



OpenGL/Vulkan Performance Test

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Disclaimer: This is only ONE test!



Test Details

IA 10x10x10 room full of rigid, rotating meshes.

- Mesh complexity: ~800 vertices, ~1400 triangles, 1x1x1 bounds

- Vertex shader: Two mat4 multiplies

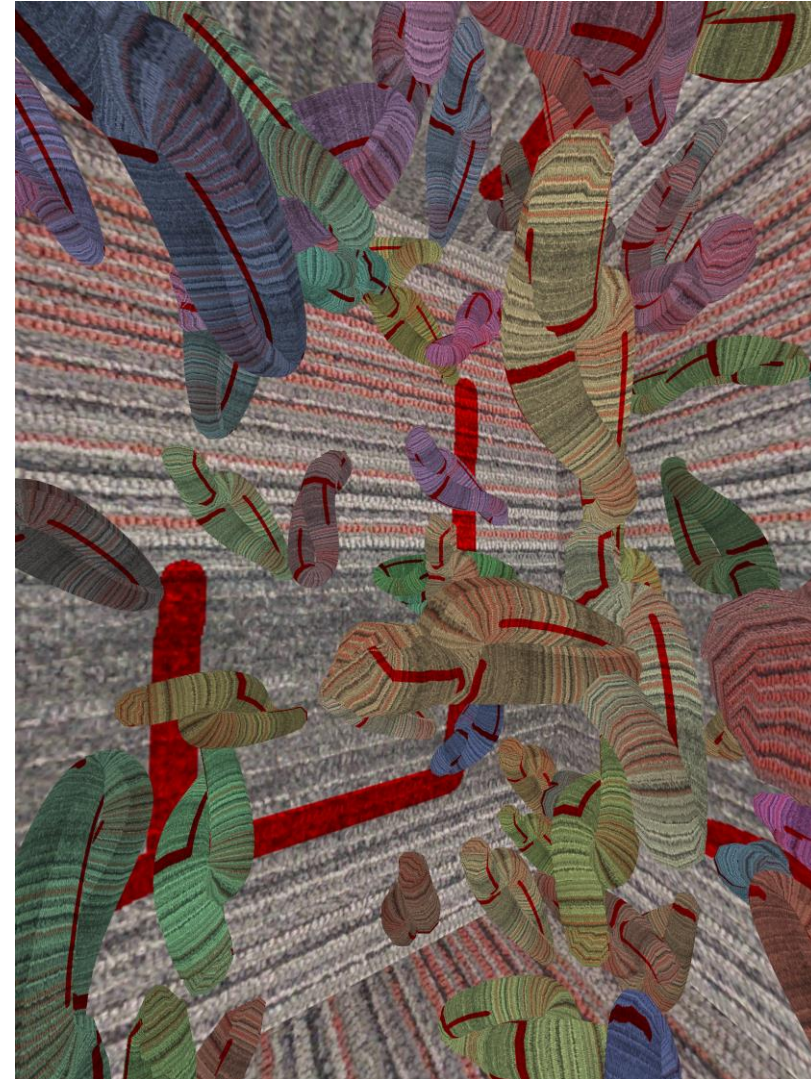
- Fragment shader: Two bilinear fetches from 512x512 textures (ETC2 RGB8 w/mipmaps)

Unique data per mesh (textures, vertex and index buffers, shaders, etc.)

No sorting or frustum culling - draw all meshes in a fixed order every frame (twice - once per eye)

