

www.phoronix-test-suite.com

0610-optane

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

under memory load90 had the most wins, coming in first place for 76% 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: 129408 MB + 32 GB + 32 GB + 32 GB + 32 GB + 129408 MB +

0610-optane

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

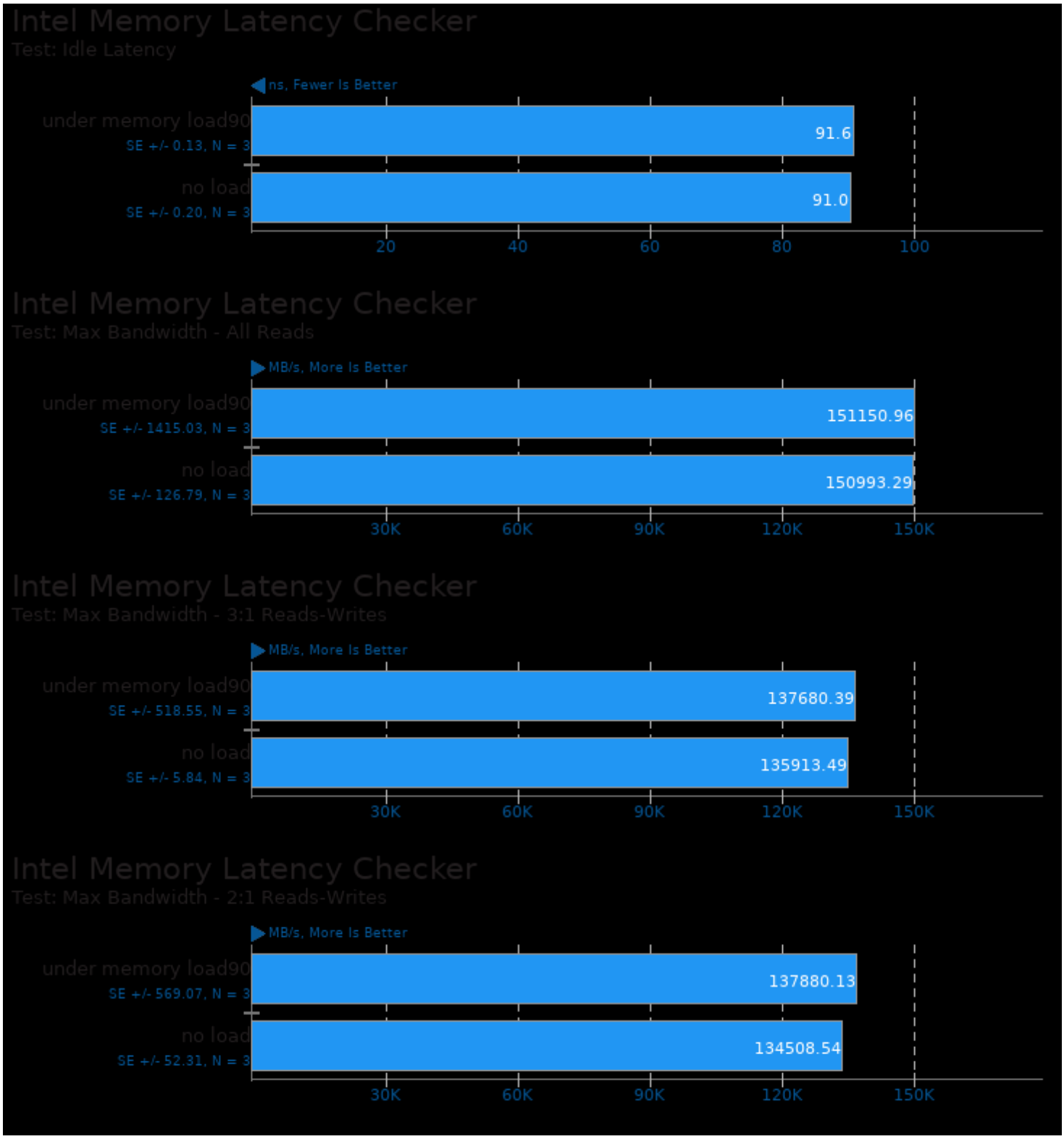
OS: Ubuntu 18.04, Kernel: 4.15.0-140-generic (x86_64), Compiler: GCC 7.5.0, File-System: ext4, Screen Resolution: 1024x768

