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mariadb

AMD Ryzen 9 5900HX testing with a ASUS G513QY v1.0 (G513QY.318 BIOS) and ASUS AMD Cezanne 512MB on Ubuntu 22.10 via the Phoronix Test Suite.

Automated Executive Summary

a had the most wins, coming in first place for 45% of the tests.

Based on the geometric mean of all complete results, the fastest (a) was 1.017x the speed of the slowest (C). b was 0.989x the speed of a and C was 0.994x the speed of b.

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

HammerDB - MariaDB (Virtual Users: 64 - Warehouses: 250) at 1.084x
HammerDB - MariaDB (Virtual Users: 64 - Warehouses: 250) at 1.079x
HammerDB - MariaDB (Virtual Users: 8 - Warehouses: 500) at 1.078x
HammerDB - MariaDB (Virtual Users: 16 - Warehouses: 100) at 1.073x
HammerDB - MariaDB (Virtual Users: 16 - Warehouses: 100) at 1.07x
HammerDB - MariaDB (Virtual Users: 8 - Warehouses: 500) at 1.068x
HammerDB - MariaDB (Virtual Users: 64 - Warehouses: 500) at 1.06x
HammerDB - MariaDB (Virtual Users: 64 - Warehouses: 500) at 1.059x
HammerDB - MariaDB (Virtual Users: 64 - Warehouses: 100) at 1.047x

HammerDB - MariaDB (Virtual Users: 16 - Warehouses: 500) at 1.045x.

Test Systems:

a

b

C

Processor: AMD Ryzen 9 5900HX @ 4.89GHz (8 Cores / 16 Threads), Motherboard: ASUS G513QY v1.0 (G513QY.318 BIOS), Chipset: AMD Renoir/Cezanne, Memory: 16GB, Disk: 512GB SAMSUNG MZVLQ512HBLU-00B00, Graphics: ASUS AMD Cezanne 512MB (2500/1000MHz), Audio: AMD Navi 21/23, Monitor: LQ156M1JW25, Network: Realtek RTL8111/8168/8411 + MEDIATEK MT7921 802.11ax PCI

OS: Ubuntu 22.10, Kernel: 5.19.0-23-generic (x86_64), Desktop: GNOME Shell 43.0, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.2.1 (LLVM 15.0.2 DRM 3.47), Vulkan: 1.3.224, Compiler: GCC 12.2.0, File-System: ext4, Screen Resolution: 1920x1080

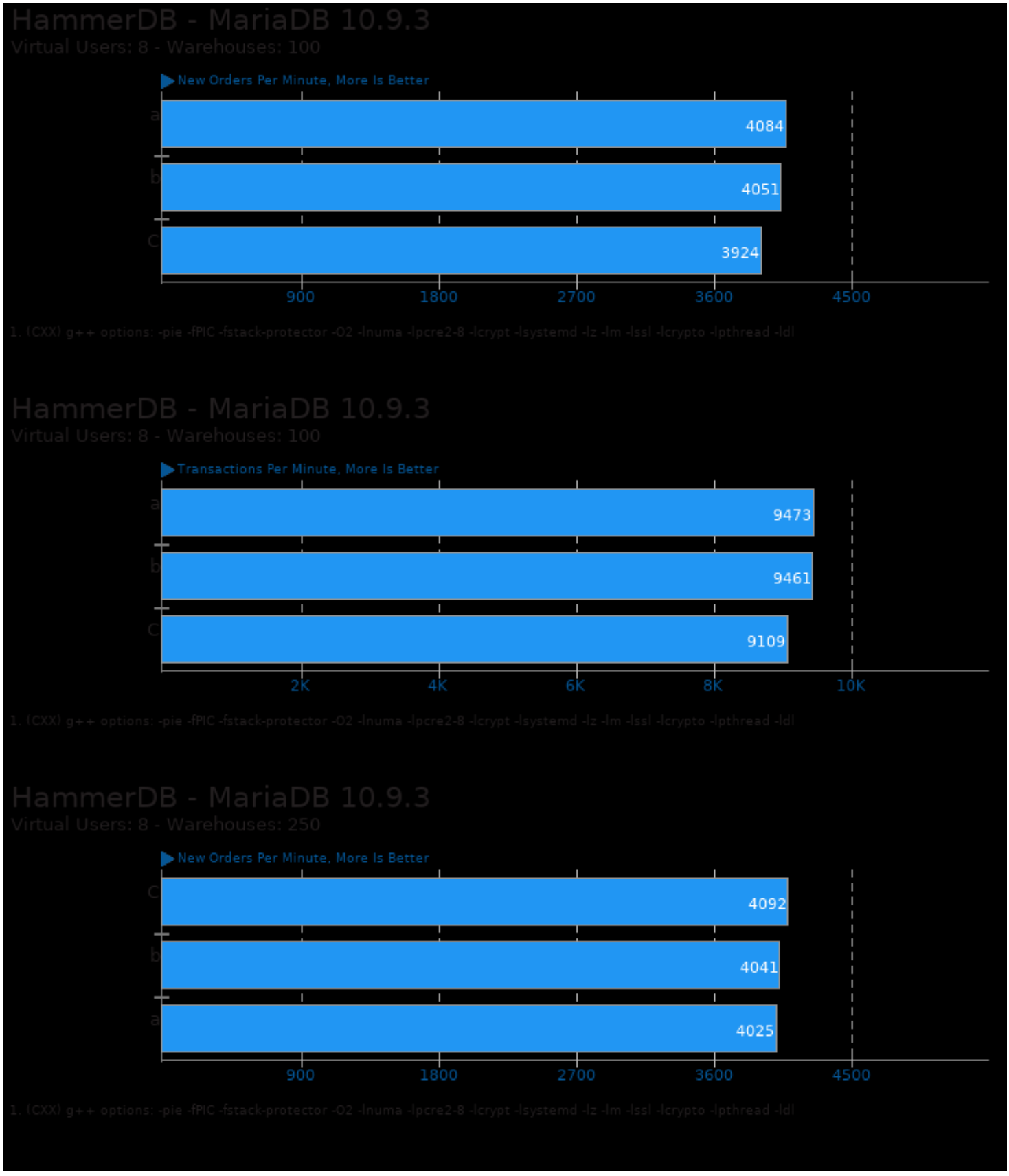
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-defaulted --enable-offload-targets=nvptx-none=/build/gcc-12-U8K4Qv/gcc-12-12.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-12-U8K4Qv/gcc-12-12.2.0/debian/tmp-gcn/usr --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=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: amd-pstate schedutil (Boost: Enabled) - Platform Profile: balanced - CPU Microcode: 0xa50000c - ACPI Profile: balanced
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines IBPB: conditional IBRS_FW STIBP: always-on RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

