size: 4096 MiB



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

MBW 2018-09-08

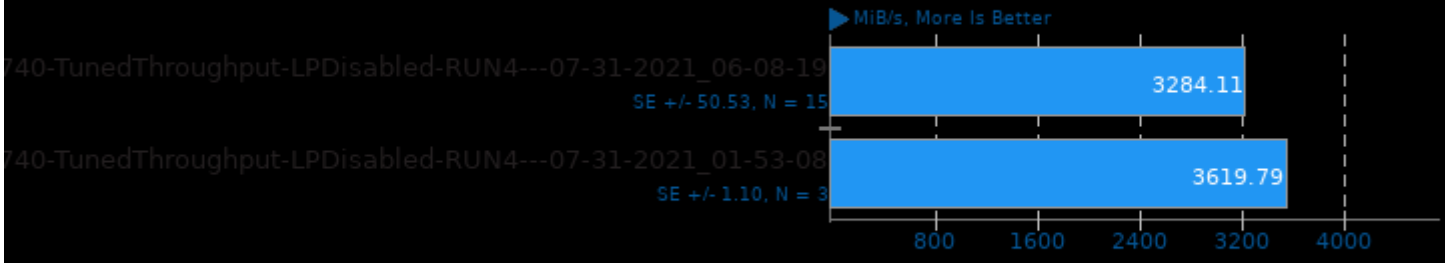
Test: Memory Copy - Array Size: 8192 MiB



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

MBW 2018-09-08

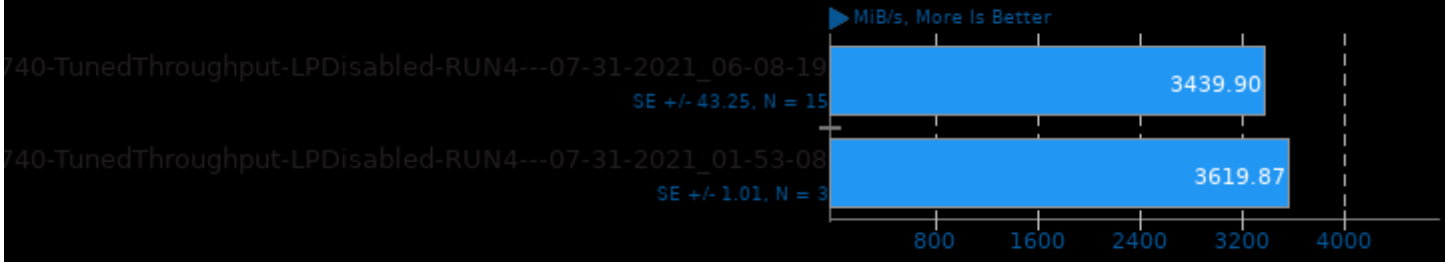
Test: Memory Copy, Fixed Block Size - Array Size: 128 MiB



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

MBW 2018-09-08

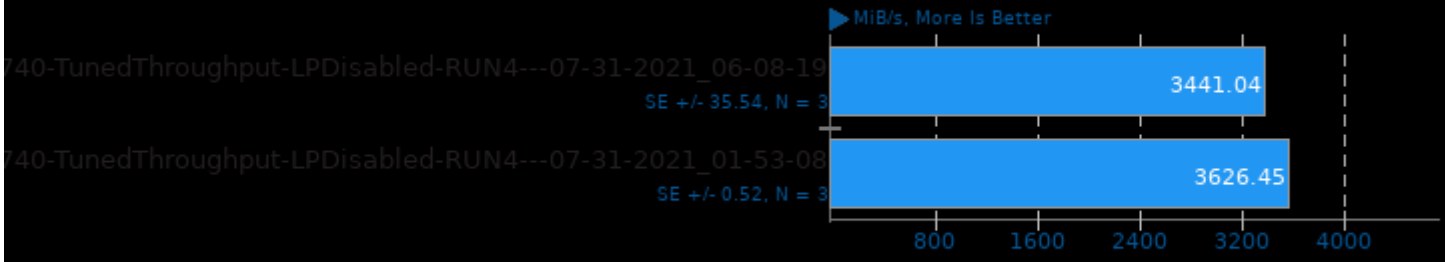
Test: Memory Copy, Fixed Block Size - Array Size: 512 MiB