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

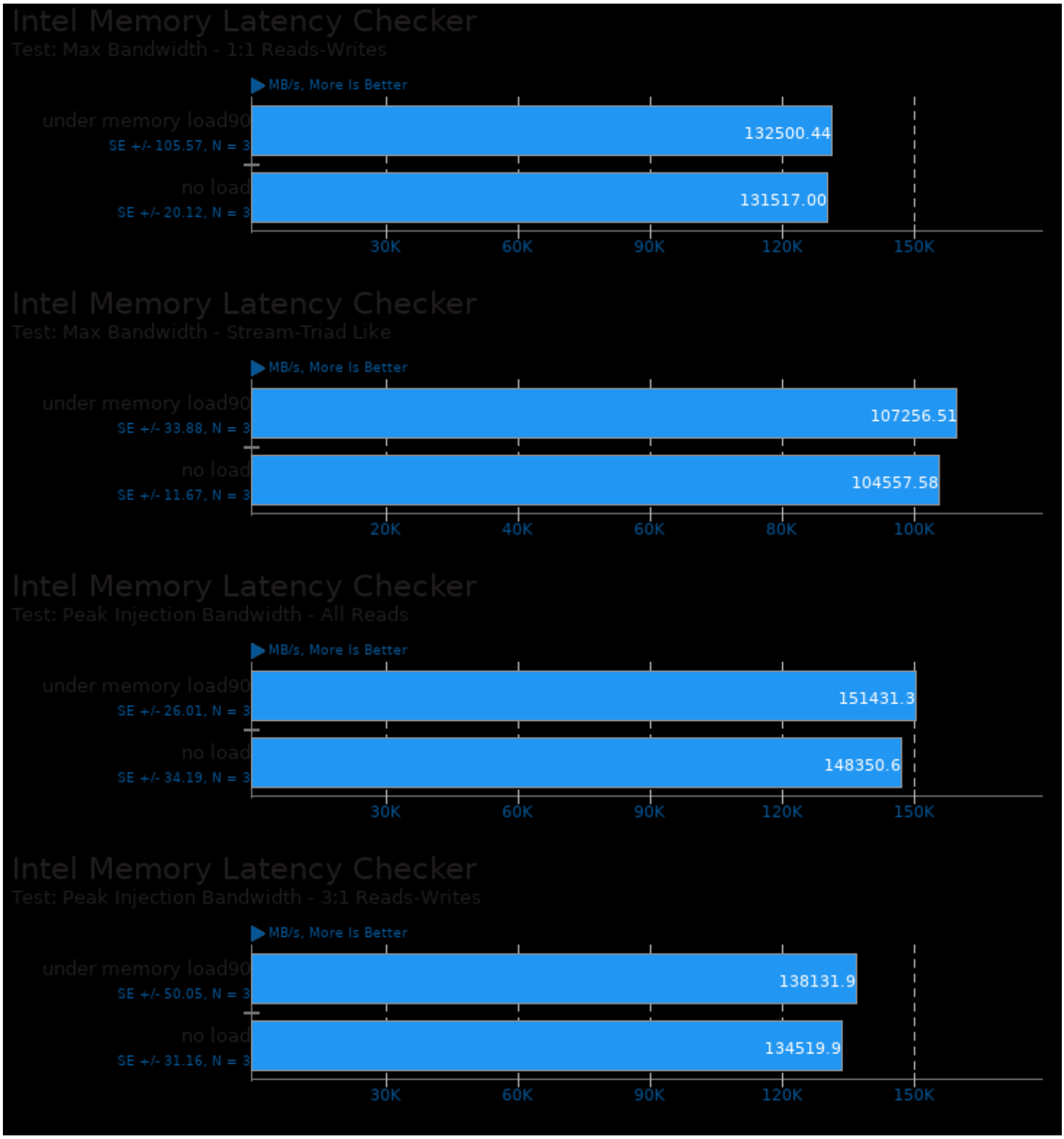
	under memory load90	no load	no-load
Intel Memory Latency Checker - Idle Latency (ns)	**91.6**	**91.0**	
Normalized	99.34%	100%	
Standard Deviation	0.3%	0.4%	
Intel Memory Latency Checker - Max Bandwidth - All Reads (MB/s)	**151151**	**150993**	
Normalized	100%	99.9%	
Standard Deviation	1.6%	0.1%	
Intel Memory Latency Checker - Max Bandwidth - 3:1 Reads-Writes (MB/s)	**137680**	**135913**	
Normalized	100%	98.72%	
Standard Deviation	0.7%	0%	
Intel Memory Latency Checker - Max Bandwidth - 2:1 Reads-Writes (MB/s)	**137880**	**134509**	
Normalized	100%	97.55%	
Standard Deviation	0.7%	0.1%	
Intel Memory Latency Checker - Max Bandwidth - 1:1 Reads-Writes (MB/s)	**132500**	**131517**	
Normalized	100%	99.26%	
Standard Deviation	0.1%	0%	
Intel Memory Latency Checker - Max Bandwidth - Stream-Triad Like (MB/s)	**107257**	**104558**	
Normalized	100%	97.48%	
Standard Deviation	0.1%	0%	
Intel Memory Latency Checker - P.I.B - All Reads (MB/s)	**151431**	**148351**	
Normalized	100%	97.97%	
Standard Deviation	0%	0%	
Intel Memory Latency Checker - P.I.B - 3:1 Reads-Writes (MB/s)	**138132**	**134520**	
Normalized	100%	97.39%	
Standard Deviation	0.1%	0%	