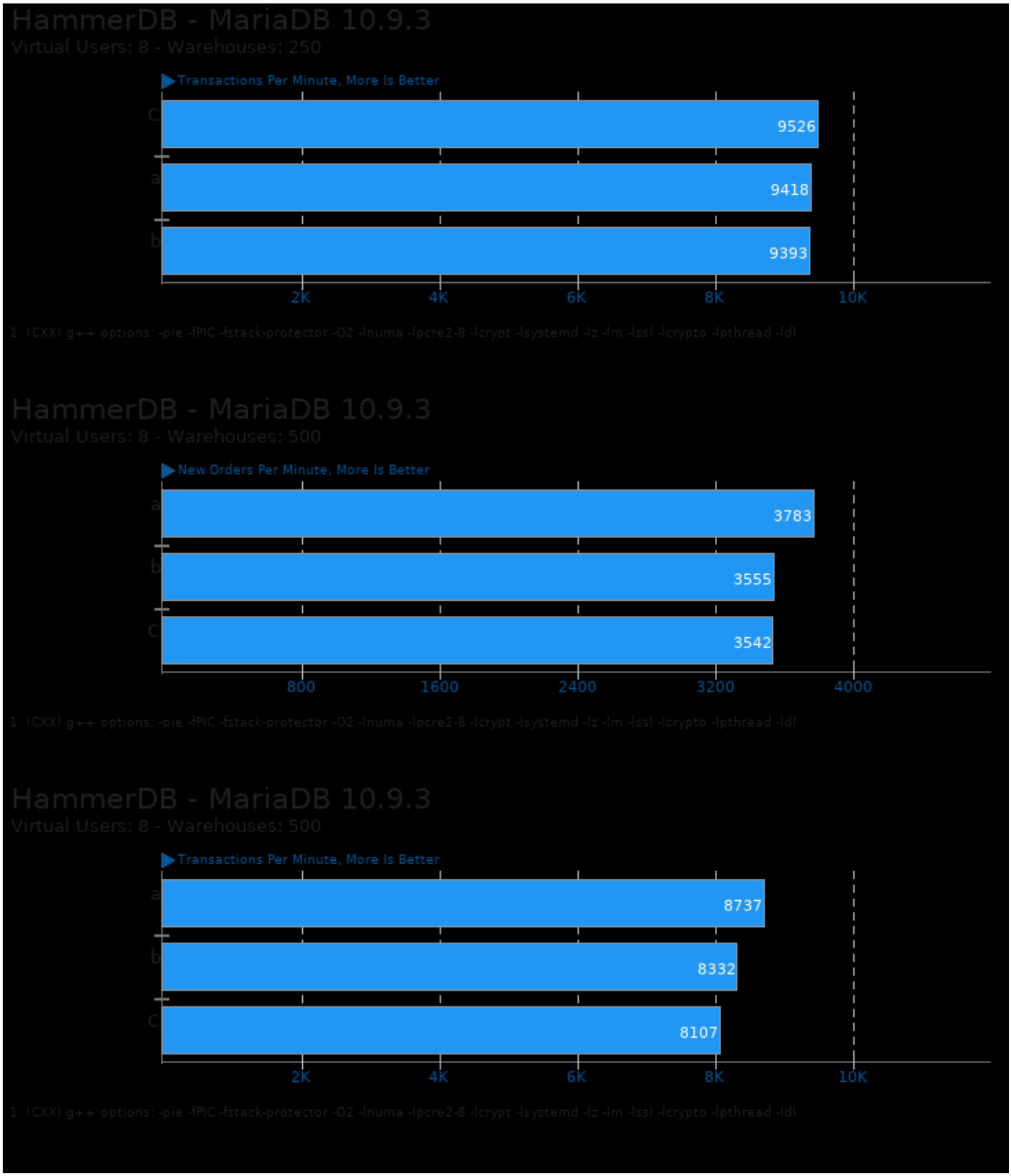
	a	b	C
HammerDB - MariaDB - 8 - 100 (New Orders/min)	**4084**	4051	**3924**
Normalized	100%	99.19%	96.08%
HammerDB - MariaDB - 8 - 100 (Transactions/min)	**9473**	9461	**9109**
Normalized	100%	99.87%	96.16%
HammerDB - MariaDB - 8 - 250 (New Orders/min)	**4025**	4041	**4092**
Normalized	98.36%	98.75%	100%
HammerDB - MariaDB - 8 - 250 (Transactions/min)	9418	**9393**	**9526**
Normalized	98.87%	98.6%	100%