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

MBW 2018-09-08

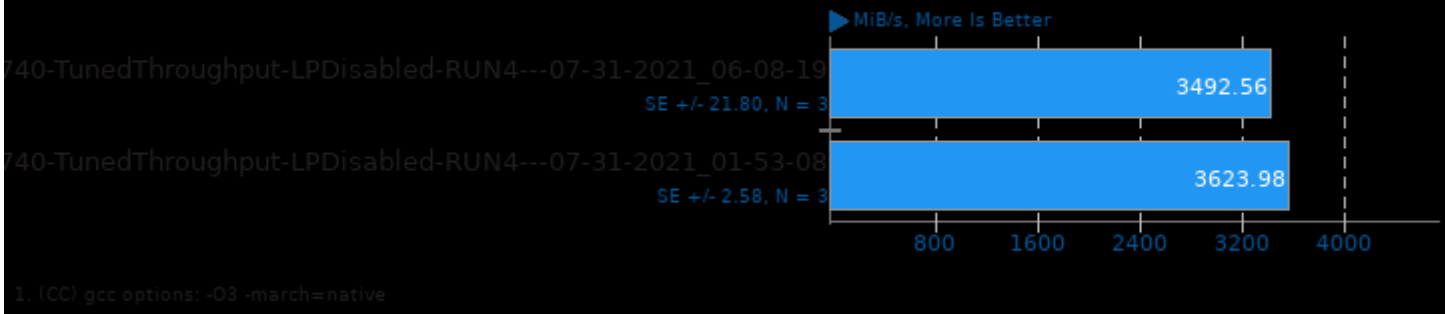
Test: Memory Copy, Fixed Block Size - Array Size: 1024 MiB



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

MBW 2018-09-08

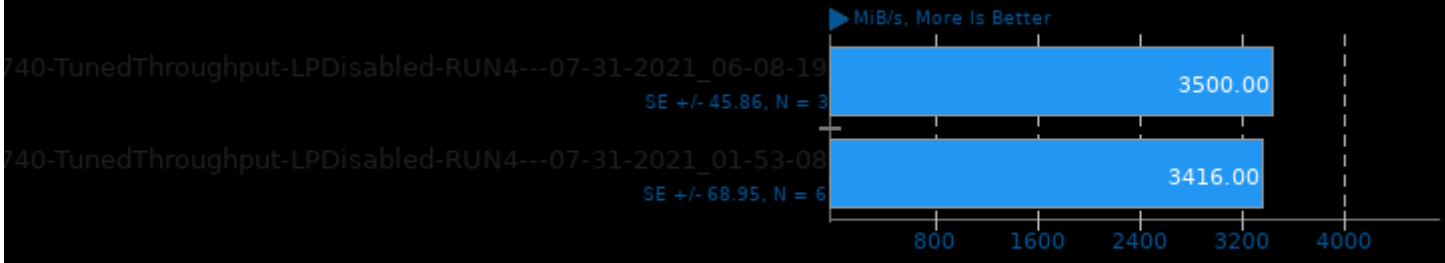
Test: Memory Copy, Fixed Block Size - Array Size: 4096 MiB



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

MBW 2018-09-08

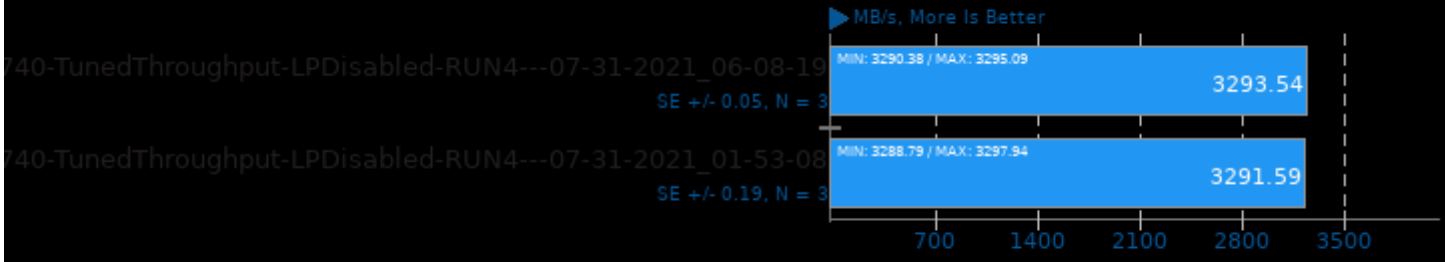
Test: Memory Copy, Fixed Block Size - Array Size: 8192 MiB