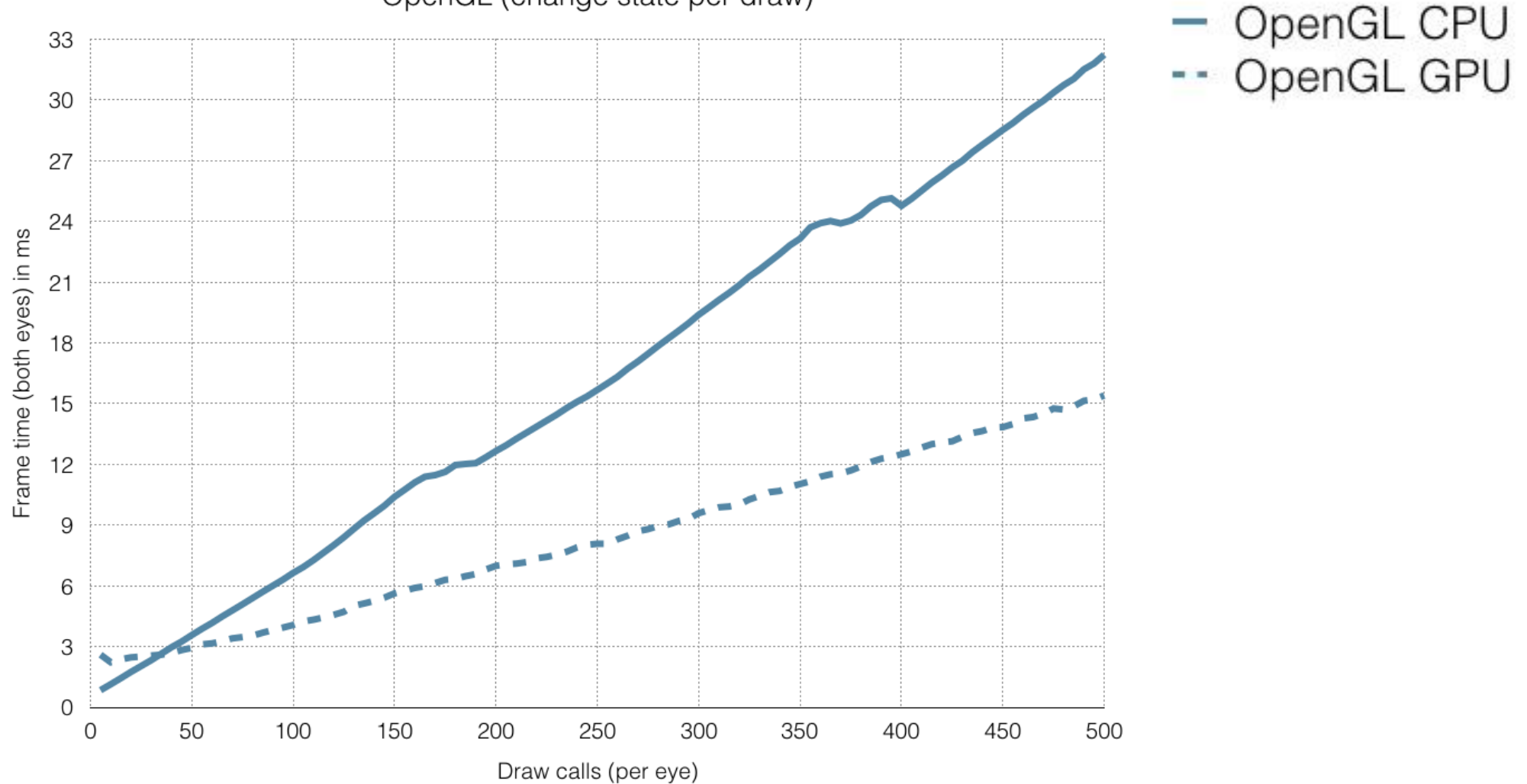
Sweep the per-eye draw count from 5 to 500.

- Average CPU/GPU timings over 60 frames.



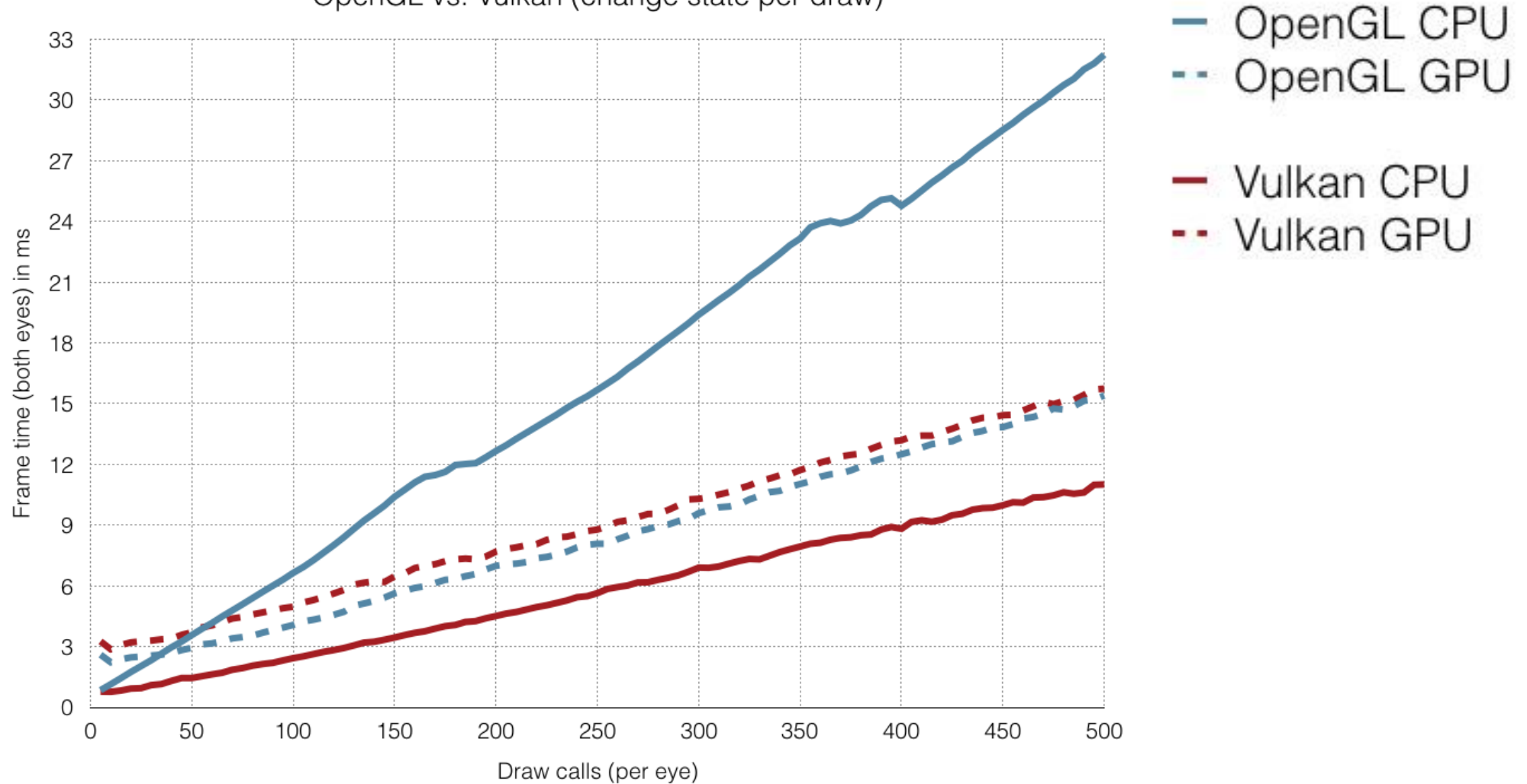
OpenGL Results (State change per-draw)