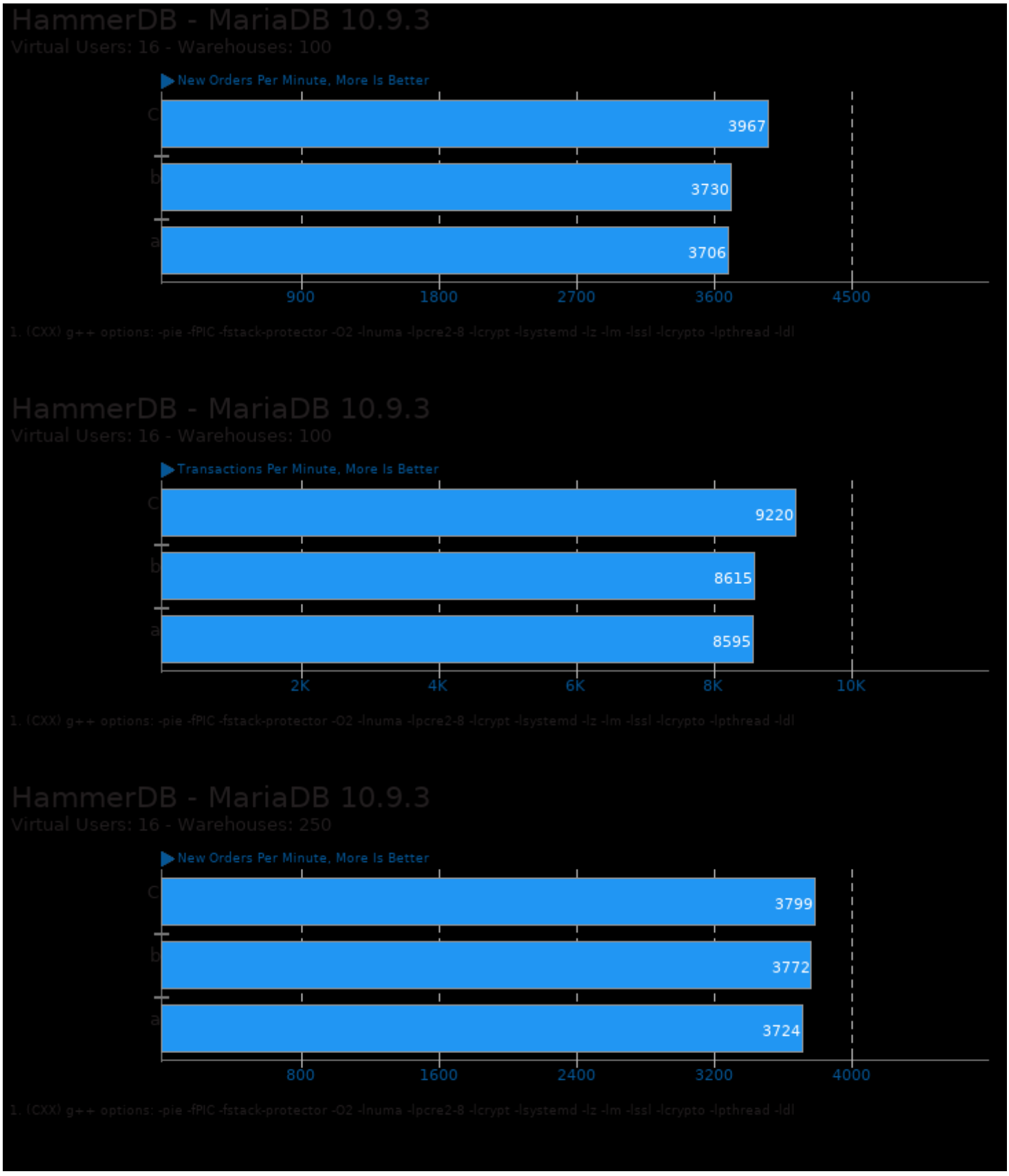
HammerDB - MariaDB - 8 - 500 (New Orders/min)	**3783**	3555	**3542**
Normalized	100%	93.97%	93.63%
HammerDB - MariaDB - 8 - 500 (Transactions/min)	**8737**	8332	**8107**
Normalized	100%	95.36%	92.79%
HammerDB - MariaDB - 16 - 100 (New Orders/min)	**3706**	3730	**3967**
Normalized	93.42%	94.03%	100%
HammerDB - MariaDB - 16 - 100 (Transactions/min)	**8595**	8615	**9220**
Normalized	93.22%	93.44%	100%
HammerDB - MariaDB - 16 - 250 (New Orders/min)	**3724**	3772	**3799**
Normalized	98.03%	99.29%	100%
HammerDB - MariaDB - 16 - 250 (Transactions/min)	**8677**	8809	**8872**
Normalized	97.8%	99.29%	100%
HammerDB - MariaDB - 16 - 500 (New Orders/min)	**3891**	**3733**	3752
Normalized	100%	95.94%	96.43%
HammerDB - MariaDB - 16 - 500 (Transactions/min)	**9049**	8707	**8660**
Normalized	100%	96.22%	95.7%
HammerDB - MariaDB - 32 - 100 (New Orders/min)	**4238**	4189	**4156**
Normalized	100%	98.84%	98.07%
HammerDB - MariaDB - 32 - 100 (Transactions/min)	**9849**	9729	**9648**
Normalized	100%	98.78%	97.96%
HammerDB - MariaDB - 32 - 250 (New Orders/min)	4134	**4175**	**4120**
Normalized	99.02%	100%	98.68%
HammerDB - MariaDB - 32 - 250 (Transactions/min)	**9537**	**9694**	9592
Normalized	98.38%	100%	98.95%
HammerDB - MariaDB - 32 - 500 (New Orders/min)	**3984**	**4009**	4008
Normalized	99.38%	100%	99.98%
HammerDB - MariaDB - 32 - 500 (Transactions/min)	9306	**9328**	**9295**
Normalized	99.76%	100%	99.65%
HammerDB - MariaDB - 64 - 100 (New Orders/min)	**4651**	4646	**4474**
Normalized	100%	99.89%	96.19%
HammerDB - MariaDB - 64 - 100 (Transactions/min)	10744	**10843**	**10352**
Normalized	99.09%	100%	95.47%
HammerDB - MariaDB - 64 - 250 (New Orders/min)	**4458**	**4113**	4195
Normalized	100%	92.26%	94.1%