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

CacheBench

Test: Read



1. (CC) gcc options: -lrt

CacheBench

Test: Write

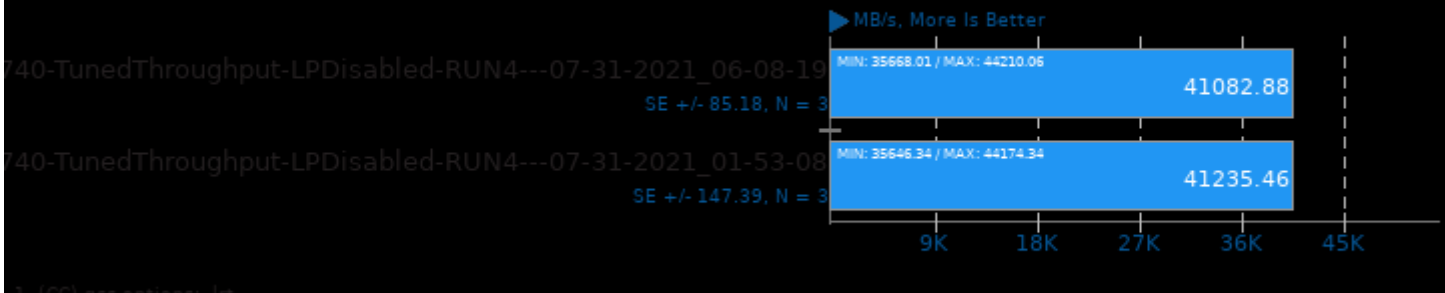


1. (CC) gcc options: -lrt

CentOS-740-TunedThroughput-LPDisabled-RUN4

CacheBench

Test: Read / Modify / Write



1. (CC) gcc options: -lrt

Sysbench 1.0.20

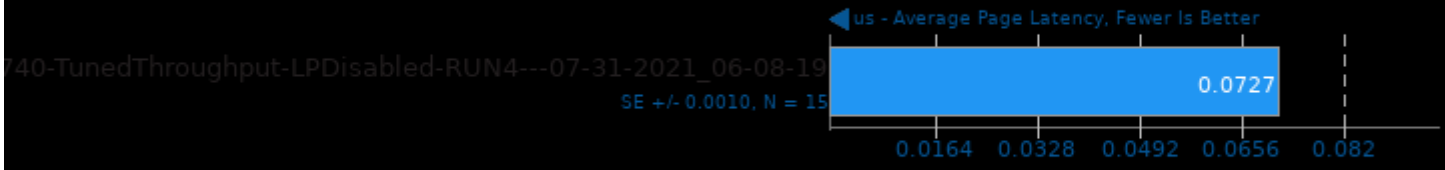
Test: CPU



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

pmbench

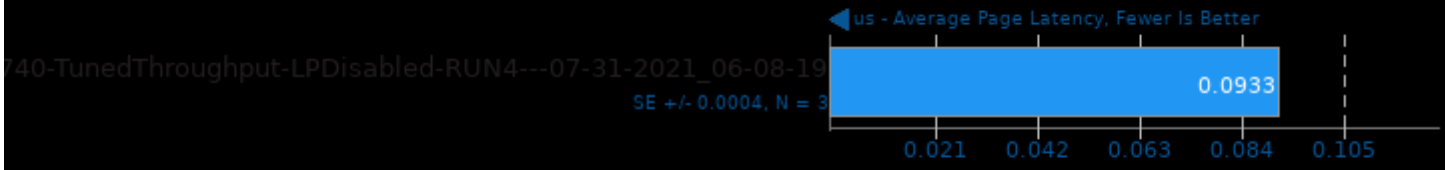
Concurrent Worker Threads: 1 - Read-Write Ratio: 50%



