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RX 5700 XT DDnet

AMD Ryzen Threadripper 3990X 64-Core testing with a Gigabyte TRX40 AORUS PRO WIFI (F4p BIOS) and AMD Radeon RX 5700 8GB on Ubuntu 22.10 via the Phoronix Test Suite.

Automated Executive Summary

B had the most wins, coming in first place for 39% of the tests.

Based on the geometric mean of all complete results, the fastest (C) was 1.008x the speed of the slowest (B). A was 0.995x the speed of C and B was 0.997x the speed of A.

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

DDraceNetwork (Resolution: 2560 x 1440 - Mode: Fullscreen - Renderer: Vulkan - Zoom: Default - Demo: RaiNyMore2) at 2.411x
DDraceNetwork (Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2) at 1.997x
DDraceNetwork (Resolution: 3840 x 2160 - Mode: Fullscreen - Renderer: Vulkan - Zoom: Zoomed out - Demo: RaiNyMore2) at 1.317x
DDraceNetwork (Resolution: 2560 x 1440 - Mode: Fullscreen - Renderer: Vulkan - Zoom: Zoomed out - Demo: RaiNyMore2) at 1.149x
DDraceNetwork (Resolution: 1920 x 1200 - Mode: Fullscreen - Renderer: Vulkan - Zoom: Default - Demo: Multeasymap)

at 1.067x
DDraceNetwork (Resolution: 1920 x 1200 - Mode: Windowed - Renderer: Vulkan - Zoom: Zoomed out - Demo: Multeasymap) at 1.061x
DDraceNetwork (Resolution: 2560 x 1440 - Mode: Windowed - Renderer: Vulkan - Zoom: Default - Demo: Multeasymap) at 1.055x
DDraceNetwork (Resolution: 1920 x 1200 - Mode: Fullscreen - Renderer: Vulkan - Zoom: Zoomed out - Demo: RaiNyMore2) at 1.055x
DDraceNetwork (Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: Vulkan - Zoom: Zoomed out - Demo: Multeasymap) at 1.054x
DDraceNetwork (Resolution: 1920 x 1200 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: Multeasymap) at 1.052x.

Test Systems:

A

B

C

Processor: AMD Ryzen Threadripper 3990X 64-Core @ 2.90GHz (64 Cores / 128 Threads), Motherboard: Gigabyte TRX40 AORUS PRO WIFI (F4p BIOS), Chipset: AMD Starship/Matisse, Memory: 128GB, Disk: Samsung SSD 970 EVO Plus 500GB, Graphics: AMD Radeon RX 5700 8GB (1750/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: DELL P2415Q, Network: Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 22.10, Kernel: 5.19.0-15-generic (x86_64), Desktop: GNOME Shell, Display Server: X Server 1.21.1.3 + Wayland, OpenGL: 4.6 Mesa 22.1.7 (LLVM 14.0.6 DRM 3.47), Vulkan: 1.3.211, Compiler: GCC 12.2.0, File-System: ext4, Screen Resolution: 3840x2160

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-Wbc0TK/gcc-12-12.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-12-Wbc0TK/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: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0x8301055
Graphics Notes: GLAMOR - BAR1 / Visible vRAM Size: 256 MB - vBIOS Version: 113-D1820201-101
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Mitigation of untrained return thunk; SMT enabled with STIBP protection + 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 STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	A	B	C

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DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Default - RaiNyMore2 (FPS)	2499	1252	1252
Normalized	100%	50.08%	50.1%
DDraceNetwork - 1920 x 1080 - Fullscreen - Vulkan - Zoomed out - Multeasymap (FPS)	1396	1472	1413
Normalized	94.89%	100%	96%
DDraceNetwork - 1920 x 1200 - Fullscreen - OpenGL 3.3 - Default - RaiNyMore2 (FPS)	1166	1165	1164
Normalized	100%	99.91%	99.88%
DDraceNetwork - 1920 x 1200 - Fullscreen - Vulkan - Zoomed out - Multeasymap (FPS)	1349	1408	1368
Normalized	95.83%	100%	97.14%
DDraceNetwork - 2560 x 1440 - Fullscreen - OpenGL 3.3 - Default - RaiNyMore2 (FPS)	851.98	854.83	868.40
Normalized	98.11%	98.44%	100%
DDraceNetwork - 2560 x 1440 - Fullscreen - Vulkan - Zoomed out - Multeasymap (FPS)	1370	1395	1363
Normalized	98.18%	100%	97.71%
DDraceNetwork - 3840 x 2160 - Fullscreen - OpenGL 3.3 - Default - RaiNyMore2 (FPS)	452.30	447.09	445.80
Normalized	100%	98.85%	98.56%
DDraceNetwork - 3840 x 2160 - Fullscreen - Vulkan - Zoomed out - Multeasymap (FPS)	1288	1275	1294
Normalized	99.52%	98.51%	100%
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Default - Multeasymap (FPS)	702.14	692.18	708.68
Normalized	99.08%	97.67%	100%
DDraceNetwork - 1920 x 1080 - Windowed - OpenGL 3.3 - Zoomed out - RaiNyMore2	252.47	252.20	248.74
Normalized	100%	99.89%	98.52%
DDraceNetwork - 1920 x 1200 - Fullscreen - OpenGL 3.3 - Default - Multeasymap (FPS)	713.22	711.23	705.79
Normalized	100%	99.72%	98.96%
DDraceNetwork - 1920 x 1200 - Windowed - OpenGL 3.3 - Zoomed out - RaiNyMore2	248.29	253.06	249.53
Normalized	98.12%	100%	98.61%
DDraceNetwork - 2560 x 1440 - Fullscreen - OpenGL 3.3 - Default - Multeasymap (FPS)	699.81	688.16	697.48
Normalized	100%	98.34%	99.67%
DDraceNetwork - 2560 x 1440 - Windowed - OpenGL 3.3 - Zoomed out - RaiNyMore2	248.23	251.85	248.59
Normalized	98.56%	100%	98.71%
DDraceNetwork - 3840 x 2160 - Fullscreen - OpenGL 3.3 - Default - Multeasymap (FPS)	695.90	701.64	701.28
Normalized	99.18%	100%	99.95%
DDraceNetwork - 3840 x 2160 - Windowed - OpenGL 3.3 - Zoomed out - RaiNyMore2	252.86	247.23	253.86
Normalized	99.61%	97.39%	100%
DDraceNetwork - 1920 x 1080 - Windowed - OpenGL 3.3 - Zoomed out - Multeasymap	253.00	251.80	253.00
Normalized	100%	99.53%	100%

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DDraceNetwork - 1920 x 1200 - Windowed - OpenGL 3.3 - Zoomed out - Multeasymap	260.46	249.28	247.55
Normalized	100%	95.71%	95.04%
DDraceNetwork - 2560 x 1440 - Windowed - OpenGL 3.3 - Zoomed out - Multeasymap	250.94	250.32	254.54
Normalized	98.59%	98.34%	100%
DDraceNetwork - 3840 x 2160 - Windowed - OpenGL 3.3 - Zoomed out - Multeasymap	254.92	258.55	262.43
Normalized	97.14%	98.52%	100%
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Zoomed out - RaiNyMore2	243.28	252.61	250.80
Normalized	96.31%	100%	99.28%
DDraceNetwork - 1920 x 1200 - Fullscreen - OpenGL 3.3 - Zoomed out - RaiNyMore2	249.80	248.15	255.31
Normalized	97.84%	97.2%	100%
DDraceNetwork - 2560 x 1440 - Fullscreen - OpenGL 3.3 - Zoomed out - RaiNyMore2	250.13	254.26	251.34
Normalized	98.38%	100%	98.85%
DDraceNetwork - 3840 x 2160 - Fullscreen - OpenGL 3.3 - Zoomed out - RaiNyMore2	249.55	245.32	245.13
Normalized	100%	98.3%	98.23%
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Zoomed out - Multeasymap	250.70	251.37	250.93
Normalized	99.73%	100%	99.82%
DDraceNetwork - 1920 x 1200 - Fullscreen - OpenGL 3.3 - Zoomed out - Multeasymap	248.82	243.77	251.86
Normalized	98.79%	96.79%	100%
DDraceNetwork - 2560 x 1440 - Fullscreen - OpenGL 3.3 - Zoomed out - Multeasymap	246.05	248.60	252.11
Normalized	97.6%	98.61%	100%
DDraceNetwork - 3840 x 2160 - Fullscreen - OpenGL 3.3 - Zoomed out - Multeasymap	253.40	255.11	252.08
Normalized	99.33%	100%	98.81%
DDraceNetwork - 1920 x 1080 - Windowed - Vulkan - Default - RaiNyMore2 (FPS)	1840	1841	1834
Normalized	99.92%	100%	99.6%
DDraceNetwork - 1920 x 1200 - Windowed - Vulkan - Default - RaiNyMore2 (FPS)	1780	1780	1774
Normalized	99.97%	100%	99.67%
DDraceNetwork - 2560 x 1440 - Windowed - Vulkan - Default - RaiNyMore2 (FPS)	1232	1236	1227
Normalized	99.68%	100%	99.25%
DDraceNetwork - 3840 x 2160 - Windowed - Vulkan - Default - RaiNyMore2 (FPS)	607.54	613.98	613.20
Normalized	98.95%	100%	99.87%
DDraceNetwork - 1920 x 1080 - Windowed - Vulkan - Default - Multeasymap (FPS)	1686	1703	1716
Normalized	98.24%	99.25%	100%
DDraceNetwork - 1920 x 1200 - Windowed - Vulkan - Default - Multeasymap (FPS)	1705	1698	1690
Normalized	100%	99.55%	99.12%