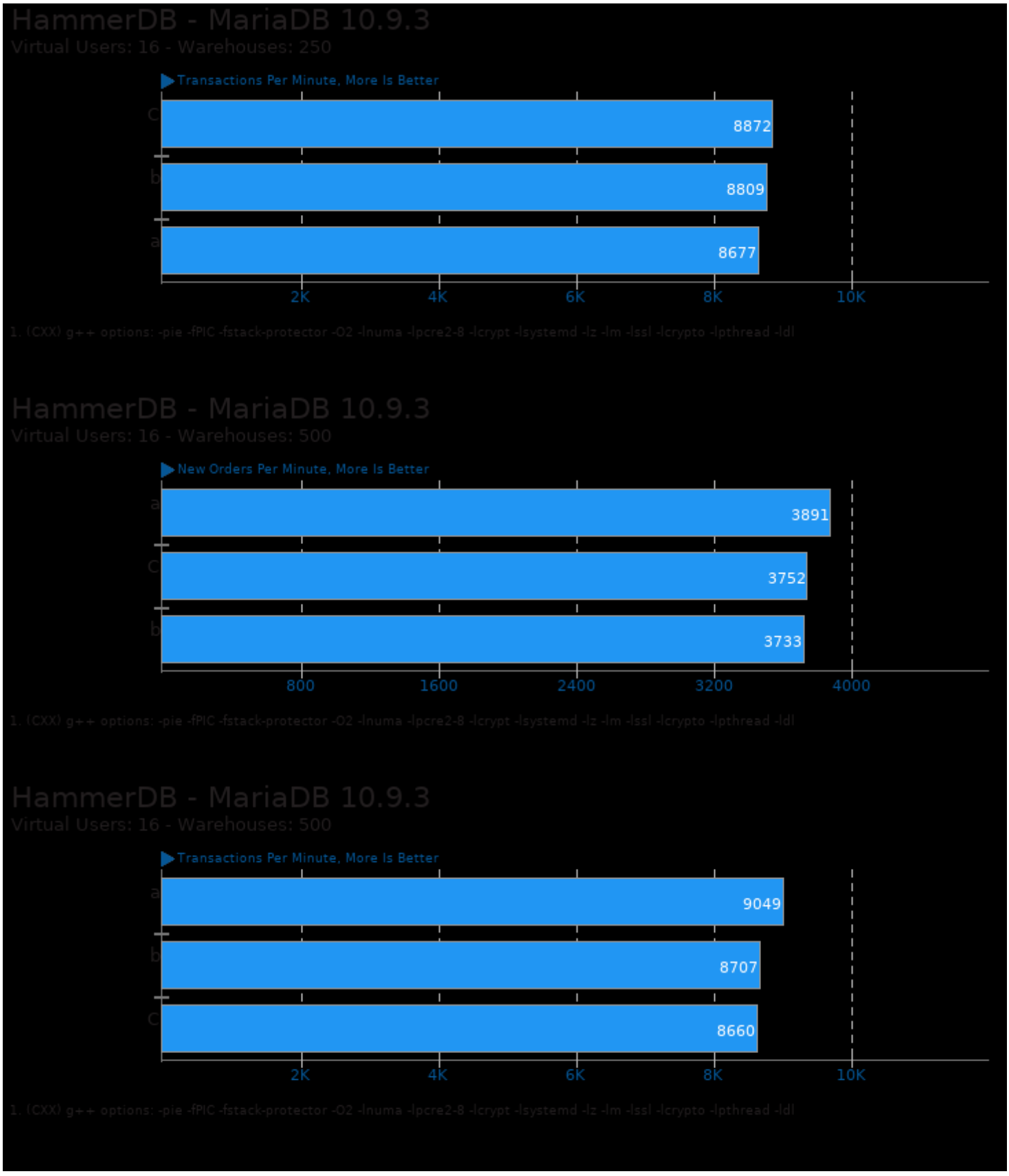
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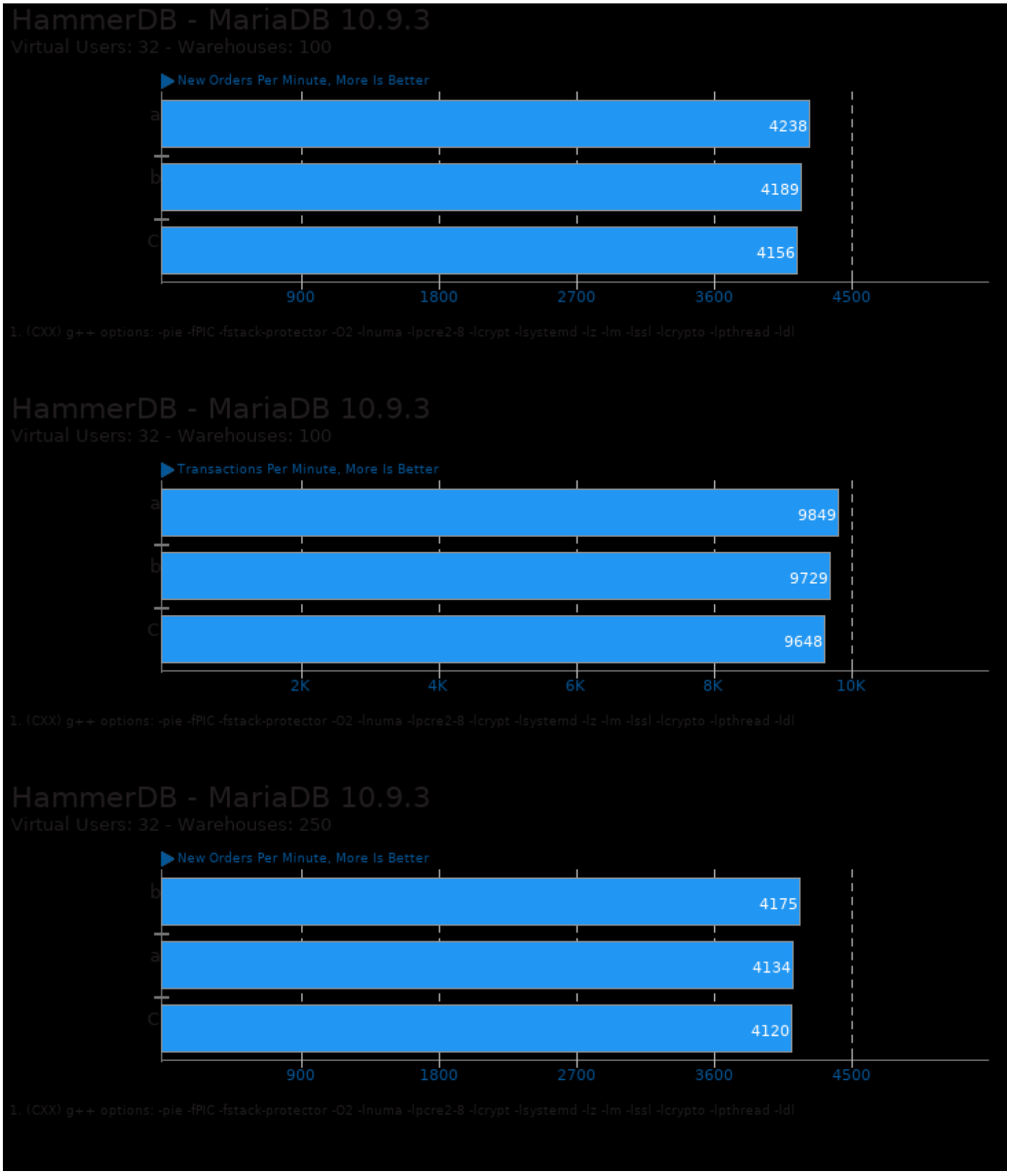
HammerDB - MariaDB - 64 - 250 (Transactions/min)	**10367**	**9610**	9728
Normalized	100%	92.7%	93.84%
HammerDB - MariaDB - 64 - 500 (New Orders/min)	4055	**4104**	**3876**
Normalized	98.81%	100%	94.44%
HammerDB - MariaDB - 64 - 500 (Transactions/min)	9341	**9565**	**9022**
Normalized	97.66%	100%	94.32%