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

pmbench

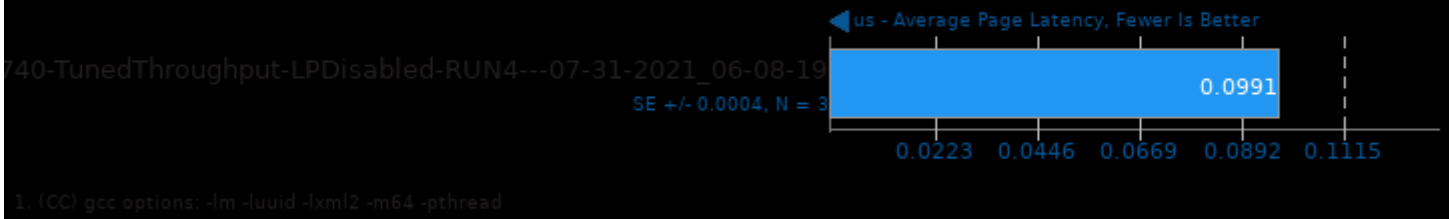
Concurrent Worker Threads: 4 - Read-Write Ratio: 50%



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

pmbench

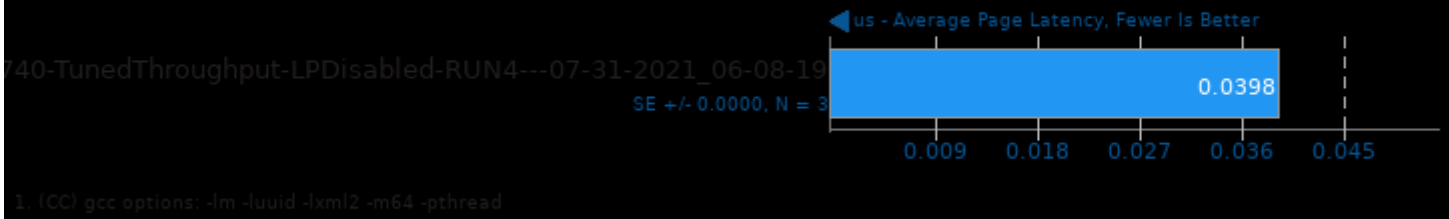
Concurrent Worker Threads: 16 - Read-Write Ratio: 50%



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

pmbench

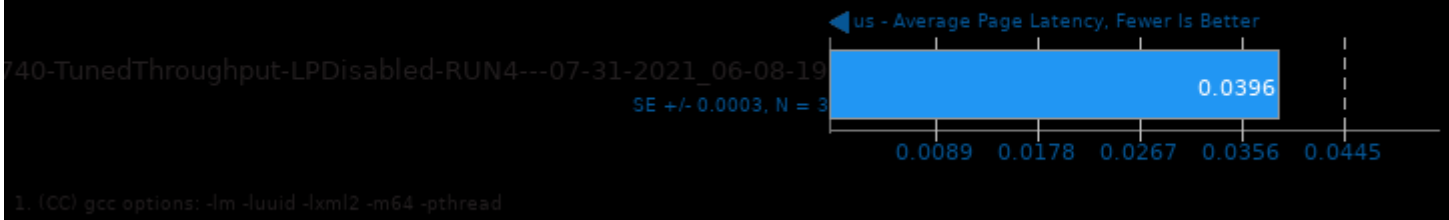
Concurrent Worker Threads: 1 - Read-Write Ratio: 100% Reads



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

pmbench

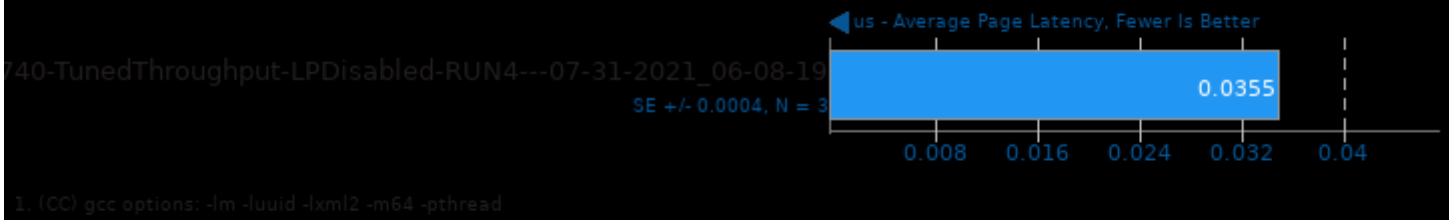
Concurrent Worker Threads: 4 - Read-Write Ratio: 100% Reads