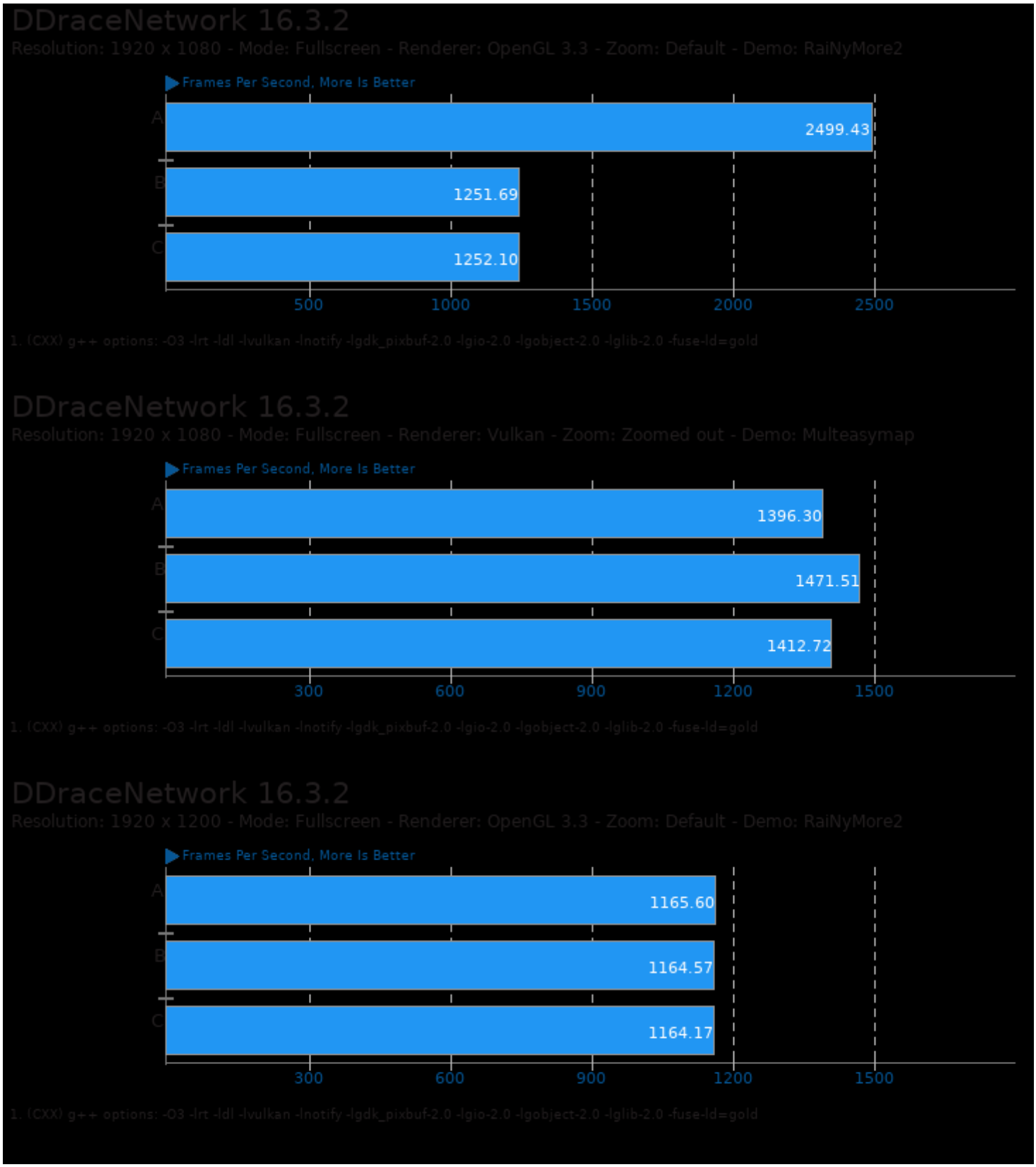
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DDraceNetwork - 2560 x 1440 - Windowed - Vulkan - Default - Multeasymap (FPS)	1687	1721	1630
Normalized	98.07%	100%	94.75%
DDraceNetwork - 3840 x 2160 - Windowed - Vulkan - Default - Multeasymap (FPS)	1366	1366	1366
Normalized	100%	99.99%	99.99%
DDraceNetwork - 1920 x 1080 - Fullscreen - Vulkan - Default - RaiNyMore2 (FPS)	1935	1947	1939
Normalized	99.39%	100%	99.58%
DDraceNetwork - 1920 x 1200 - Fullscreen - Vulkan - Default - RaiNyMore2 (FPS)	1880	1893	1893
Normalized	99.34%	100%	100%
DDraceNetwork - 2560 x 1440 - Fullscreen - Vulkan - Default - RaiNyMore2 (FPS)	1339	1337	3225
Normalized	41.52%	41.47%	100%
DDraceNetwork - 3840 x 2160 - Fullscreen - Vulkan - Default - RaiNyMore2 (FPS)	654.82	650.68	650.95
Normalized	100%	99.37%	99.41%
DDraceNetwork - 1920 x 1080 - Fullscreen - Vulkan - Default - Multeasymap (FPS)	1713	1698	1699
Normalized	100%	99.11%	99.19%
DDraceNetwork - 1920 x 1080 - Windowed - Vulkan - Zoomed out - RaiNyMore2 (FPS)	2593	2587	2594
Normalized	99.97%	99.72%	100%
DDraceNetwork - 1920 x 1200 - Fullscreen - Vulkan - Default - Multeasymap (FPS)	1696	1810	1699
Normalized	93.7%	100%	93.89%
DDraceNetwork - 1920 x 1200 - Windowed - Vulkan - Zoomed out - RaiNyMore2 (FPS)	2466	2465	2466
Normalized	99.97%	99.95%	100%
DDraceNetwork - 2560 x 1440 - Fullscreen - Vulkan - Default - Multeasymap (FPS)	1696	1693	1683
Normalized	100%	99.83%	99.26%
DDraceNetwork - 2560 x 1440 - Windowed - Vulkan - Zoomed out - RaiNyMore2 (FPS)	1530	1526	1526
Normalized	100%	99.73%	99.7%
DDraceNetwork - 3840 x 2160 - Fullscreen - Vulkan - Default - Multeasymap (FPS)	1545	1537	1549
Normalized	99.77%	99.28%	100%
DDraceNetwork - 3840 x 2160 - Windowed - Vulkan - Zoomed out - RaiNyMore2 (FPS)	761.81	763.24	761.34
Normalized	99.81%	100%	99.75%
DDraceNetwork - 1920 x 1080 - Windowed - OpenGL 3.3 - Default - RaiNyMore2 (FPS)	1187	1188	1196
Normalized	99.26%	99.32%	100%
DDraceNetwork - 1920 x 1080 - Windowed - Vulkan - Zoomed out - Multeasymap (FPS)	1388	1345	1363
Normalized	100%	96.88%	98.22%
DDraceNetwork - 1920 x 1200 - Windowed - OpenGL 3.3 - Default - RaiNyMore2 (FPS)	1111	1111	1109
Normalized	100%	99.99%	99.84%

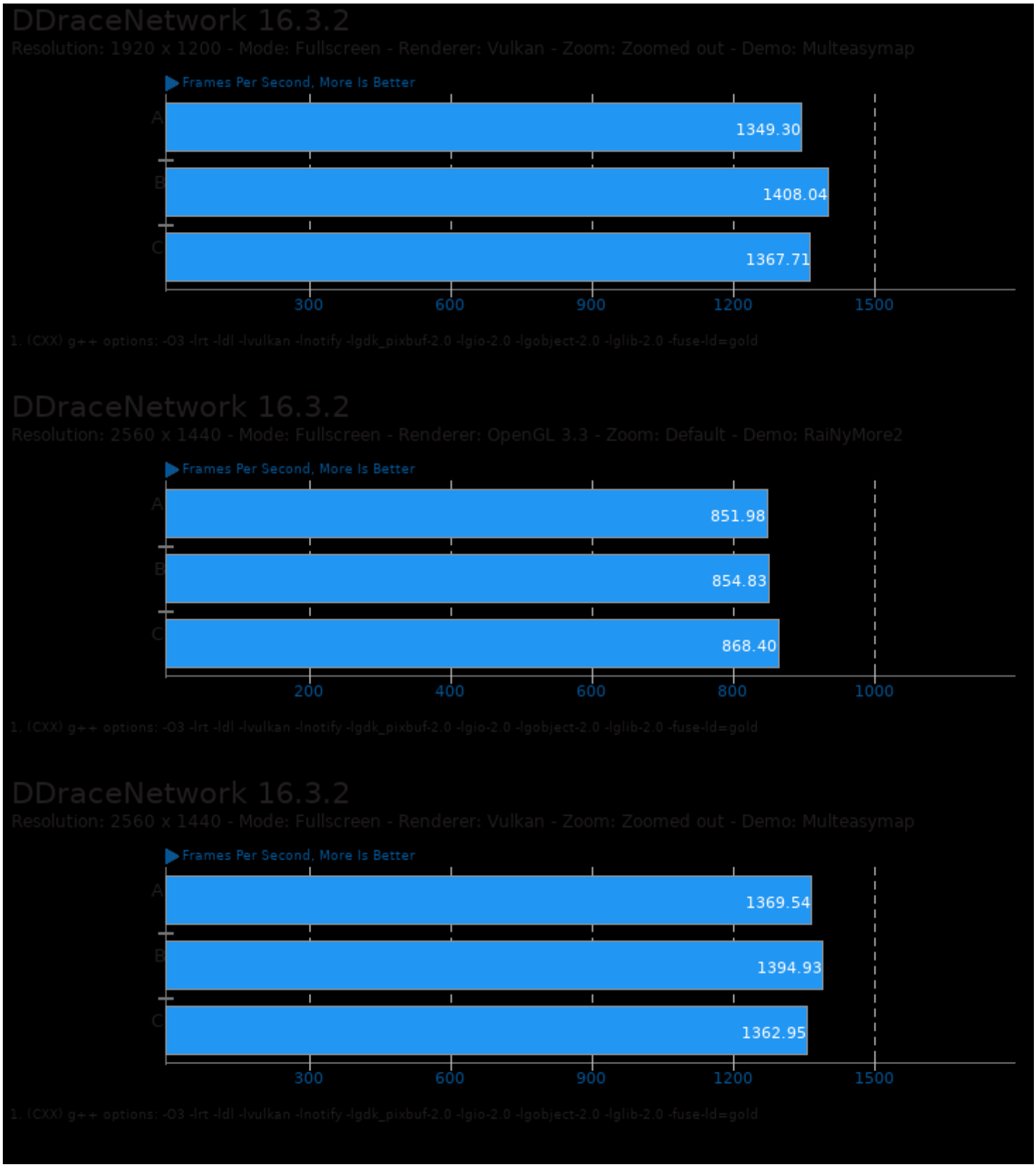
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DDraceNetwork - 1920 x 1200 - Windowed - Vulkan - Zoomed out - Multeasymap (FPS)	1373	1363	1447
Normalized	94.91%	94.23%	100%
DDraceNetwork - 2560 x 1440 - Windowed - OpenGL 3.3 - Default - RaiNyMore2 (FPS)	801.74	802.77	801.07
Normalized	99.87%	100%	99.79%
DDraceNetwork - 2560 x 1440 - Windowed - Vulkan - Zoomed out - Multeasymap (FPS)	1354	1357	1370
Normalized	98.83%	99.05%	100%
DDraceNetwork - 3840 x 2160 - Windowed - OpenGL 3.3 - Default - RaiNyMore2 (FPS)	417.36	412.29	404.39
Normalized	100%	98.79%	96.89%
DDraceNetwork - 3840 x 2160 - Windowed - Vulkan - Zoomed out - Multeasymap (FPS)	1186	1189	1191
Normalized	99.53%	99.79%	100%
DDraceNetwork - 1920 x 1080 - Fullscreen - Vulkan - Zoomed out - RaiNyMore2 (FPS)	2957	2816	2820
Normalized	100%	95.24%	95.36%
DDraceNetwork - 1920 x 1080 - Windowed - OpenGL 3.3 - Default - Multeasymap (FPS)	693.14	700.28	695.58
Normalized	98.98%	100%	99.33%
DDraceNetwork - 1920 x 1200 - Fullscreen - Vulkan - Zoomed out - RaiNyMore2 (FPS)	2839	2749	2692
Normalized	100%	96.83%	94.82%
DDraceNetwork - 1920 x 1200 - Windowed - OpenGL 3.3 - Default - Multeasymap (FPS)	708.21	714.56	705.08
Normalized	99.11%	100%	98.67%
DDraceNetwork - 2560 x 1440 - Fullscreen - Vulkan - Zoomed out - RaiNyMore2 (FPS)	1708	1963	1944
Normalized	87.01%	100%	99.03%
DDraceNetwork - 2560 x 1440 - Windowed - OpenGL 3.3 - Default - Multeasymap (FPS)	692.55	703.93	695.23
Normalized	98.38%	100%	98.76%
DDraceNetwork - 3840 x 2160 - Fullscreen - Vulkan - Zoomed out - RaiNyMore2 (FPS)	826.56	1079	819.67
Normalized	76.59%	100%	75.96%
DDraceNetwork - 3840 x 2160 - Windowed - OpenGL 3.3 - Default - Multeasymap (FPS)	699.87	705.66	702.60
Normalized	99.18%	100%	99.57%