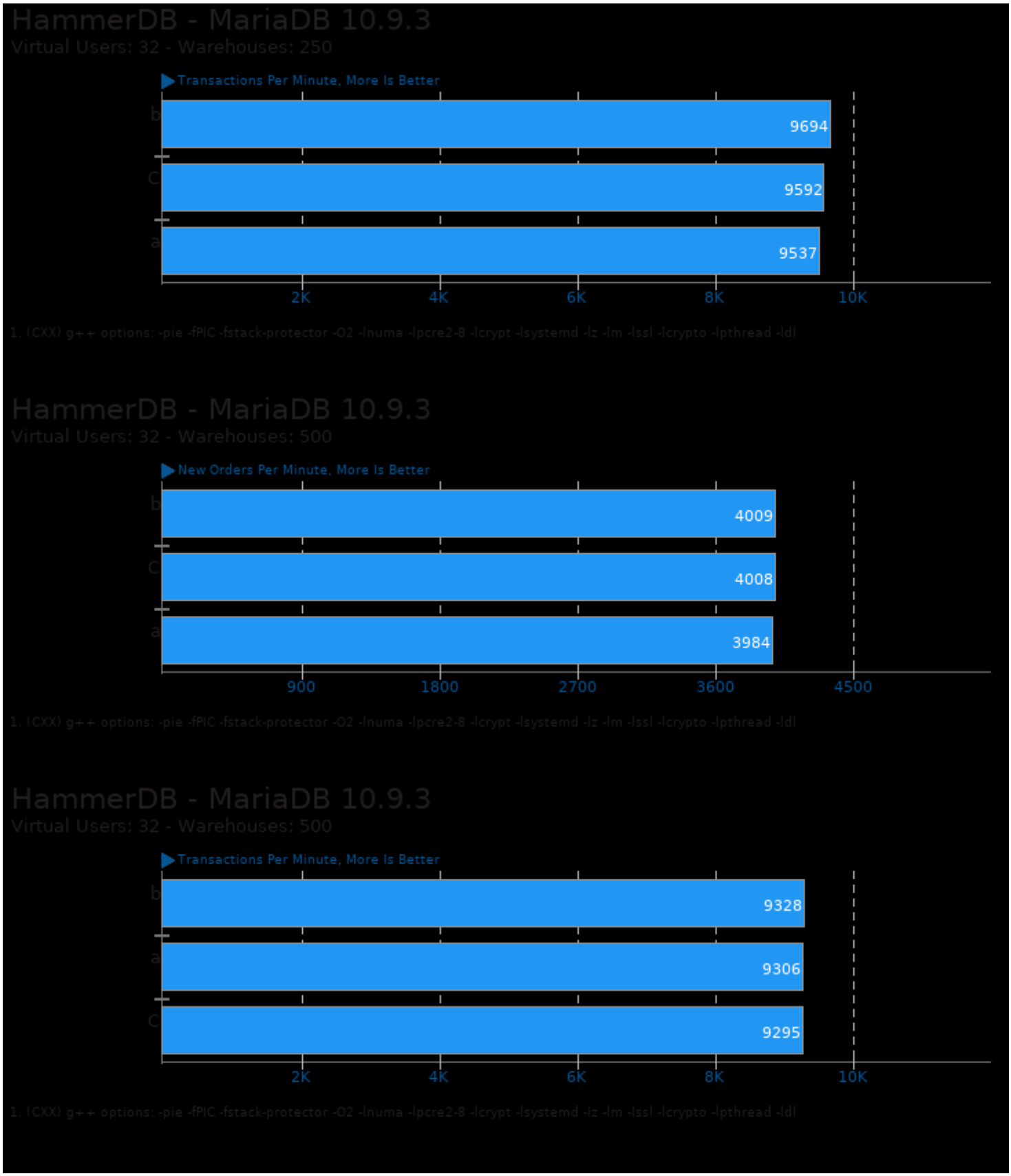

HammerDB - MariaDB 10.9.3
Virtual Users: 8 - Warehouses: 100
New Orders Per Minute, More Is Better
a
b
c
4084
4051
3924
900
1800
2700
3600
4500
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl
HammerDB - MariaDB 10.9.3
Virtual Users: 8 - Warehouses: 100
Transactions Per Minute, More Is Better
a
b
c
9473
9461
9109
2K
4K
6K
8K
10K
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl
HammerDB - MariaDB 10.9.3
Virtual Users: 8 - Warehouses: 250
New Orders Per Minute, More Is Better
c
b
a
4092
4041
4025
900
1800
2700
3600
4500
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl