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

pmbench

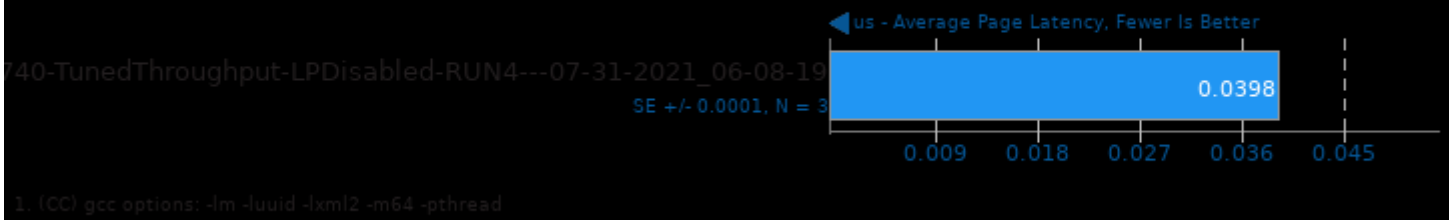
Concurrent Worker Threads: 1 - Read-Write Ratio: 100% Writes



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

pmbench

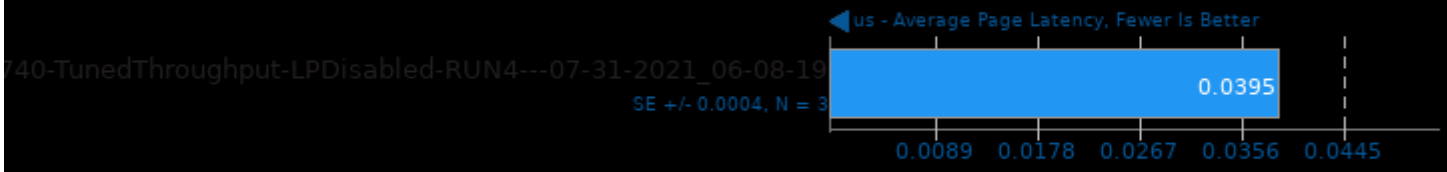
Concurrent Worker Threads: 16 - Read-Write Ratio: 100% Reads



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

pmbench

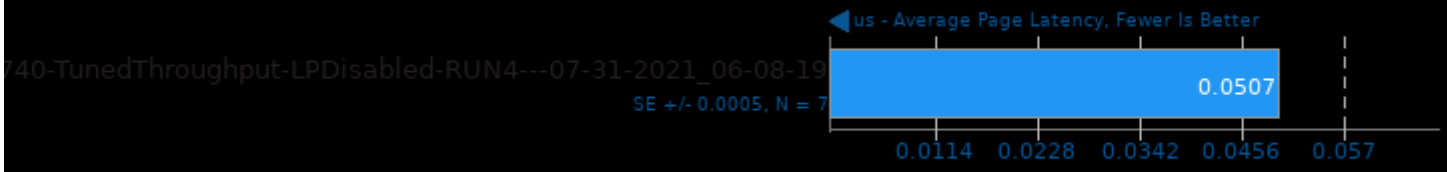
Concurrent Worker Threads: 4 - Read-Write Ratio: 100% Writes



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

pmbench

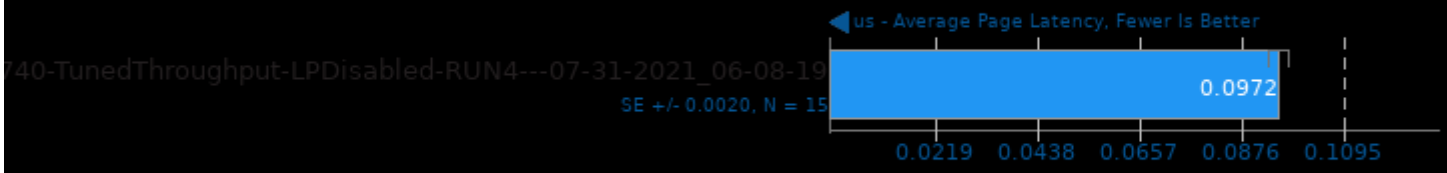
Concurrent Worker Threads: 16 - Read-Write Ratio: 100% Writes