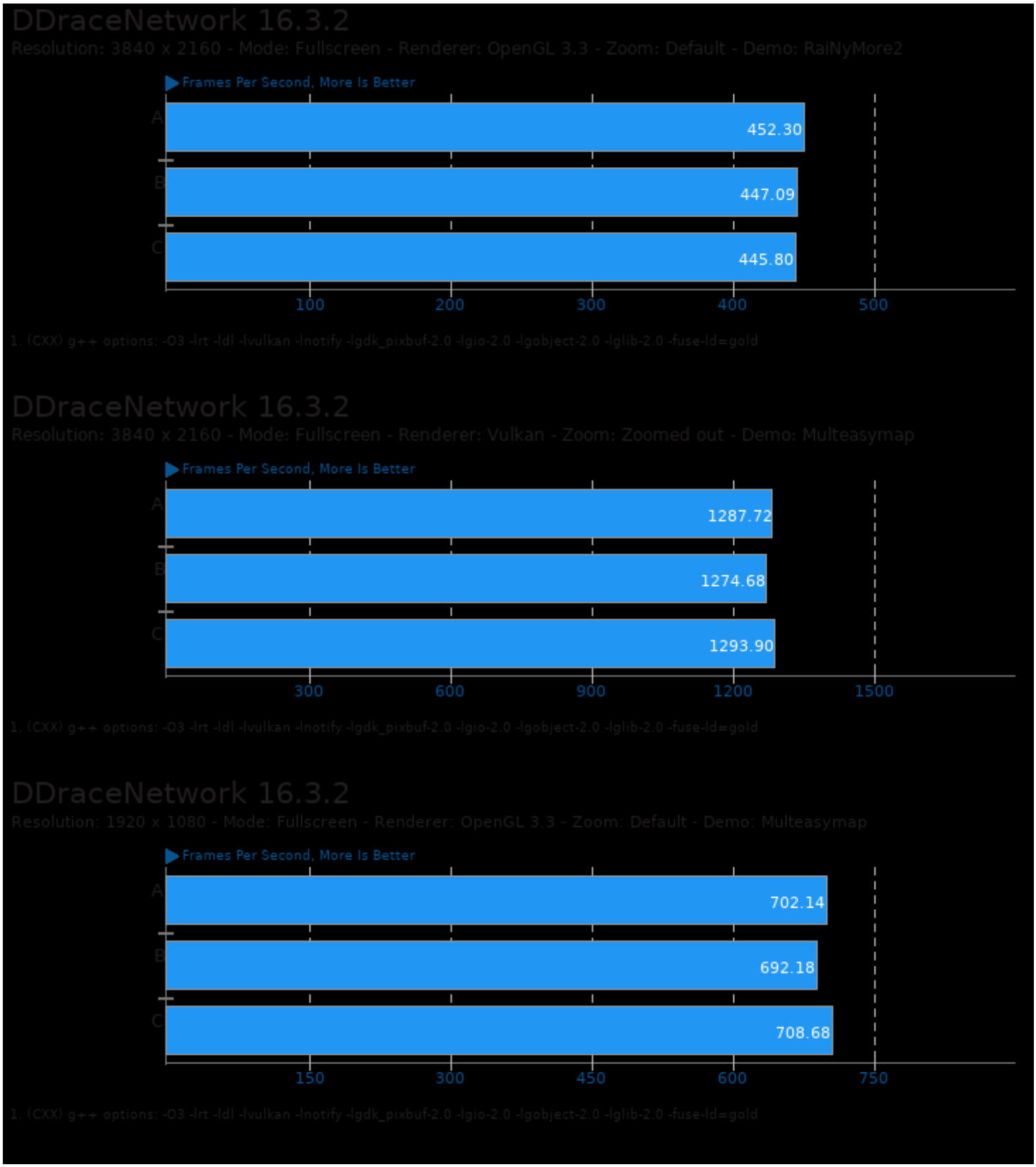
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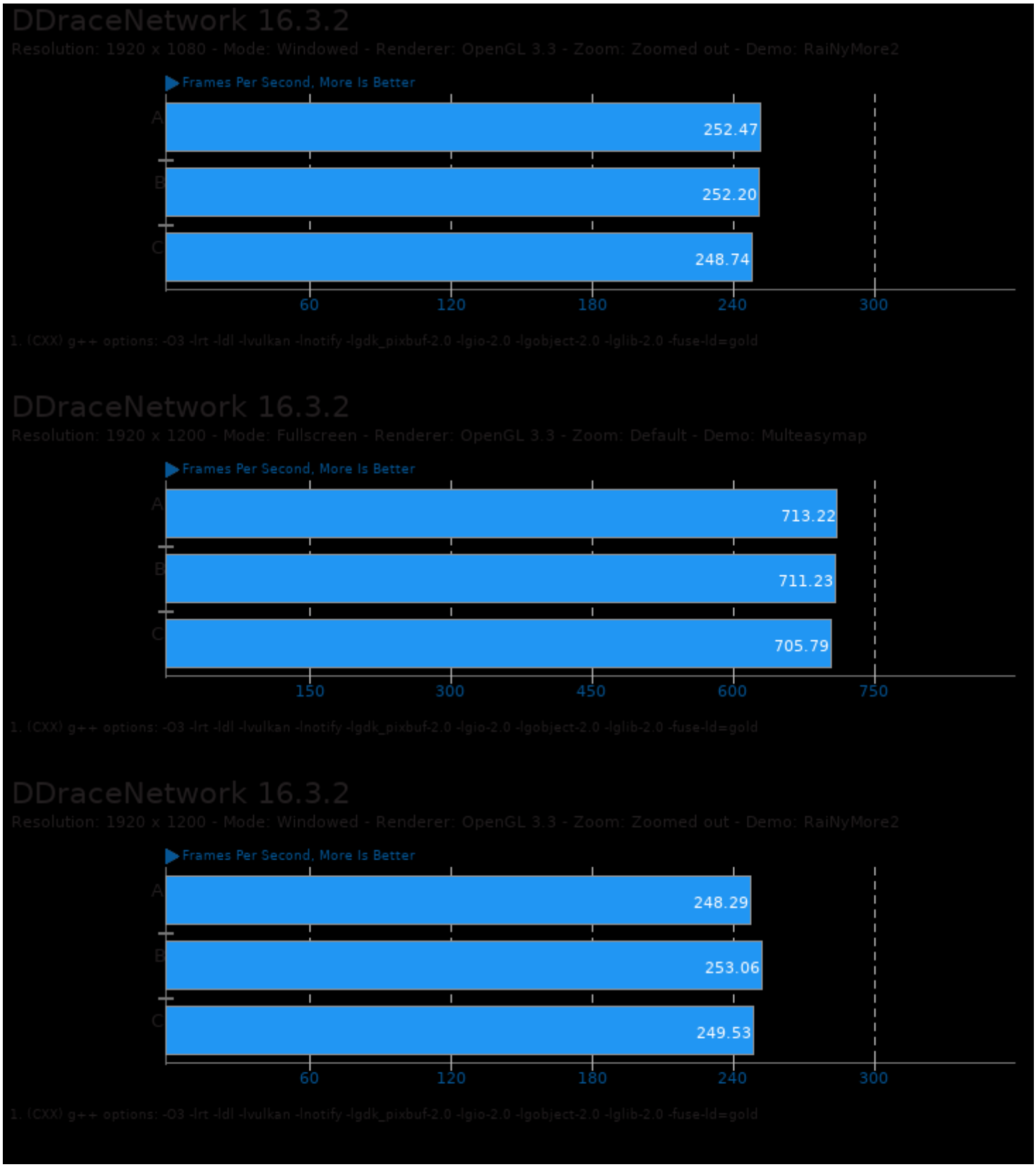
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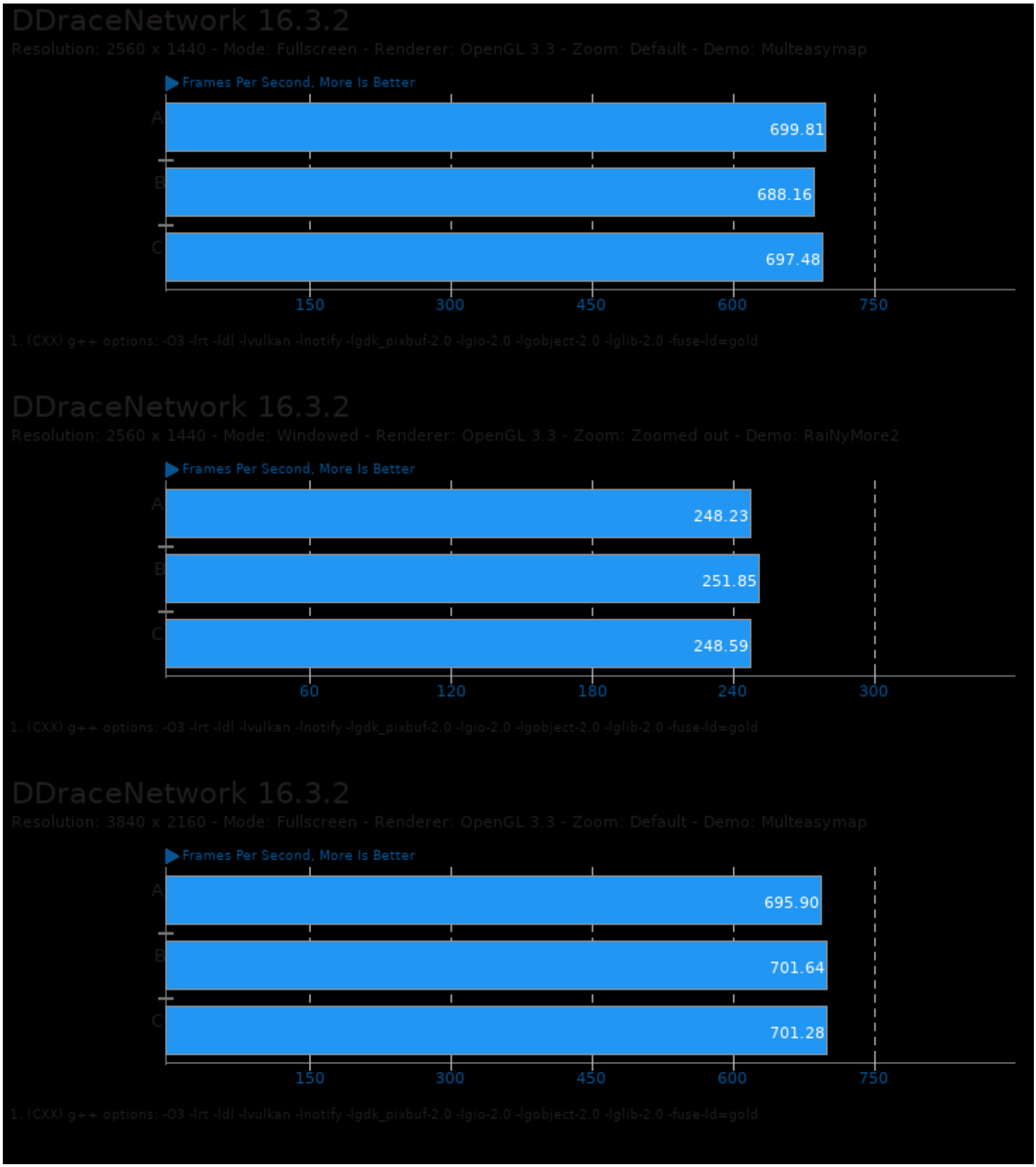
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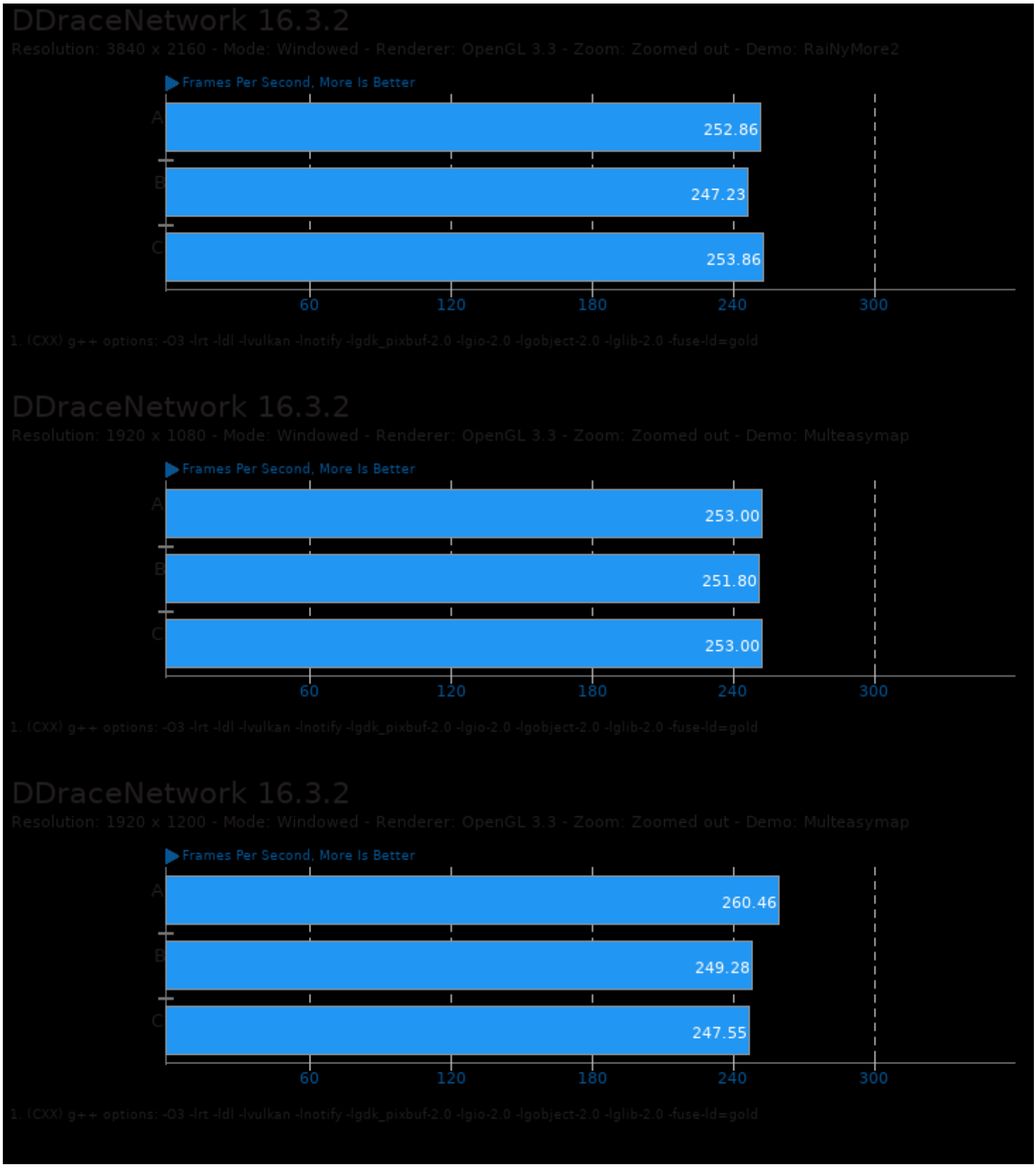