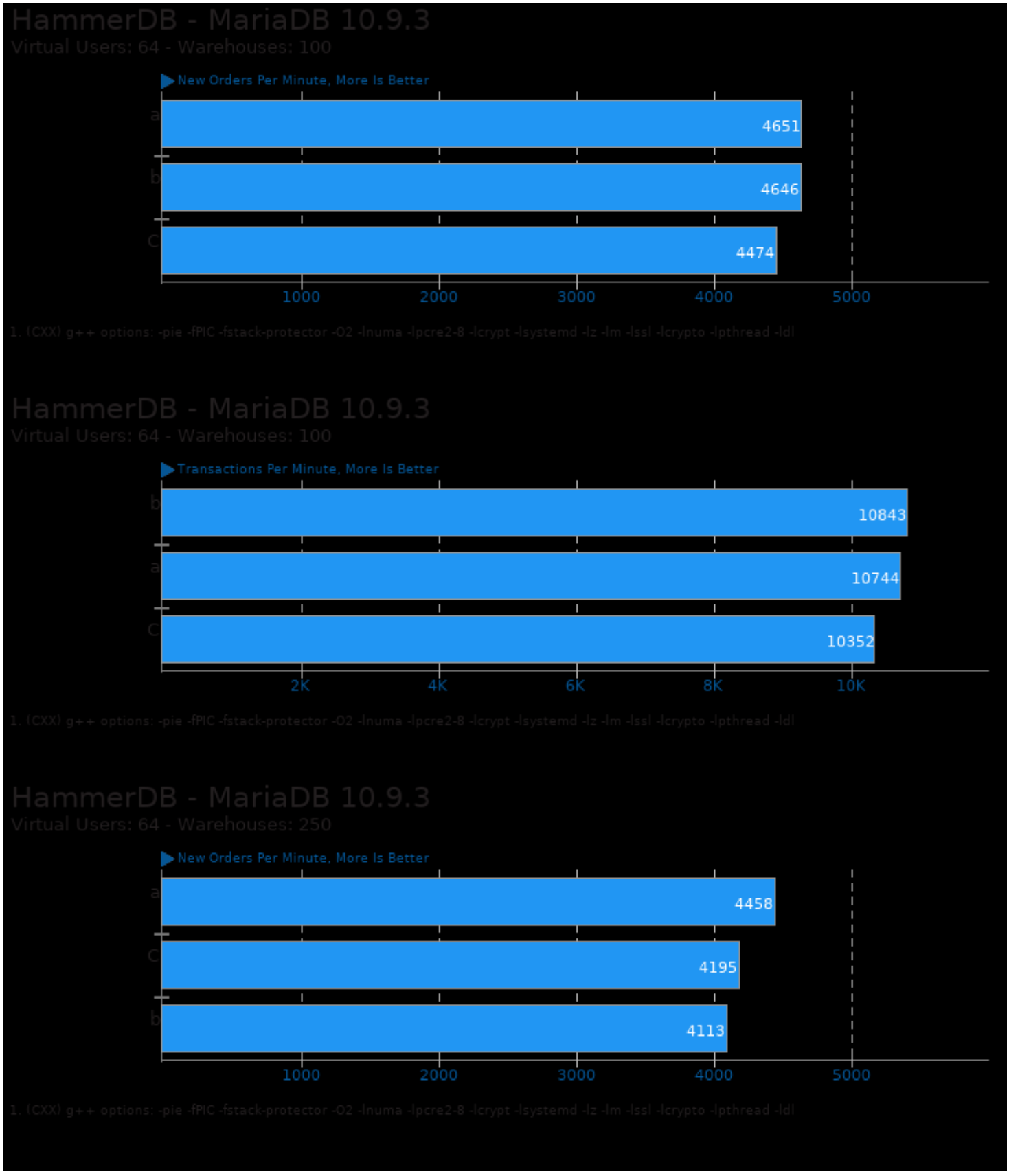

HammerDB - MariaDB 10.9.3
Virtual Users: 8 - Warehouses: 250
Transactions Per Minute, More Is Better
c
9526
a
9418
b
9393
2K
4K
6K
8K
10K
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl
HammerDB - MariaDB 10.9.3
Virtual Users: 8 - Warehouses: 500
New Orders Per Minute, More Is Better
a
3783
b
3555
c
3542
800
1600
2400
3200
4000
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl
HammerDB - MariaDB 10.9.3
Virtual Users: 8 - Warehouses: 500
Transactions Per Minute, More Is Better
a
8737
b
8332
c
8107
2K
4K
6K
8K
10K
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl

