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0610-optane-2-2-2

2 x Intel Xeon Gold 5220R testing with a HPE ProLiant DL360 Gen10 (U32 BIOS) and Matrox MGA G200eH3 on Ubuntu 18.04 via the Phoronix Test Suite.

Automated Executive Summary

no load had the most wins, coming in first place for 84% of the tests.

Test Systems:

under memory load90

no load

no-load

Processor: 2 x Intel Xeon Gold 5220R (48 Cores / 96 Threads), Motherboard: HPE ProLiant DL360 Gen10 (U32 BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 32 GB + 129408 MB + 32 GB + 129408 MB + 32 GB + 129408 MB

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+ 129408 MB + 32 GB + 129408 MB + 32 GB + 129408 MB + 32 GB + 32 GB + 129408 MB + 32 GB + 129408 MB + 32 GB + 129408 MB + 129408 MB + 32 GB + 129408 MB + 32 GB + 129408 MB + 32 GB DDR4-2666MT/s, Disk: 3201GB MO003200KWVUV, Graphics: Matrox MGA G200eH3, Network: 2 x Intel 10G X550T

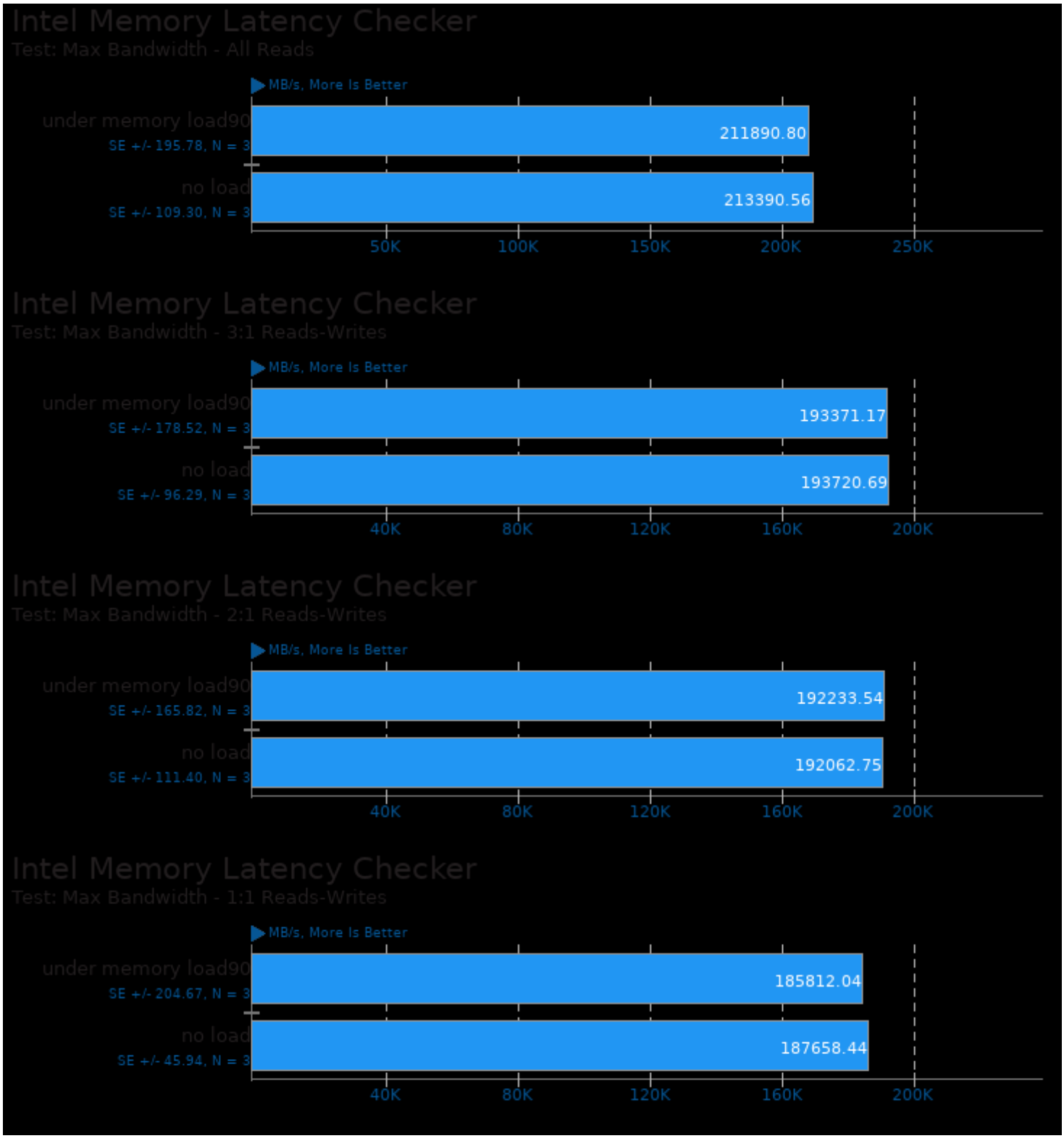
OS: Ubuntu 18.04, Kernel: 4.15.0-140-generic (x86_64), Compiler: GCC 7.5.0, File-System: ext4, Screen Resolution: 1024x768