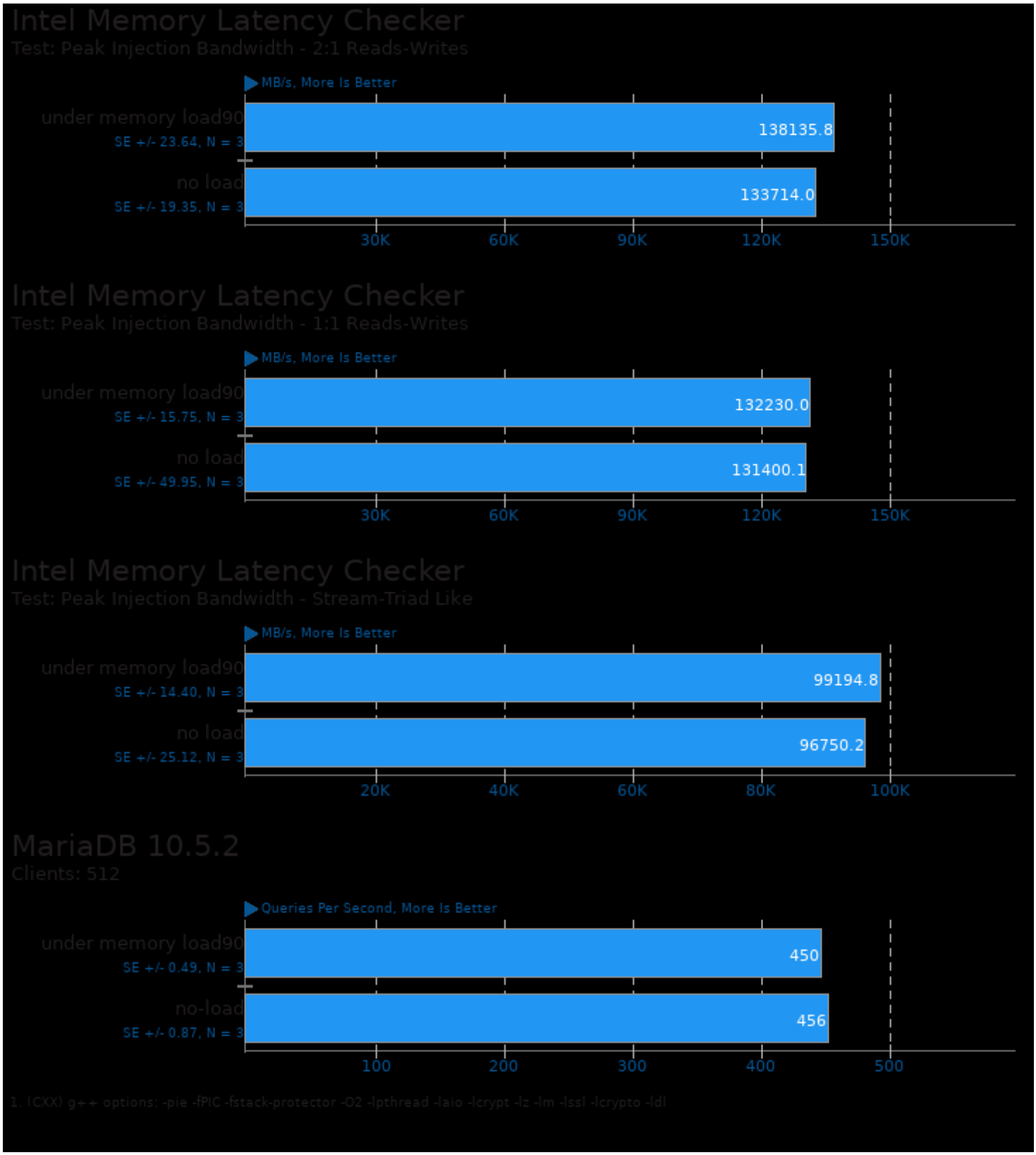
0610-optane

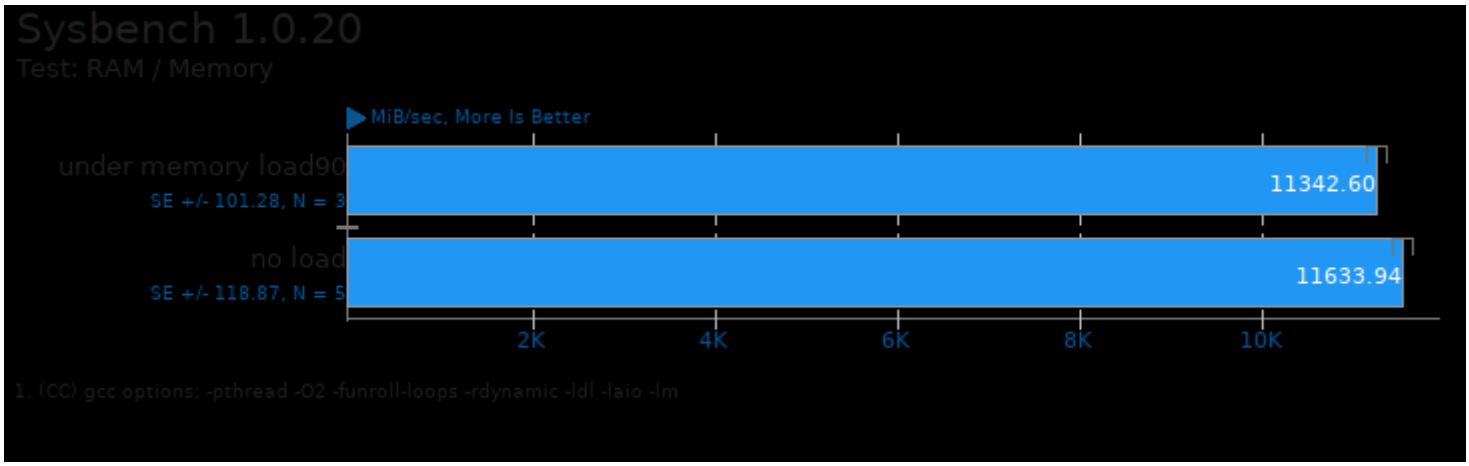
Intel Memory Latency Checker - P.I.B - 2:1 Reads-Writes (MB/s)	**138136**	**133714**	
Normalized	100%	96.8%	
Standard Deviation	0%	0%	
Intel Memory Latency Checker - P.I.B - 1:1 Reads-Writes (MB/s)	**132230**	**131400**	
Normalized	100%	99.37%	
Standard Deviation	0%	0.1%	
Intel Memory Latency Checker - P.I.B - Stream-Triad Like (MB/s)	**99195**	**96750**	
Normalized	100%	97.54%	
Standard Deviation	0%	0%	
MariaDB - 512 (Queries/sec)	**450**		**456**
Normalized	98.68%		100%
Standard Deviation	0.2%		0.3%
Sysbench - RAM / Memory (MiB/sec)	**11343**	**11634**	
Normalized	97.5%	100%	
Standard Deviation	1.5%	2.3%	