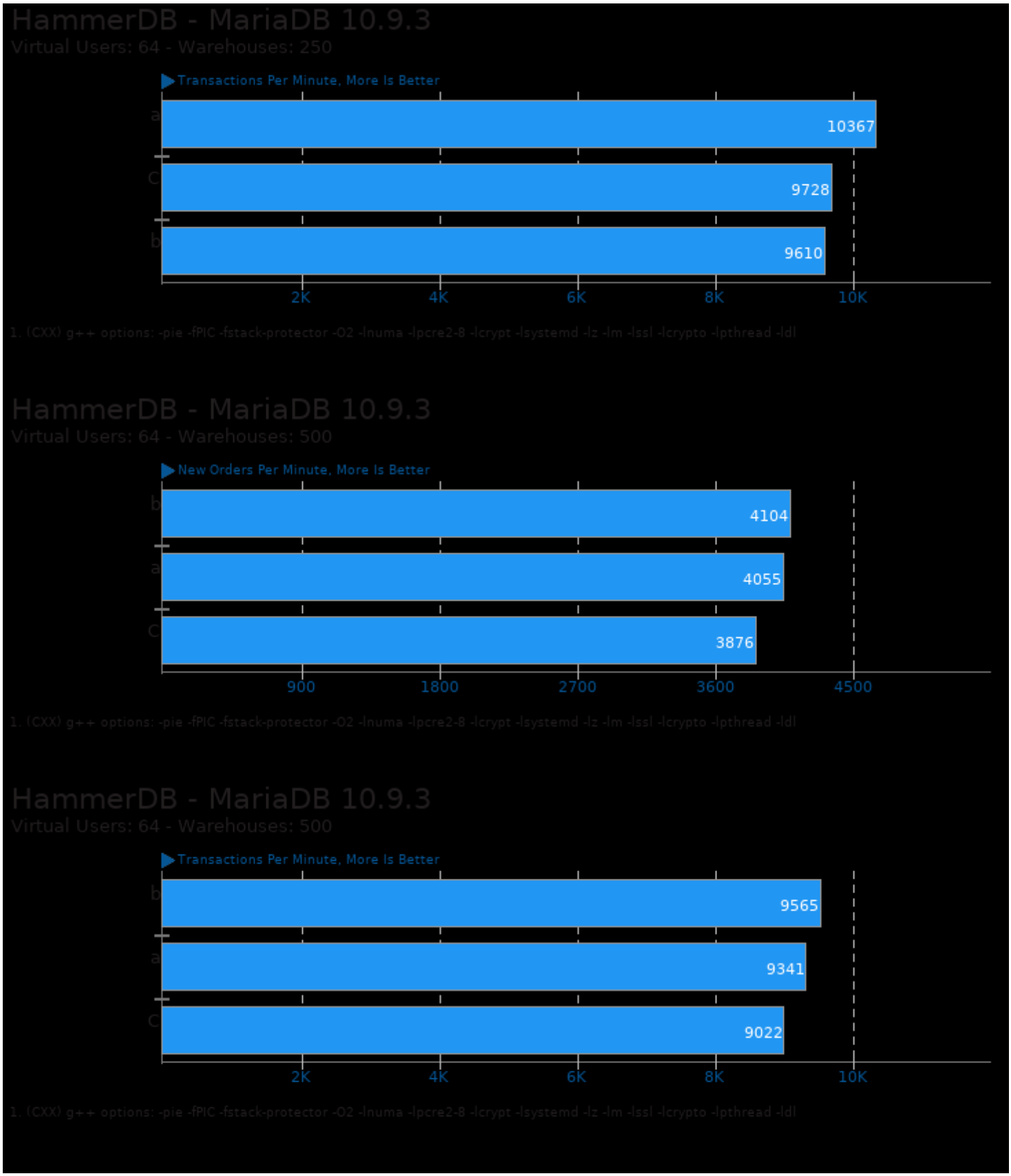

HammerDB - MariaDB 10.9.3
Virtual Users: 16 - Warehouses: 100
New Orders Per Minute, More Is Better
c
b
a
3967
3730
3706
900
1800
2700
3600
4500
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl
HammerDB - MariaDB 10.9.3
Virtual Users: 16 - Warehouses: 100
Transactions Per Minute, More Is Better
c
b
a
9220
8615
8595
2K
4K
6K
8K
10K
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl
HammerDB - MariaDB 10.9.3
Virtual Users: 16 - Warehouses: 250
New Orders Per Minute, More Is Better
c
b
a
3799
3772
3724
800
1600
2400
3200
4000
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl


HammerDB - MariaDB 10.9.3
Virtual Users: 16 - Warehouses: 250
Transactions Per Minute, More Is Better
c
8872
b
8809
a
8677
2K
4K
6K
8K
10K
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl
HammerDB - MariaDB 10.9.3
Virtual Users: 16 - Warehouses: 500
New Orders Per Minute, More Is Better
a
3891
c
3752
b
3733
800
1600
2400
3200
4000
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl
HammerDB - MariaDB 10.9.3
Virtual Users: 16 - Warehouses: 500
Transactions Per Minute, More Is Better
a
9049
b
8707
c
8660
2K
4K
6K
8K
10K
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl


HammerDB - MariaDB 10.9.3
Virtual Users: 32 - Warehouses: 100
New Orders Per Minute, More Is Better
a
b
c
4238
4189
4156
900
1800
2700
3600
4500
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl
HammerDB - MariaDB 10.9.3
Virtual Users: 32 - Warehouses: 100
Transactions Per Minute, More Is Better
a
b
c
9849
9729
9648
2K
4K
6K
8K
10K
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl
HammerDB - MariaDB 10.9.3
Virtual Users: 32 - Warehouses: 250
New Orders Per Minute, More Is Better
b
a
c
4175
4134
4120
900
1800
2700
3600
4500
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl


HammerDB - MariaDB 10.9.3
Virtual Users: 32 - Warehouses: 250
Transactions Per Minute, More Is Better
b
c
a
9694
9592
9537
2K
4K
6K
8K
10K
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl
HammerDB - MariaDB 10.9.3
Virtual Users: 32 - Warehouses: 500
New Orders Per Minute, More Is Better
b
c
a
4009
4008
3984
900
1800
2700
3600
4500
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl
HammerDB - MariaDB 10.9.3
Virtual Users: 32 - Warehouses: 500
Transactions Per Minute, More Is Better
b
a
c
9328
9306
9295
2K
4K
6K
8K
10K
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl


HammerDB - MariaDB 10.9.3
Virtual Users: 64 - Warehouses: 100
New Orders Per Minute, More Is Better
a
b
c
4651
4646
4474
1000
2000
3000
4000
5000
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl
HammerDB - MariaDB 10.9.3
Virtual Users: 64 - Warehouses: 100
Transactions Per Minute, More Is Better
b
a
c
10843
10744
10352
2K
4K
6K
8K
10K
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl
HammerDB - MariaDB 10.9.3
Virtual Users: 64 - Warehouses: 250
New Orders Per Minute, More Is Better
a
c
b
4458
4195
4113
1000
2000
3000
4000
5000
1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lnuma -lpcre2-8 -lcrypt -lsystemd -lz -lm -lssl -lcrypto -lpthread -ldl



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