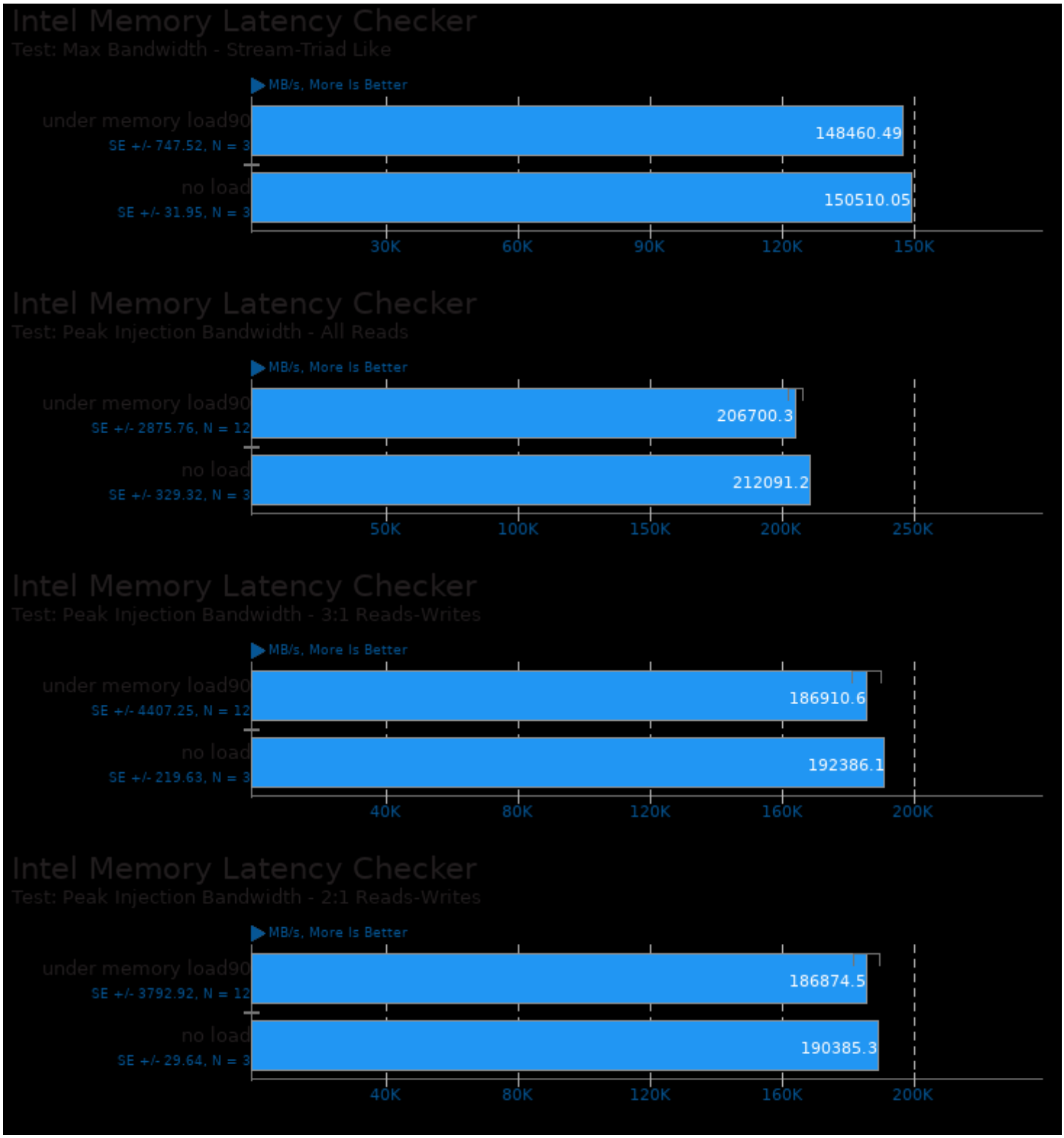
Kernel Notes: nvme_core.multipath=0 - Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib --with-tune=generic --without-cuda-driver -v
Processor Notes: CPU Microcode: 0x5003003
Security Notes: 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