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

pmbench

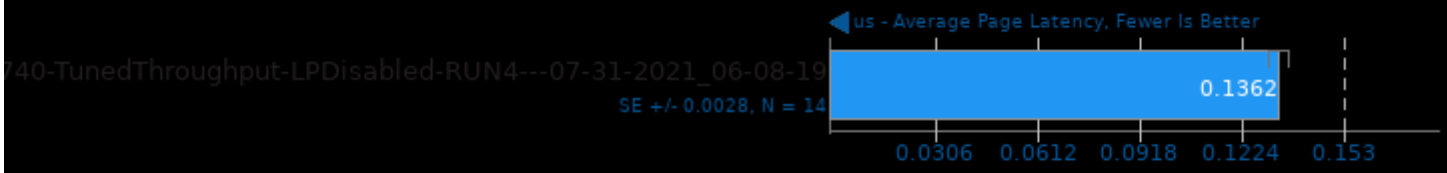
Concurrent Worker Threads: 1 - Read-Write Ratio: 80% Reads 20% Writes



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

pmbench

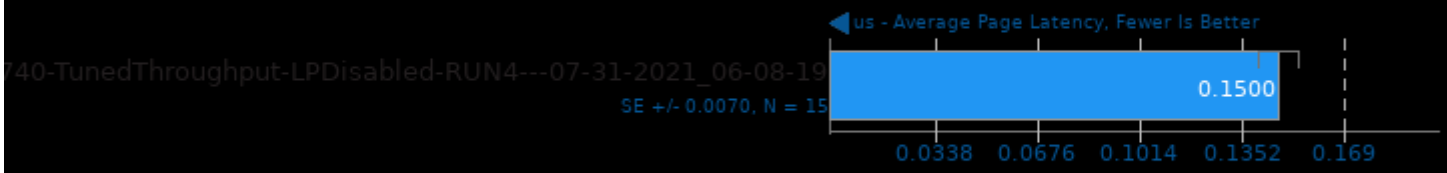
Concurrent Worker Threads: 4 - Read-Write Ratio: 80% Reads 20% Writes



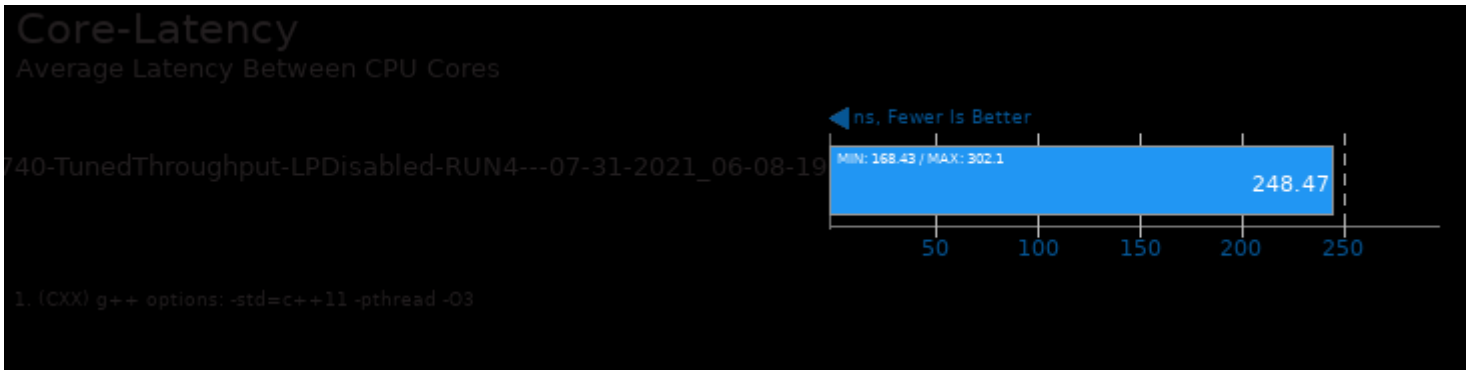
1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