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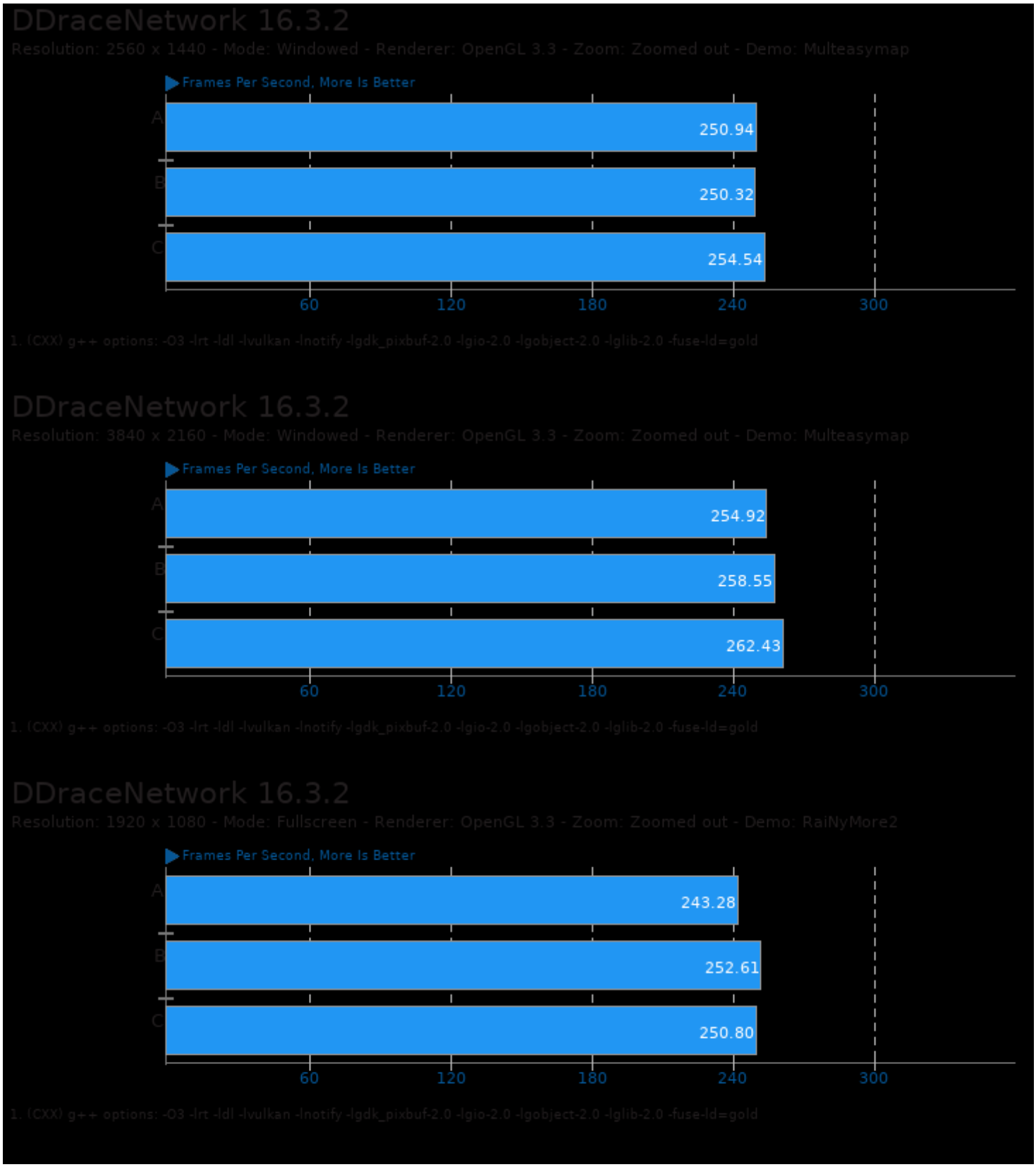
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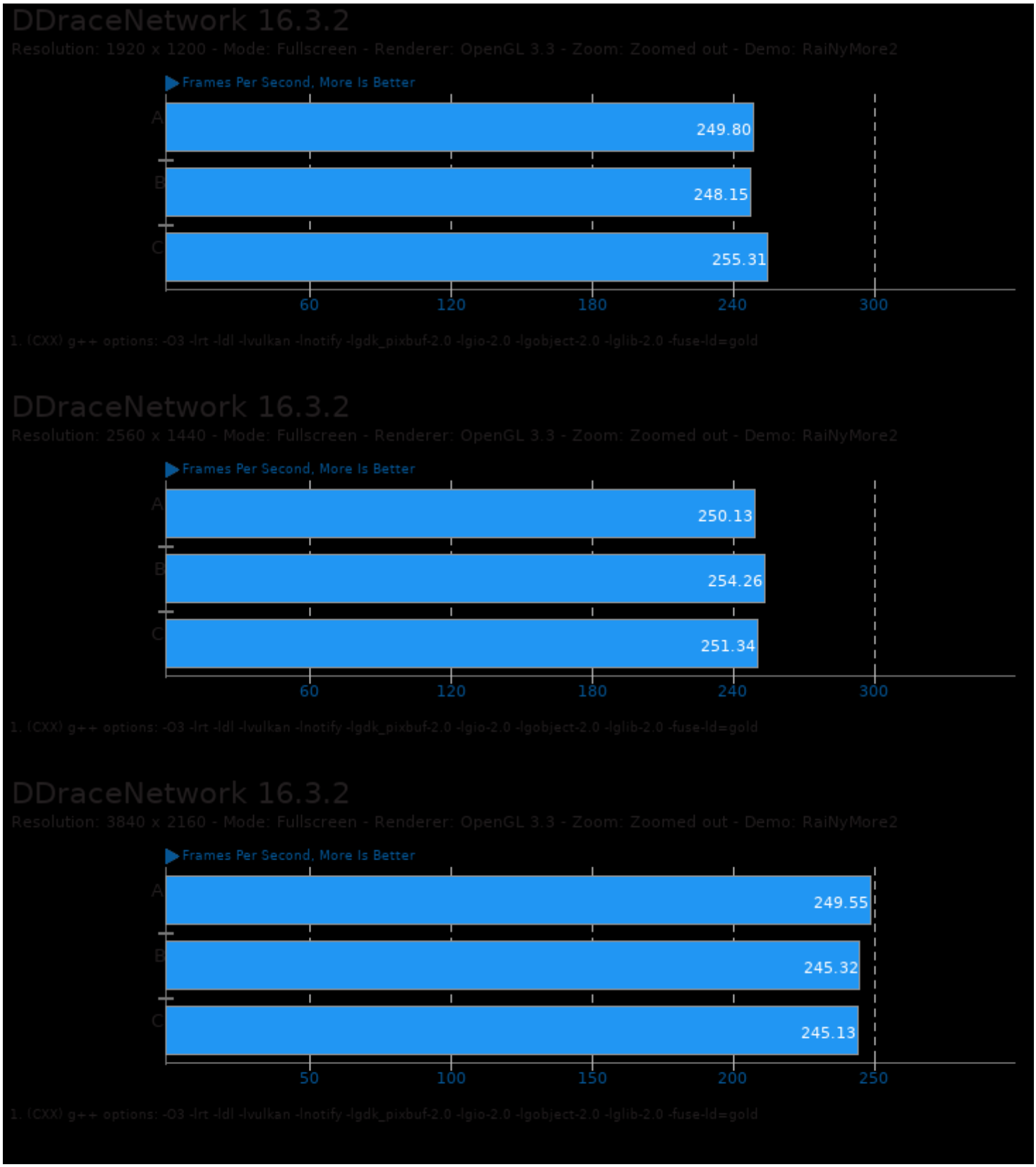
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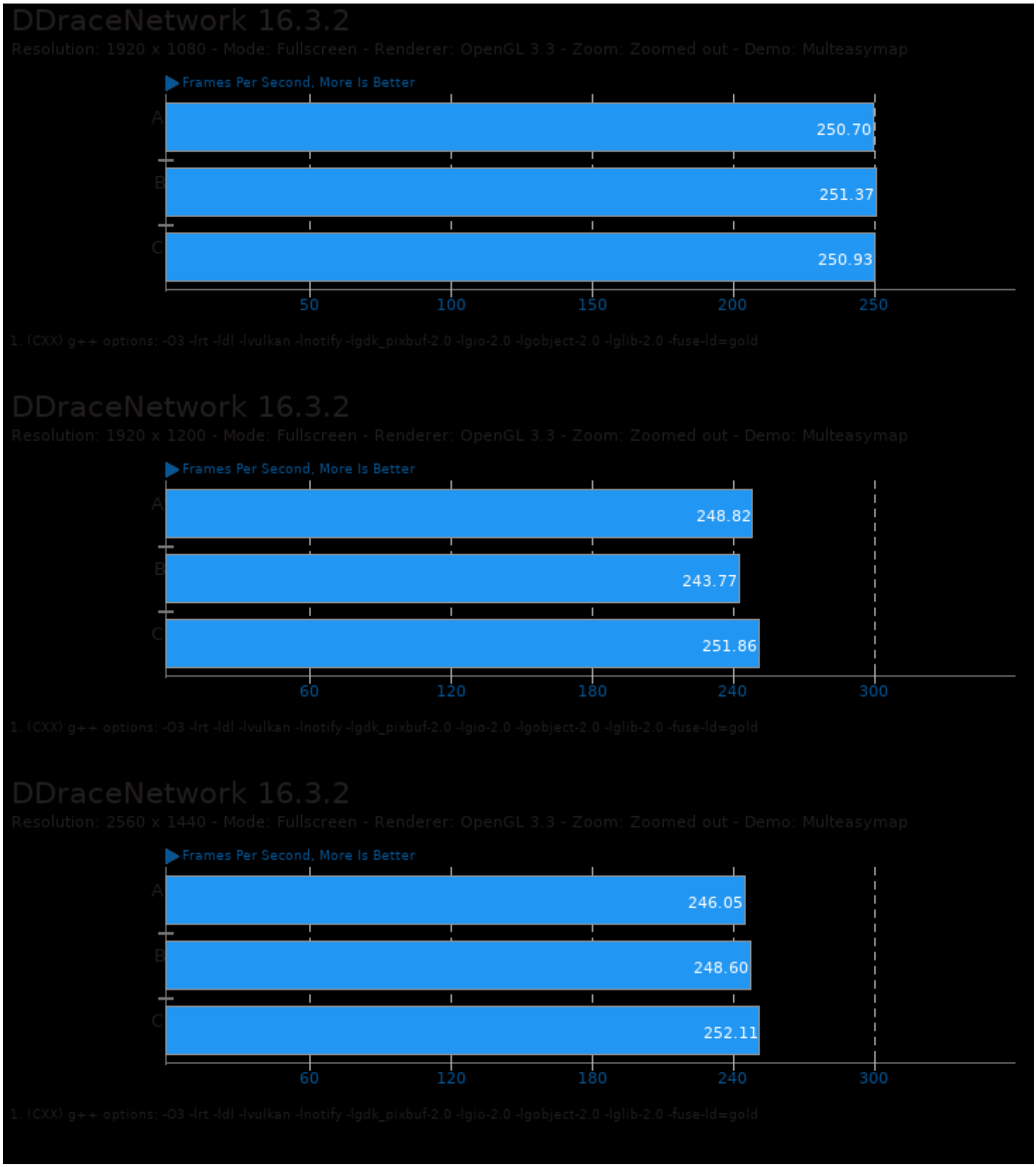