	under memory load90	no load	no-load
Intel Memory Latency Checker - Max Bandwidth - All Reads (MB/s)	**211891**	**213391**	
Normalized	99.3%	100%	
Standard Deviation	0.2%	0.1%	
Intel Memory Latency Checker - Max Bandwidth - 3:1 Reads-Writes (MB/s)	**193371**	**193721**	
Normalized	99.82%	100%	
Standard Deviation	0.2%	0.1%	
Intel Memory Latency Checker - Max Bandwidth - 2:1 Reads-Writes (MB/s)	**192234**	**192063**	
Normalized	100%	99.91%	
Standard Deviation	0.1%	0.1%	
Intel Memory Latency Checker - Max Bandwidth - 1:1 Reads-Writes (MB/s)	**185812**	**187658**	
Normalized	99.02%	100%	
Standard Deviation	0.2%	0%	
Intel Memory Latency Checker - Max Bandwidth - Stream-Triad Like (MB/s)	**148460**	**150510**	
Normalized	98.64%	100%	
Standard Deviation	0.9%	0%	
Intel Memory Latency Checker - P.I.B - All Reads (MB/s)	**206700**	**212091**	
Normalized	97.46%	100%	
Standard Deviation	4.8%	0.3%	
Intel Memory Latency Checker - P.I.B - 3:1 Reads-Writes (MB/s)	**186911**	**192386**	
Normalized	97.15%	100%	
Standard Deviation	8.2%	0.2%	
Intel Memory Latency Checker - P.I.B - 2:1 Reads-Writes (MB/s)	**186875**	**190385**	
Normalized	98.16%	100%	
Standard Deviation	7%	0%	

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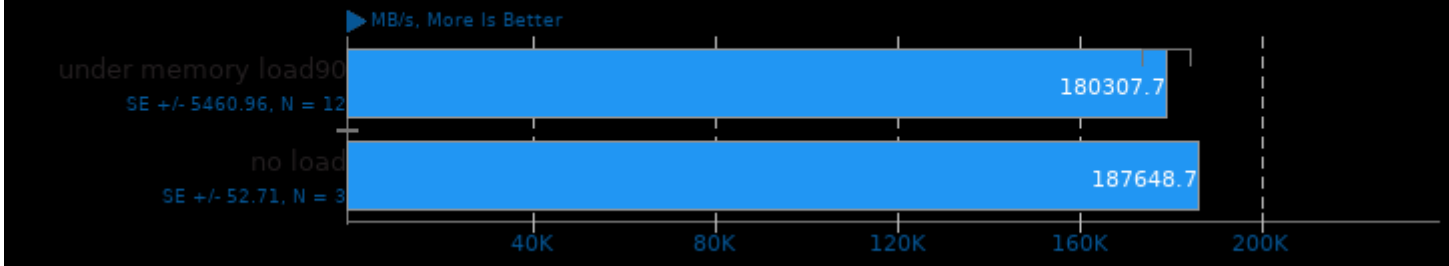
Intel Memory Latency Checker - P.I.B - 1:1 Reads-Writes (MB/s)	**180308**	**187649**	
Normalized	96.09%	100%	
Standard Deviation	10.5%	0%	
Intel Memory Latency Checker - P.I.B - Stream-Triad Like (MB/s)	**139217**	**140115**	
Normalized	99.36%	100%	
Standard Deviation	0.6%	0%	
Sysbench - RAM / Memory (MiB/sec)	**11599**	**12077**	
Normalized	96.04%	100%	
Standard Deviation	0.6%	2.1%	
MariaDB - 512 (Queries/sec)	**453**		**456**
Normalized	99.34%		100%
Standard Deviation	0.2%		0.5%
Intel Memory Latency Checker - Idle Latency (ns)	**93.0**	**92.2**	
Normalized	99.14%	100%	
Standard Deviation	0.1%	0.3%	