Intel Memory Latency Checker
Test: Idle Latency
ns, Fewer Is Better
under memory load90
SE +/- 0.13, N = 3
91.6
no load
SE +/- 0.20, N = 3
91.0
20
40
60
80
100
Intel Memory Latency Checker
Test: Max Bandwidth - All Reads
MB/s, More Is Better
under memory load90
SE +/- 1415.03, N = 3
151150.96
no load
SE +/- 126.79, N = 3
150993.29
30K
60K
90K
120K
150K
Intel Memory Latency Checker
Test: Max Bandwidth - 3:1 Reads-Writes
MB/s, More Is Better
under memory load90
SE +/- 518.55, N = 3
137680.39
no load
SE +/- 5.84, N = 3
135913.49
30K
60K
90K
120K
150K
Intel Memory Latency Checker
Test: Max Bandwidth - 2:1 Reads-Writes
MB/s, More Is Better
under memory load90
SE +/- 569.07, N = 3
137880.13
no load
SE +/- 52.31, N = 3
134508.54
30K
60K
90K
120K
150K

0610-optane


Intel Memory Latency Checker
Test: Max Bandwidth - 1:1 Reads-Writes
MB/s, More Is Better
under memory load90
SE +/- 105.57, N = 3
132500.44
no load
SE +/- 20.12, N = 3
131517.00
30K
60K
90K
120K
150K
Intel Memory Latency Checker
Test: Max Bandwidth - Stream-Triad Like
MB/s, More Is Better
under memory load90
SE +/- 33.88, N = 3
107256.51
no load
SE +/- 11.67, N = 3
104557.58
20K
40K
60K
80K
100K
Intel Memory Latency Checker
Test: Peak Injection Bandwidth - All Reads
MB/s, More Is Better
under memory load90
SE +/- 26.01, N = 3
151431.3
no load
SE +/- 34.19, N = 3
148350.6
30K
60K
90K
120K
150K
Intel Memory Latency Checker
Test: Peak Injection Bandwidth - 3:1 Reads-Writes
MB/s, More Is Better
under memory load90
SE +/- 50.05, N = 3
138131.9
no load
SE +/- 31.16, N = 3
134519.9
30K
60K
90K
120K
150K


Intel Memory Latency Checker
Test: Peak Injection Bandwidth - 2:1 Reads-Writes
MB/s, More Is Better
under memory load90
SE +/- 23.64, N = 3
138135.8
no load
SE +/- 19.35, N = 3
133714.0
30K
60K
90K
120K
150K
Intel Memory Latency Checker
Test: Peak Injection Bandwidth - 1:1 Reads-Writes
MB/s, More Is Better
under memory load90
SE +/- 15.75, N = 3
132230.0
no load
SE +/- 49.95, N = 3
131400.1
30K
60K
90K
120K
150K
Intel Memory Latency Checker
Test: Peak Injection Bandwidth - Stream-Triad Like
MB/s, More Is Better
under memory load90
SE +/- 14.40, N = 3
99194.8
no load
SE +/- 25.12, N = 3
96750.2
20K
40K
60K
80K
100K
MariaDB 10.5.2
Clients: 512
Queries Per Second, More Is Better
under memory load90
SE +/- 0.49, N = 3
450
no-load
SE +/- 0.87, N = 3
456
100
200
300
400
500
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lpthread -laio -lcrypt -lz -lm -lssl -lcrypto -ldl



This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 07:03.