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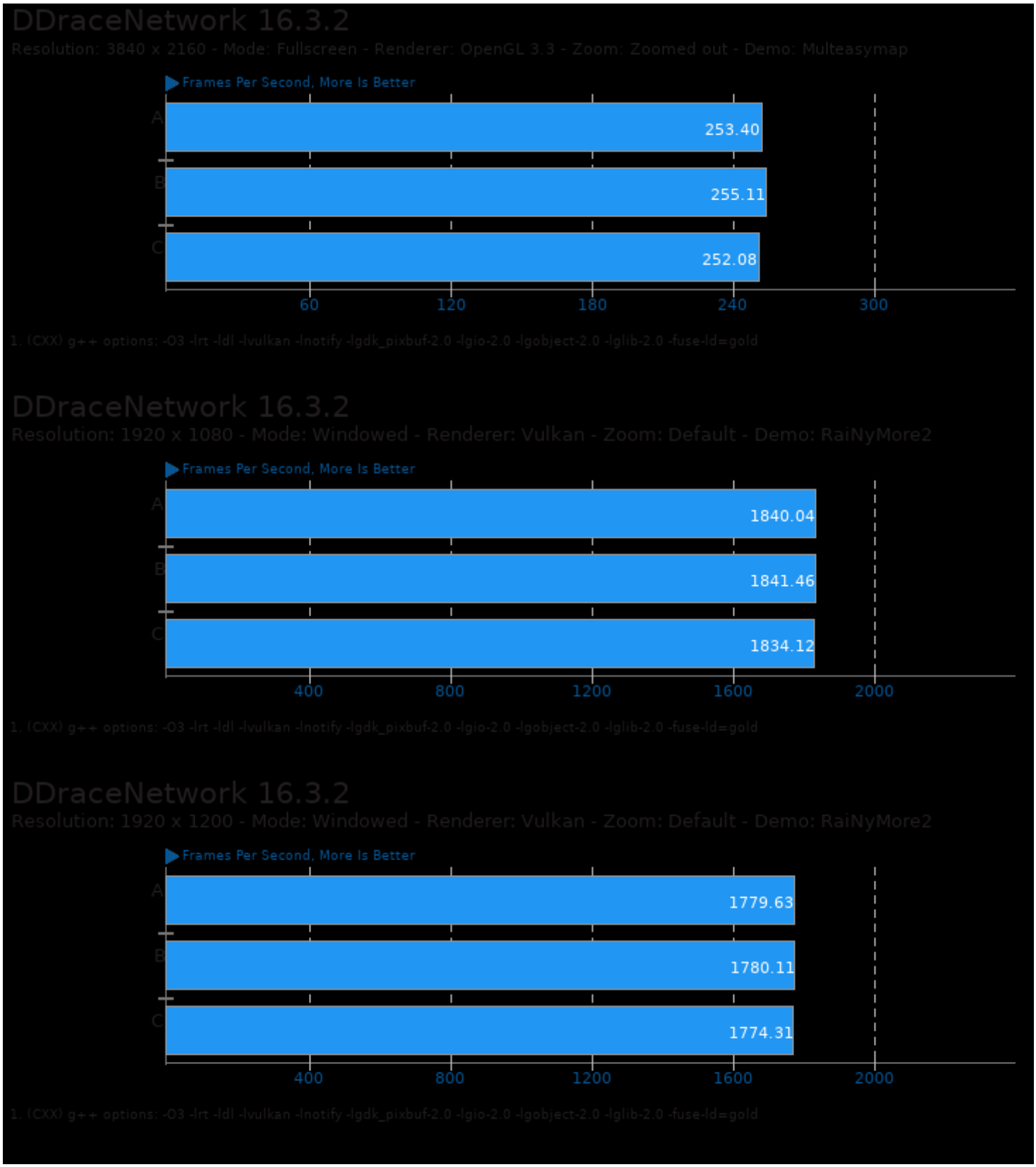
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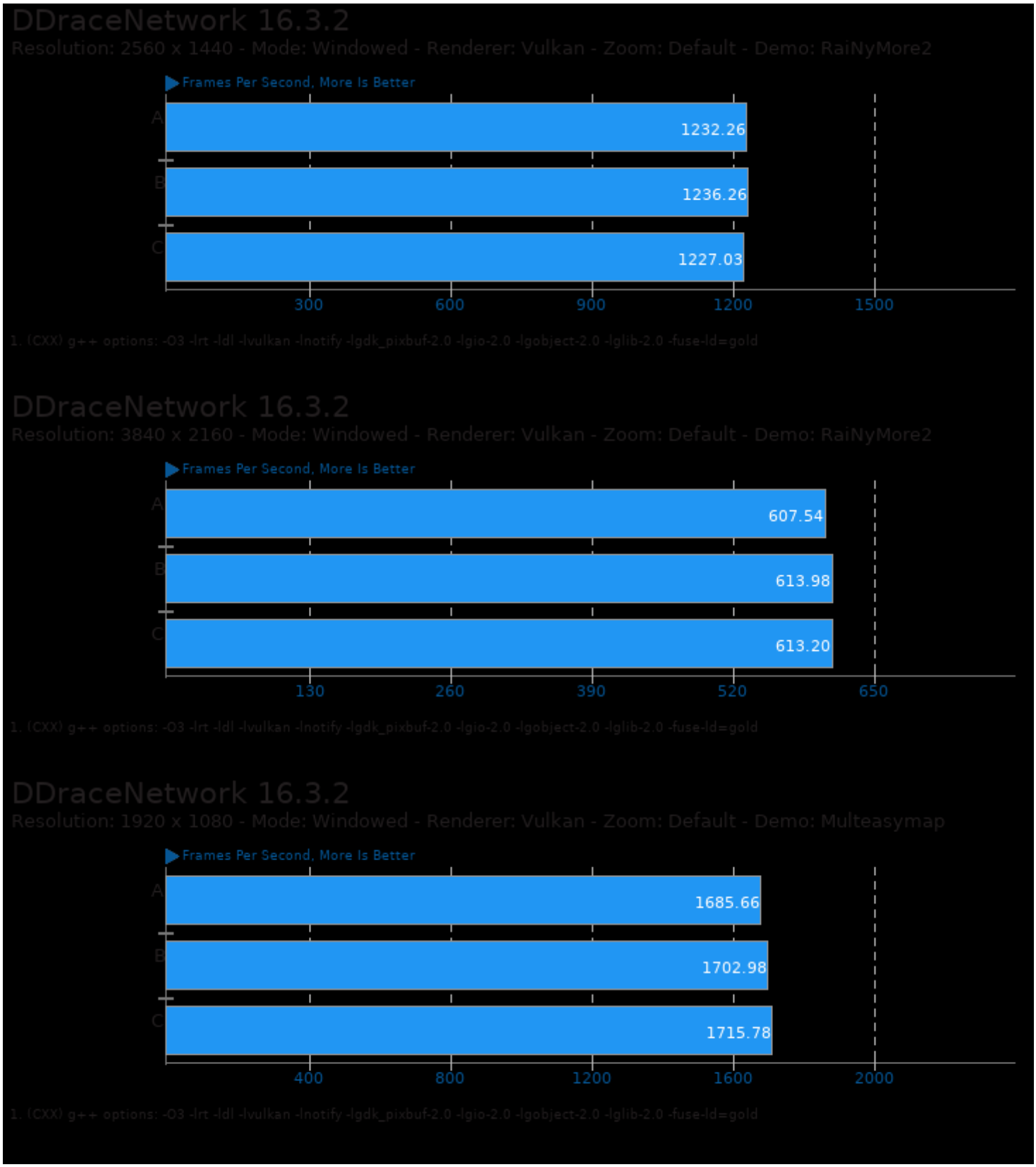
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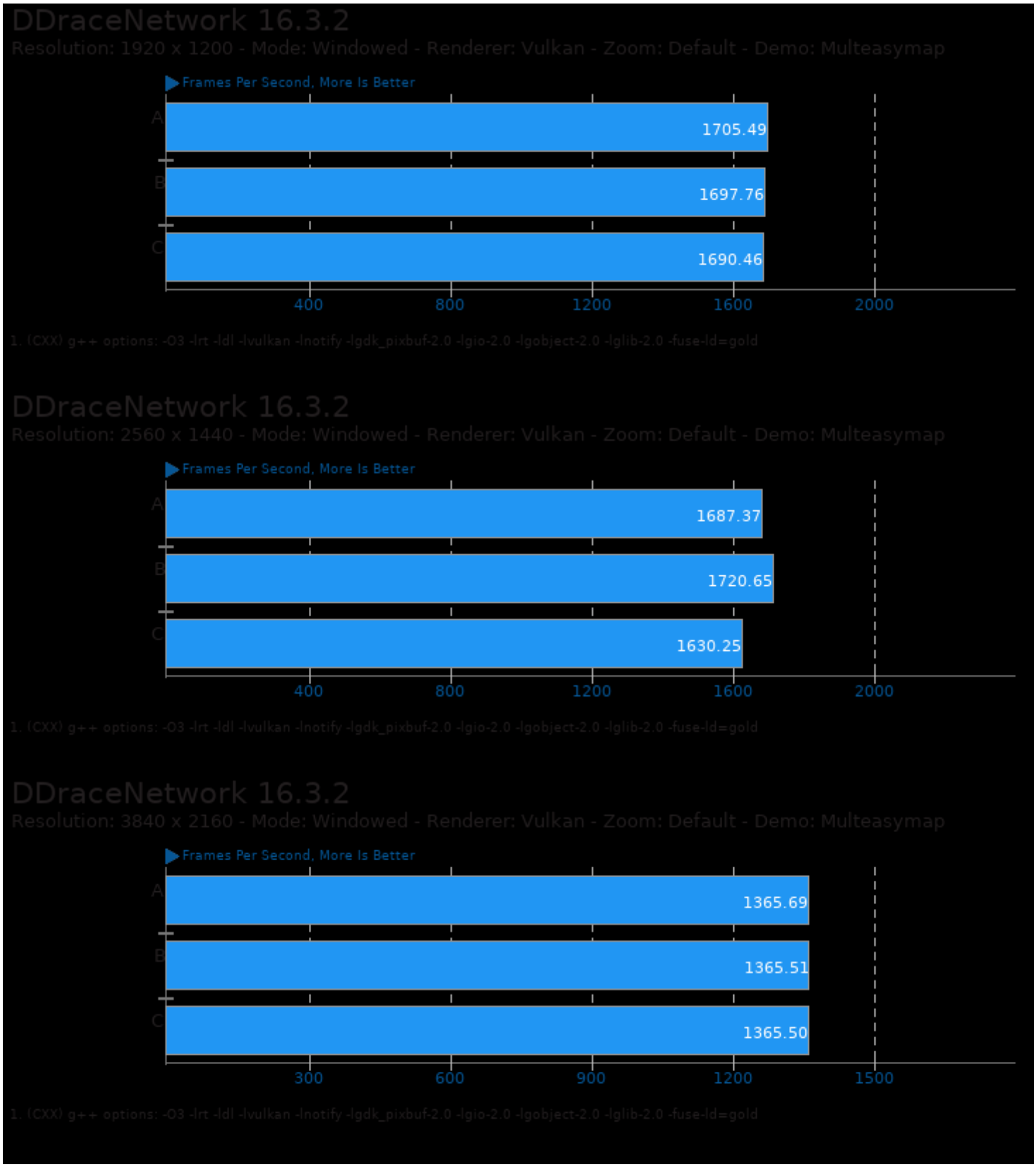
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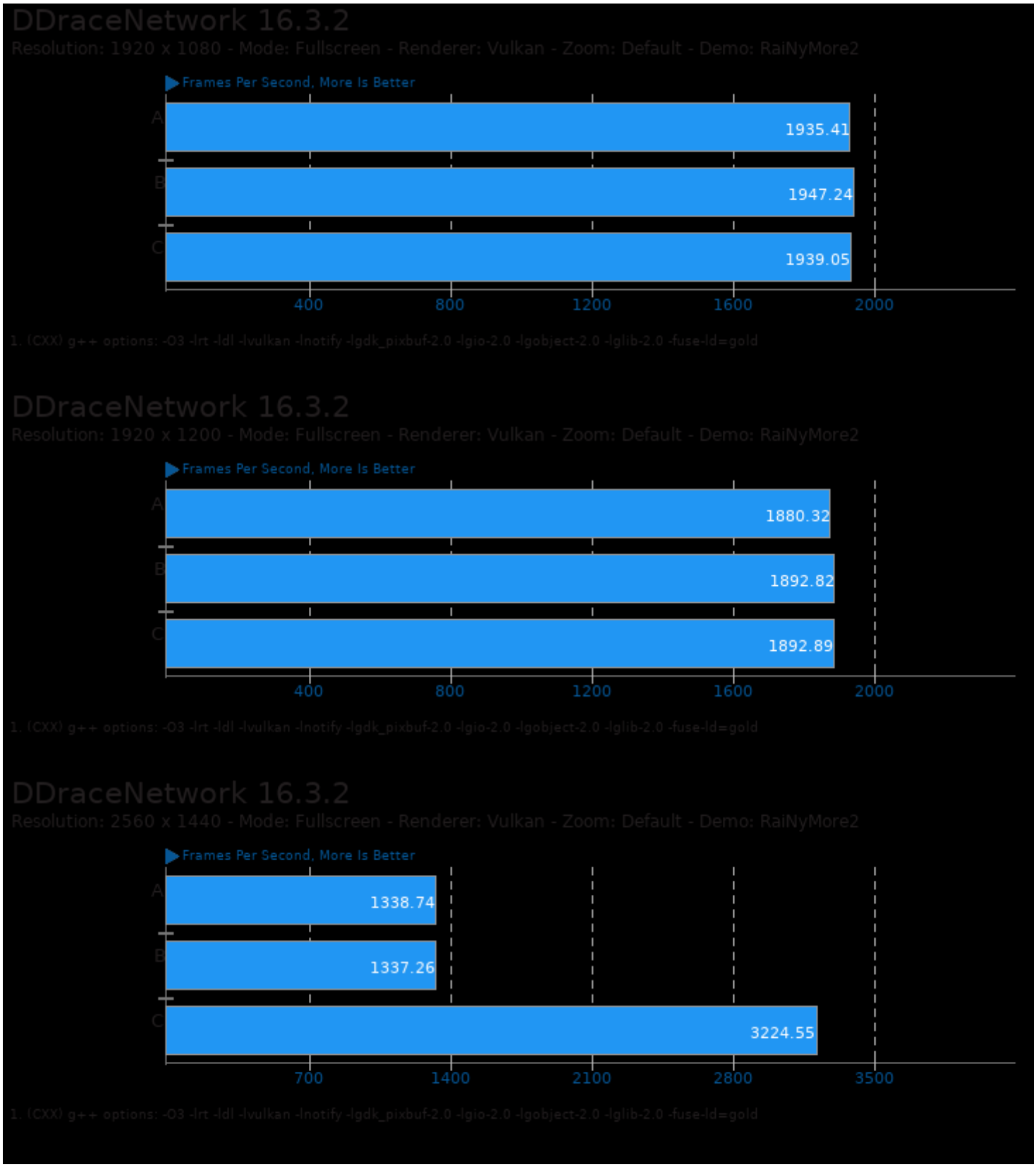