Intel Memory Latency Checker
Test: Max Bandwidth - All Reads
MB/s, More Is Better
under memory load90
SE +/- 195.78, N = 3
211890.80
no load
SE +/- 109.30, N = 3
213390.56
50K
100K
150K
200K
250K
Intel Memory Latency Checker
Test: Max Bandwidth - 3:1 Reads-Writes
MB/s, More Is Better
under memory load90
SE +/- 178.52, N = 3
193371.17
no load
SE +/- 96.29, N = 3
193720.69
40K
80K
120K
160K
200K
Intel Memory Latency Checker
Test: Max Bandwidth - 2:1 Reads-Writes
MB/s, More Is Better
under memory load90
SE +/- 165.82, N = 3
192233.54
no load
SE +/- 111.40, N = 3
192062.75
40K
80K
120K
160K
200K
Intel Memory Latency Checker
Test: Max Bandwidth - 1:1 Reads-Writes
MB/s, More Is Better
under memory load90
SE +/- 204.67, N = 3
185812.04
no load
SE +/- 45.94, N = 3
187658.44
40K
80K
120K
160K
200K


Intel Memory Latency Checker
Test: Max Bandwidth - Stream-Triad Like
MB/s, More Is Better
under memory load90
SE +/- 747.52, N = 3
148460.49
no load
SE +/- 31.95, N = 3
150510.05
30K
60K
90K
120K
150K
Intel Memory Latency Checker
Test: Peak Injection Bandwidth - All Reads
MB/s, More Is Better
under memory load90
SE +/- 2875.76, N = 12
206700.3
no load
SE +/- 329.32, N = 3
212091.2
50K
100K
150K
200K
250K
Intel Memory Latency Checker
Test: Peak Injection Bandwidth - 3:1 Reads-Writes
MB/s, More Is Better
under memory load90
SE +/- 4407.25, N = 12
186910.6
no load
SE +/- 219.63, N = 3
192386.1
40K
80K
120K
160K
200K
Intel Memory Latency Checker
Test: Peak Injection Bandwidth - 2:1 Reads-Writes
MB/s, More Is Better
under memory load90
SE +/- 3792.92, N = 12
186874.5
no load
SE +/- 29.64, N = 3
190385.3
40K
80K
120K
160K
200K