pmbench

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

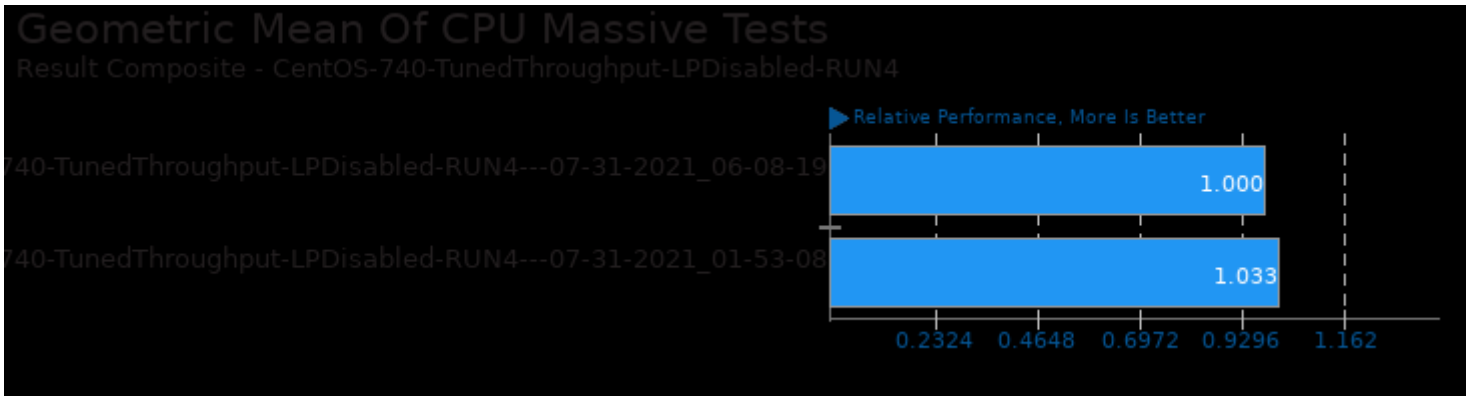


1. (CC) gcc options: -lm -luuid -lxml2 -m64 -pthread

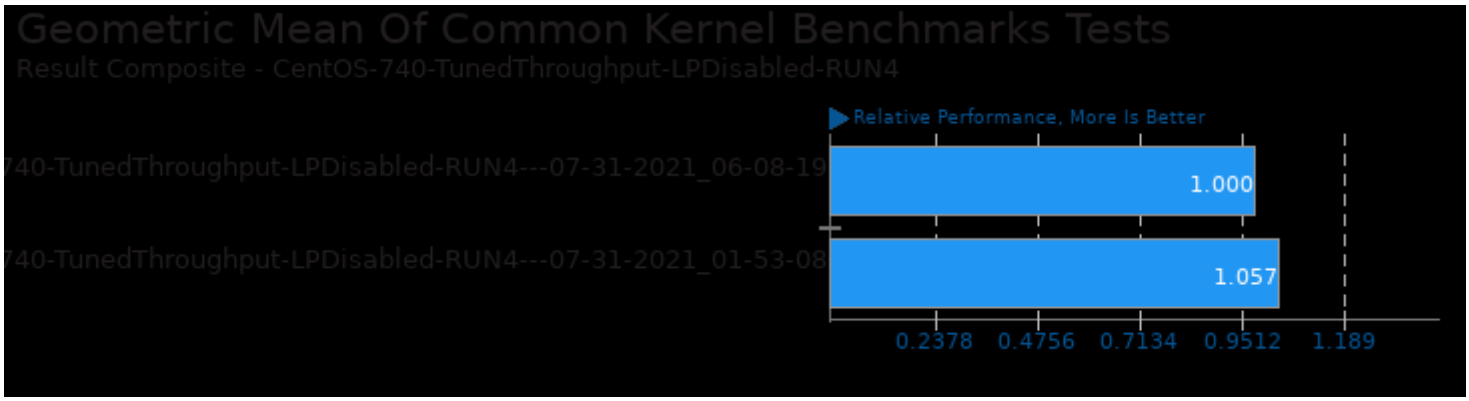

Core-Latency
Average Latency Between CPU Cores
740-TunedThroughput-LPDisabled-RUN4---07-31-2021_06-08-19
ns, Fewer Is Better
MIN: 168.43 / MAX: 302.1
248.47
50
100
150
200
250
1. (CXX) g++ options: -std=c++11 -pthread -O3