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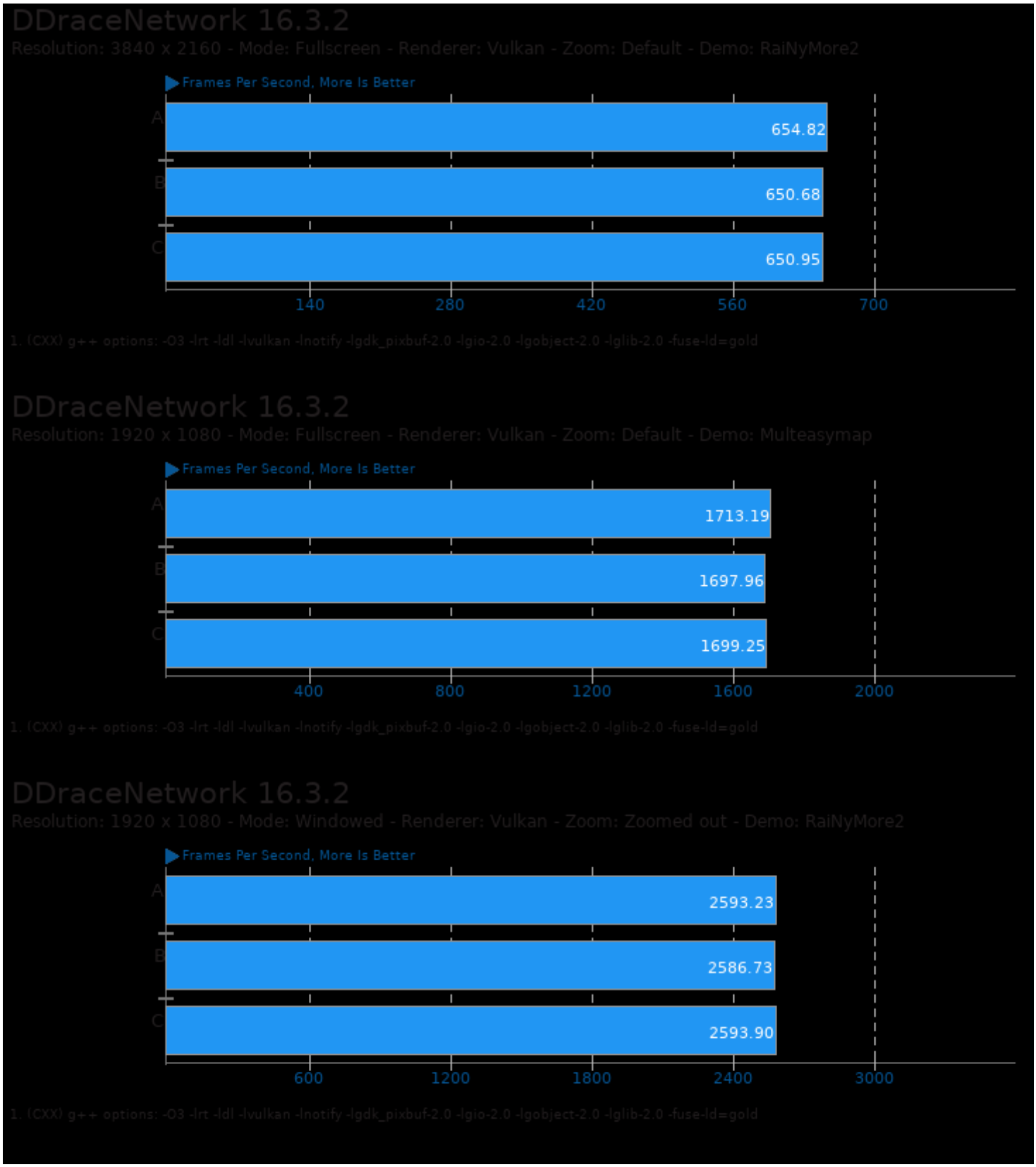
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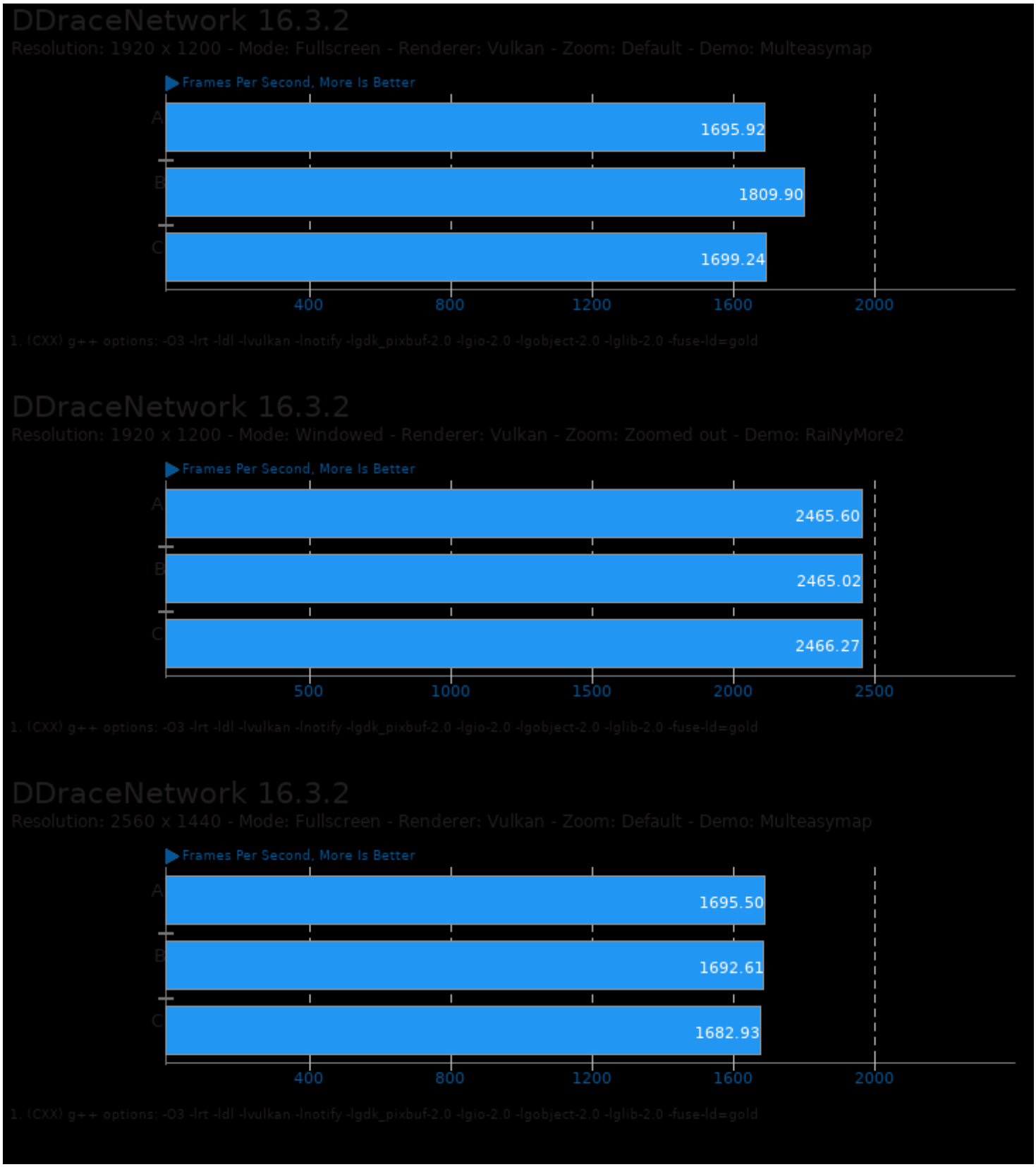
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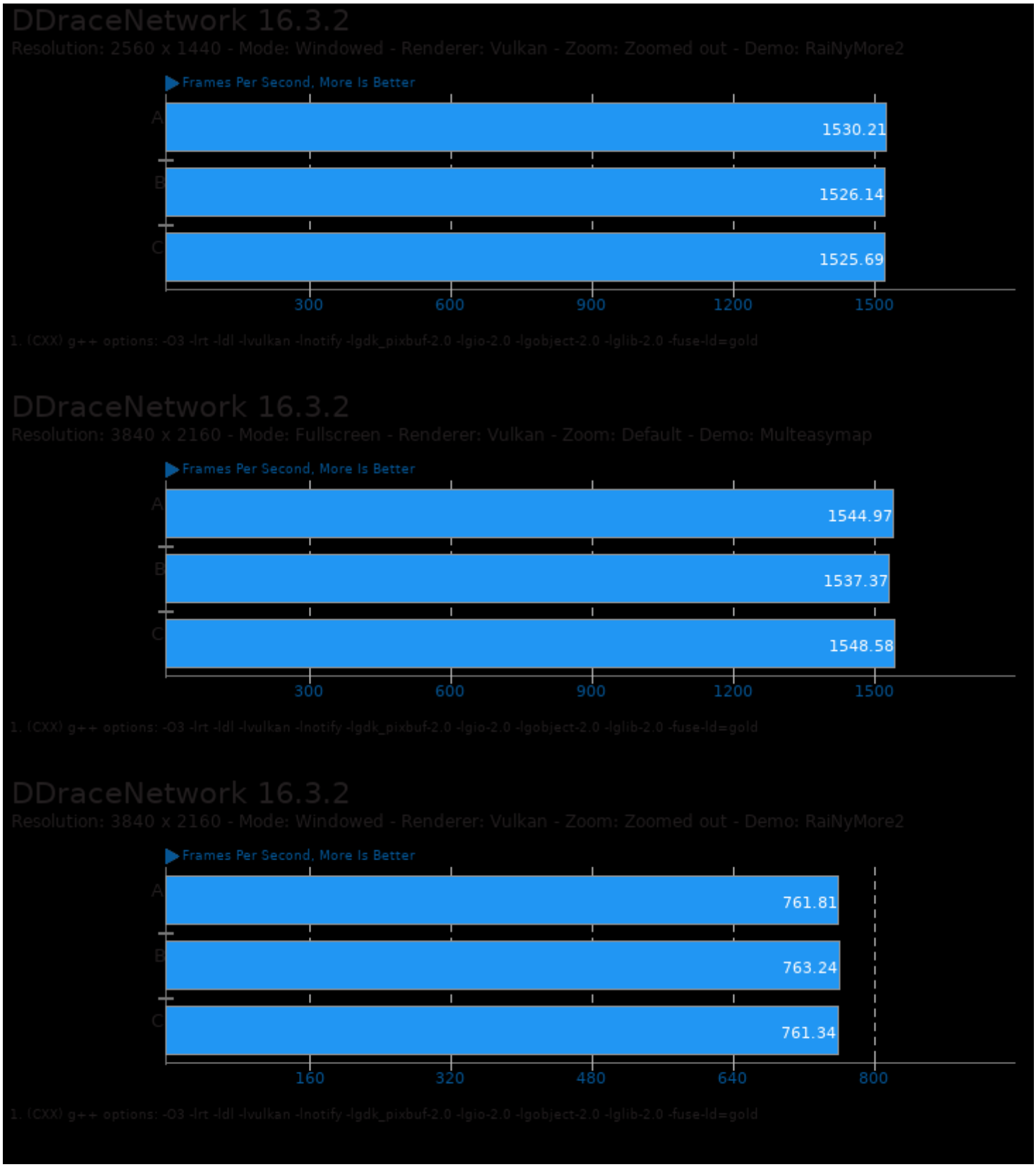