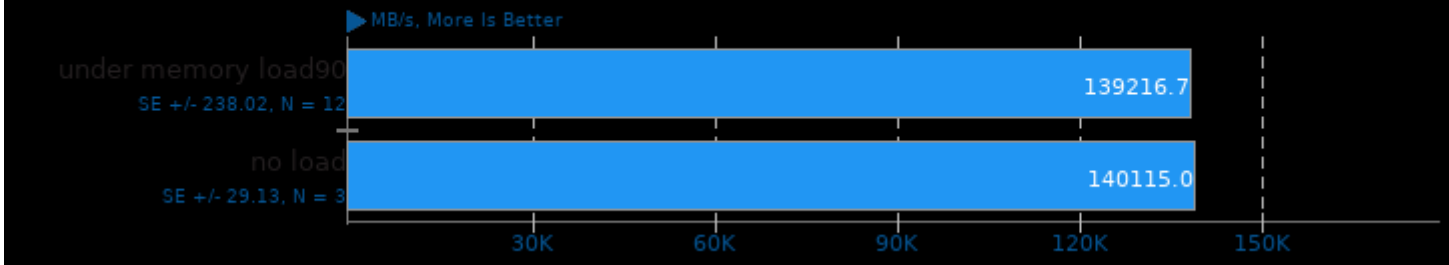
Intel Memory Latency Checker

Test: Peak Injection Bandwidth - 1:1 Reads-Writes



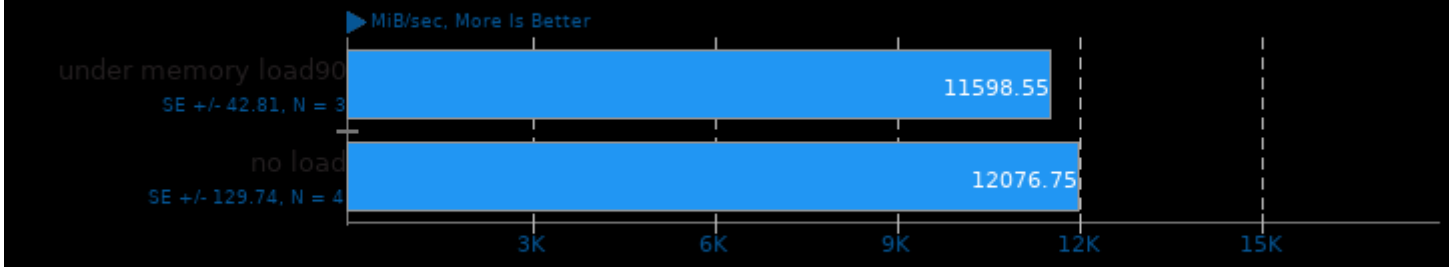
Intel Memory Latency Checker

Test: Peak Injection Bandwidth - Stream-Triad Like



Sysbench 1.0.20

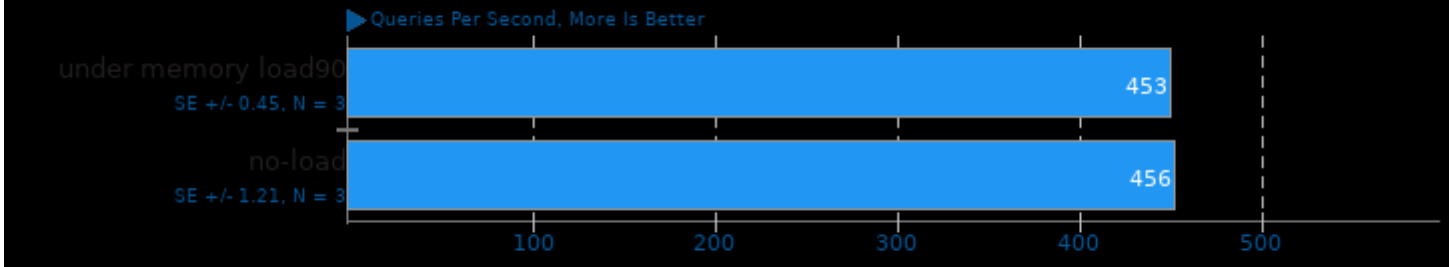
Test: RAM / Memory



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

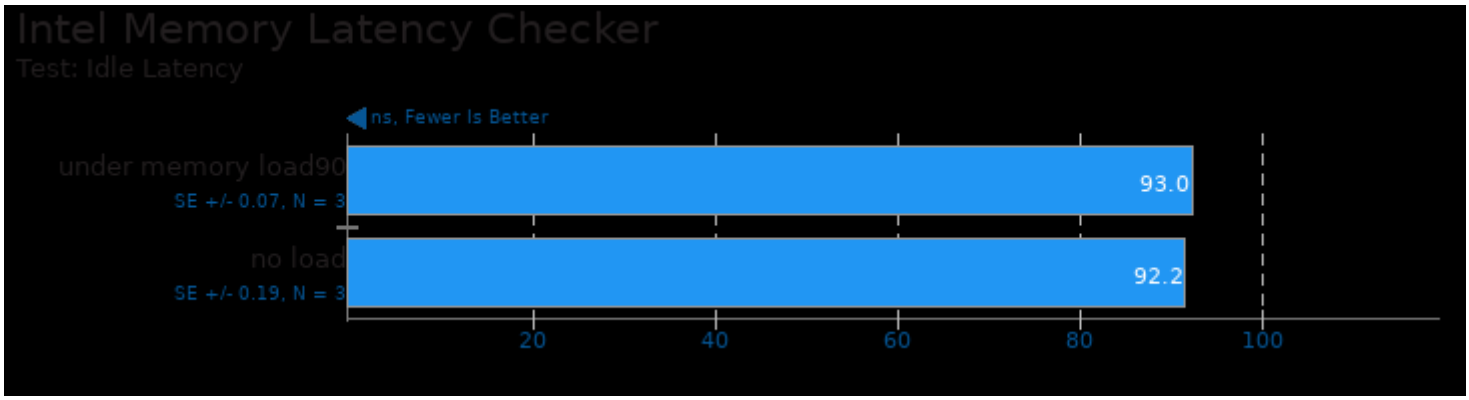
MariaDB 10.5.2

Clients: 512



1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lpthread -laio -lcrypt -lz -lm -lssl -lcrypto -ldl

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This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 22:18.