CentOS-740-TunedThroughput-LPDisabled-RUN4

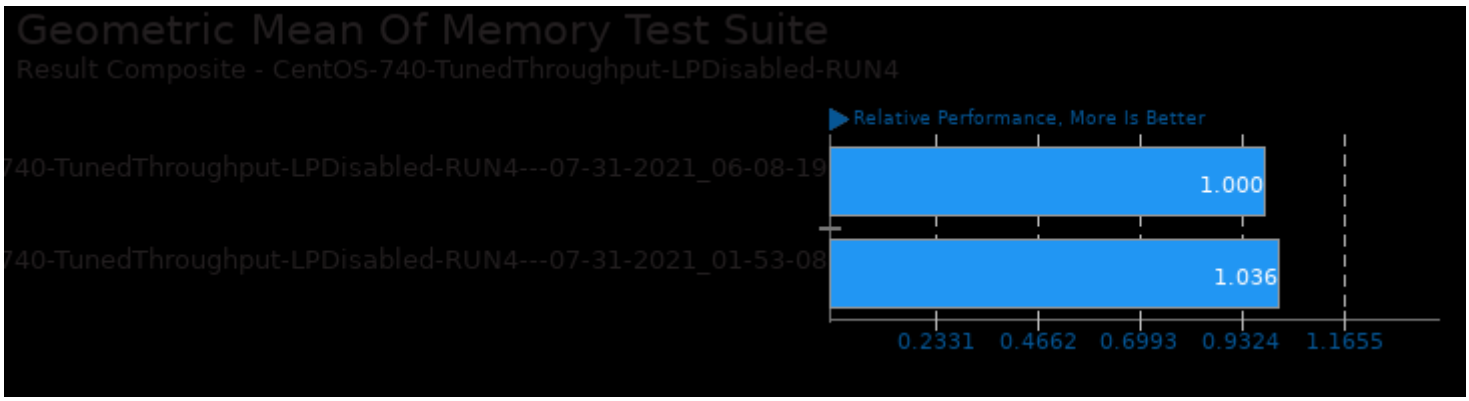
These geometric means are based upon test groupings / test suites for this result file.



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

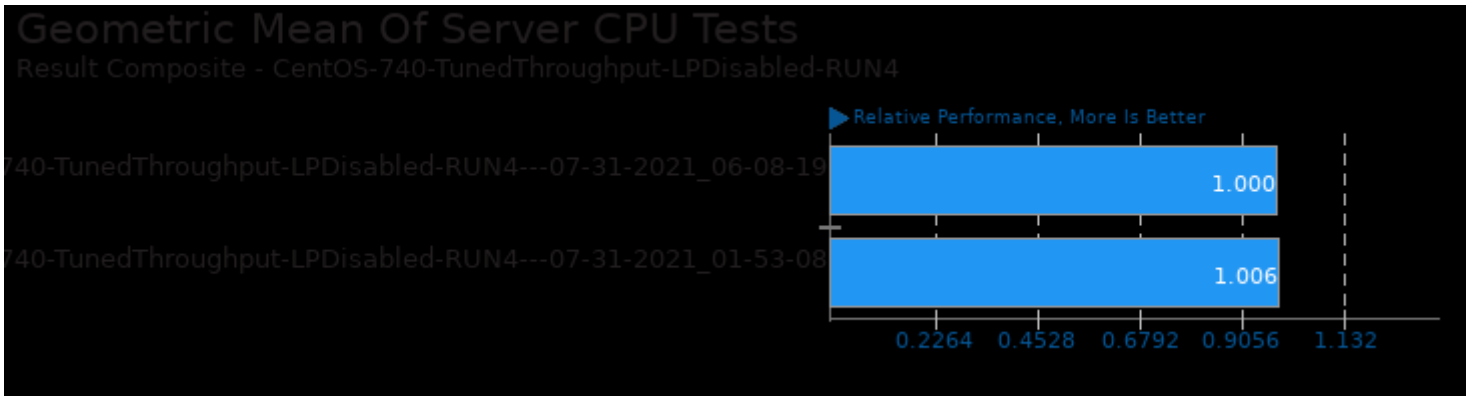


Geometric mean based upon tests: pts/pmbench and pts/mbw



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

CentOS-740-TunedThroughput-LPDisabled-RUN4



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 18:45.