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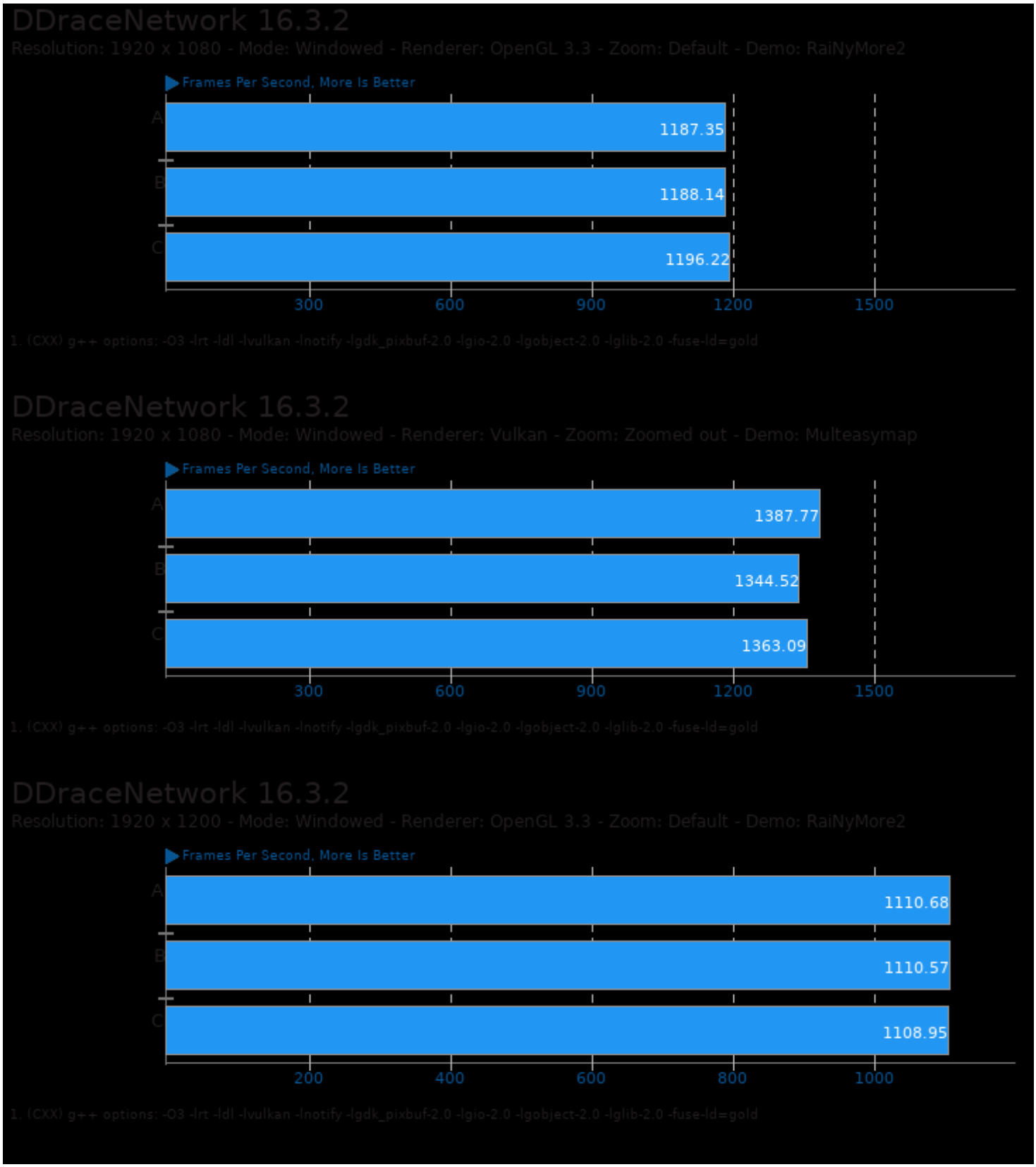
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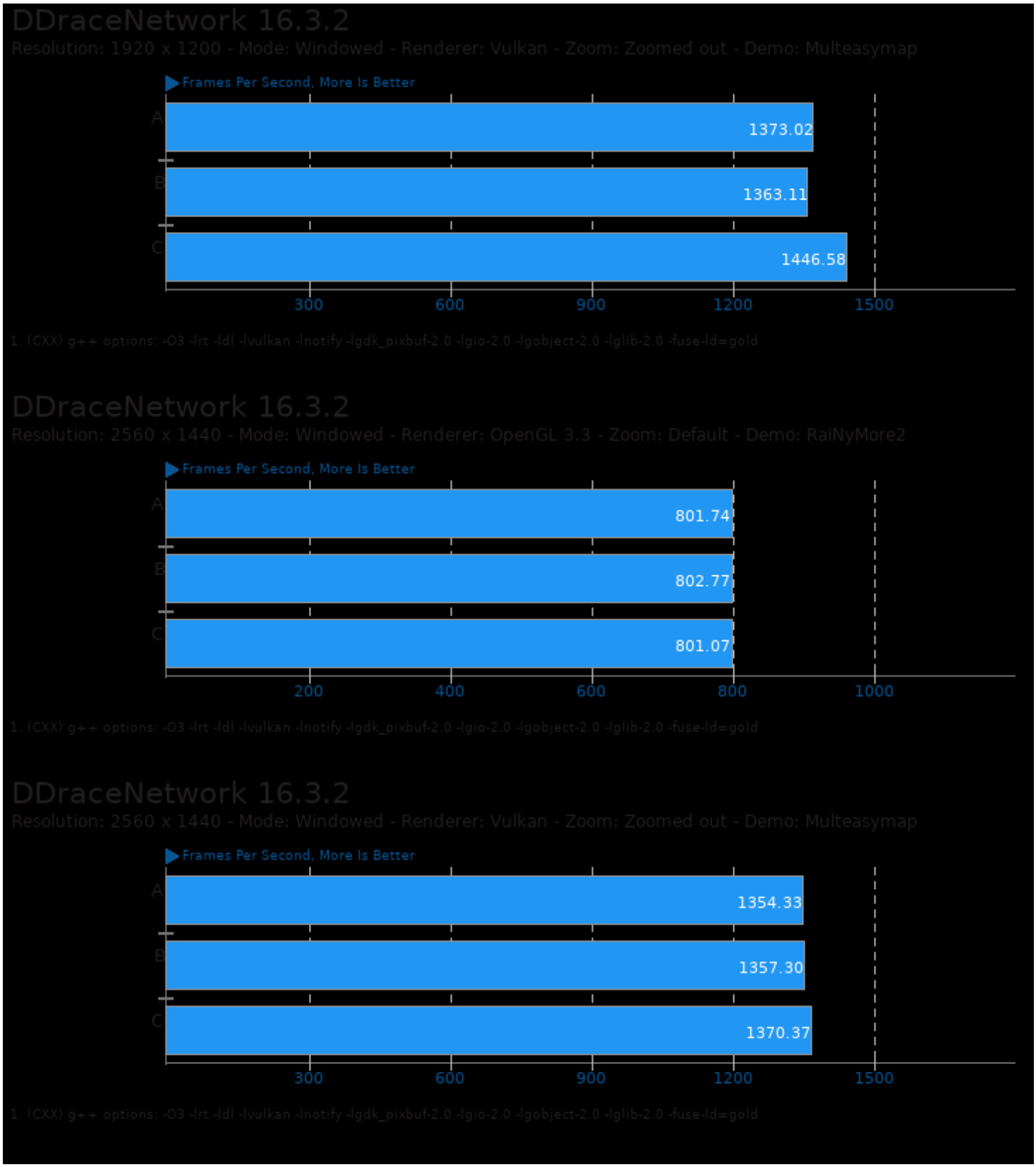
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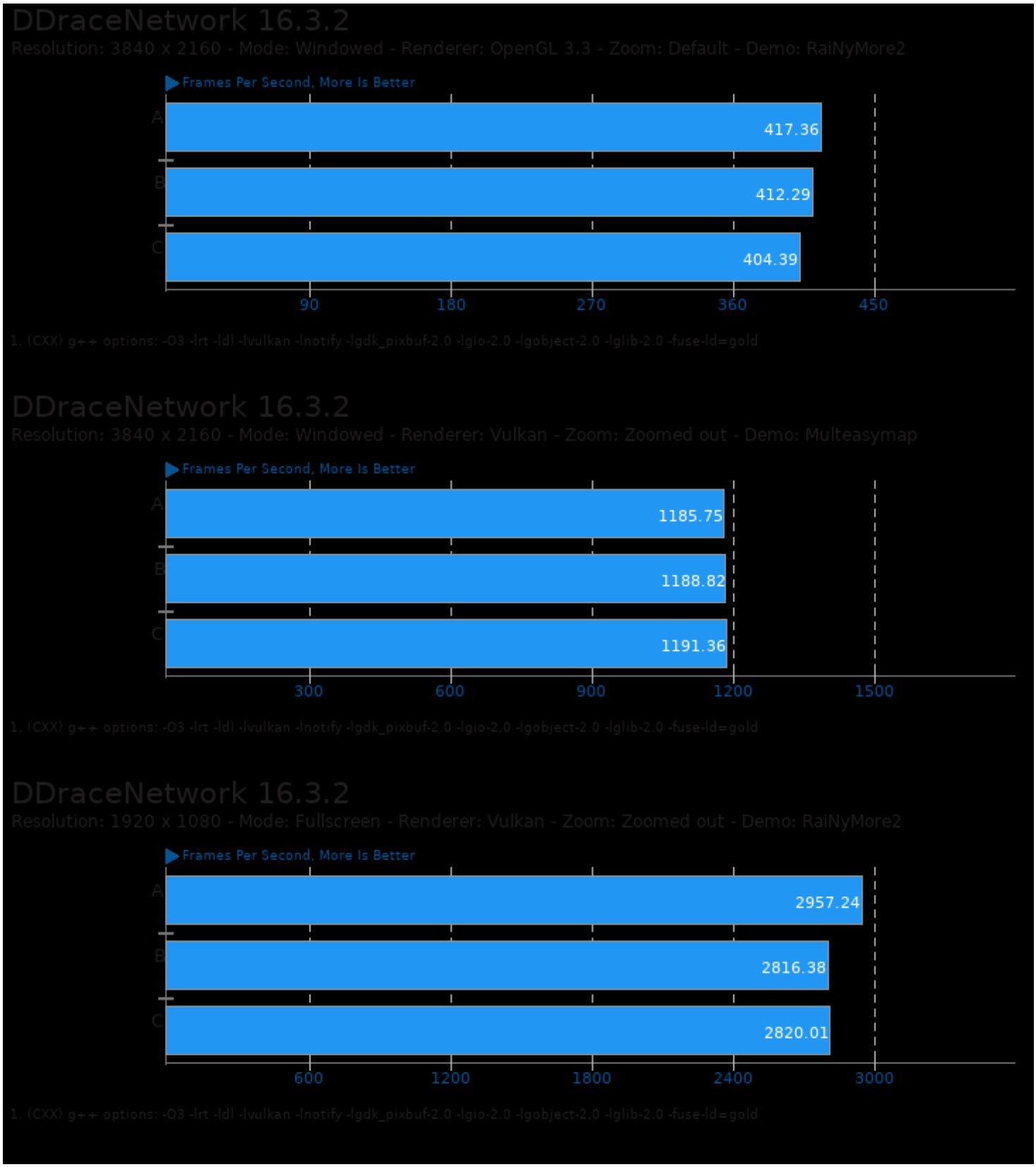
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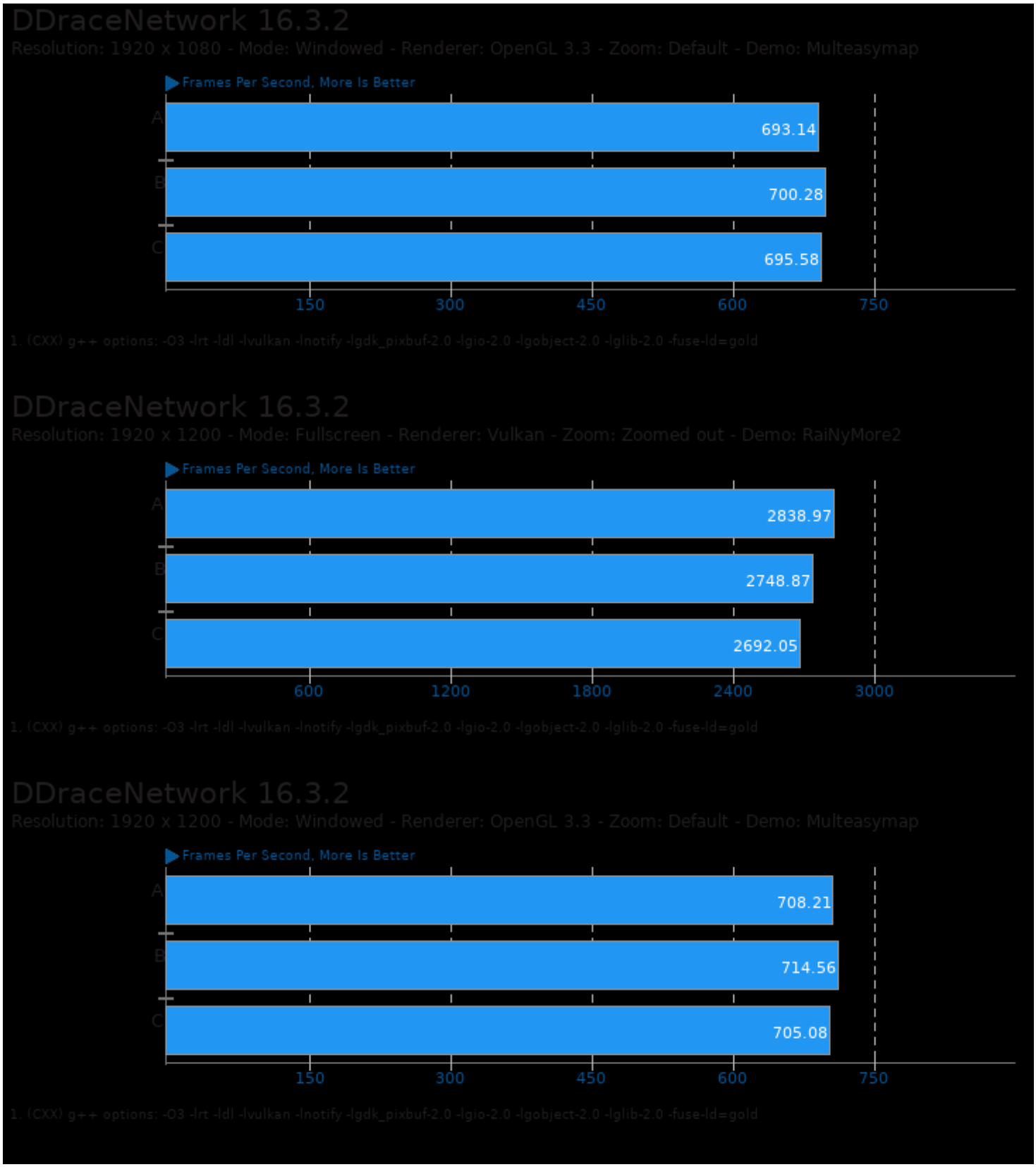
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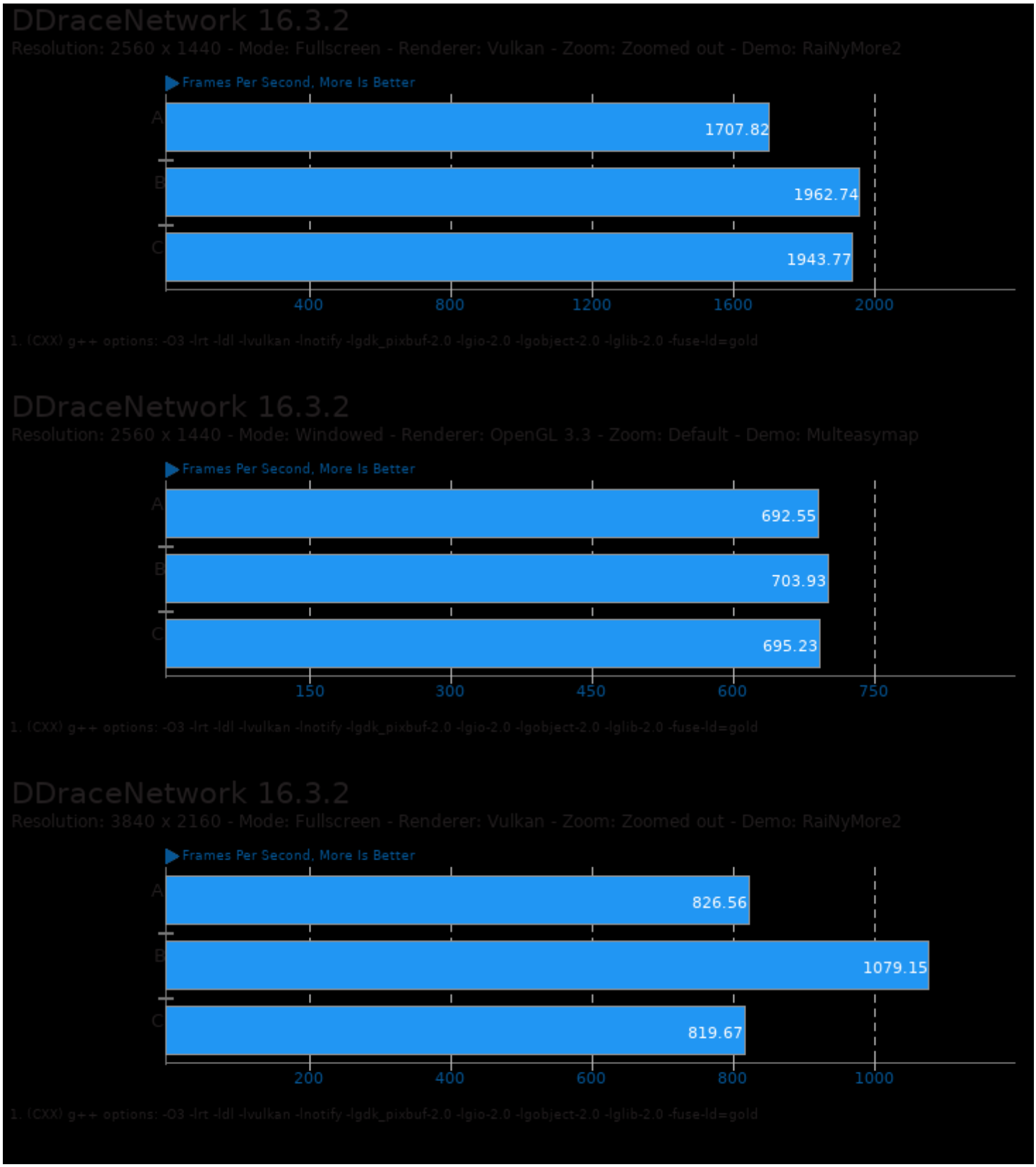
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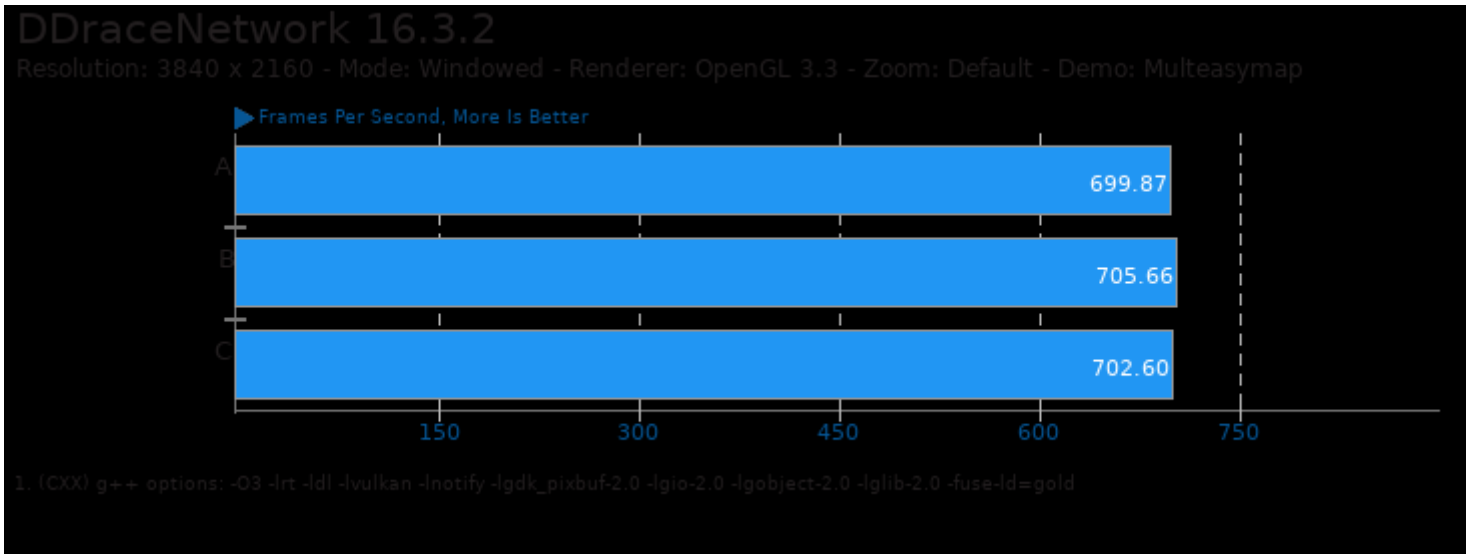
RX 5700 XT DDnet



RX 5700 XT DDnet



RX 5700 XT DDnet



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