OpenGL (change state per-draw)



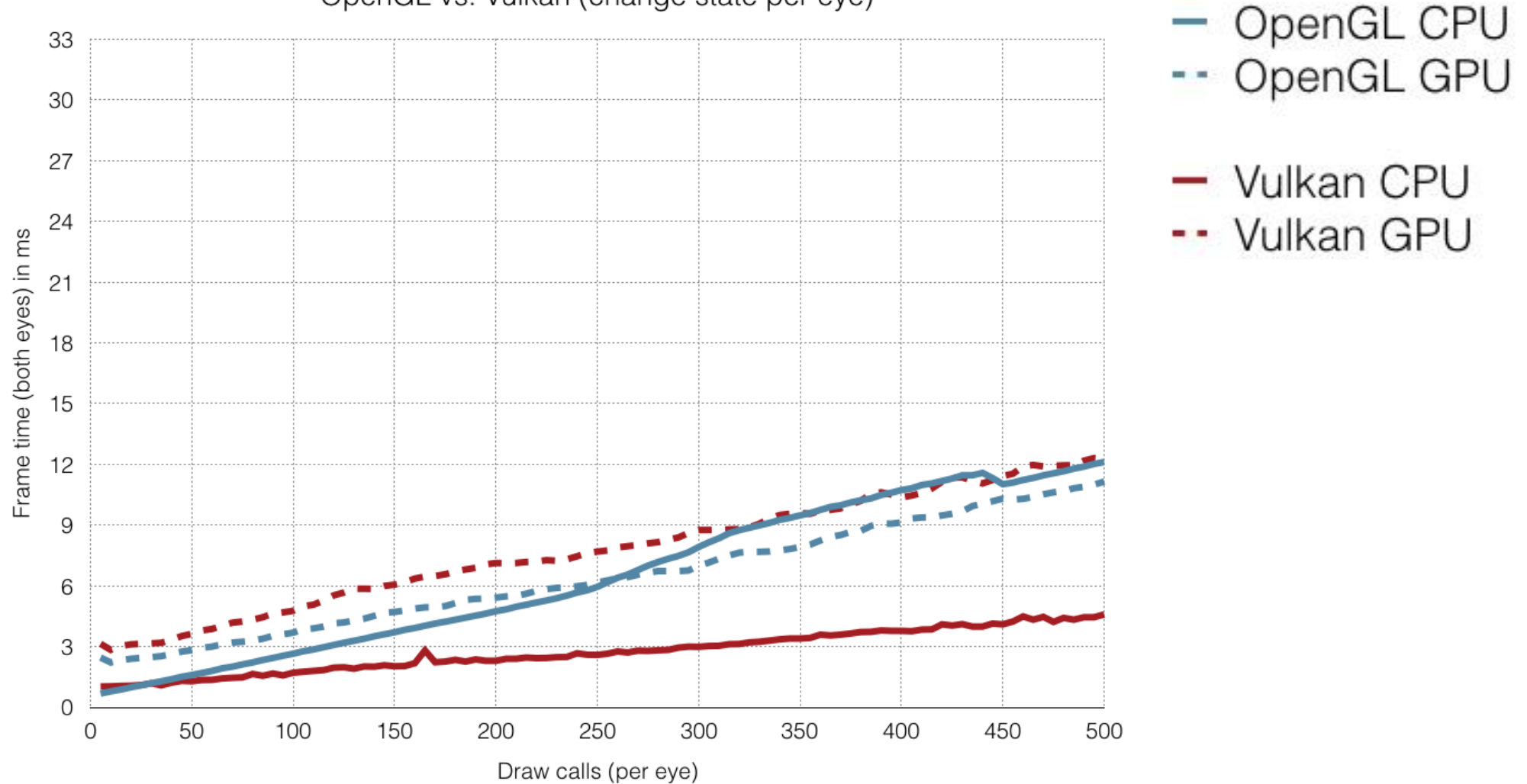
OpenGL + VK Results (State change per-draw)

OpenGL vs. Vulkan (change state per-draw)



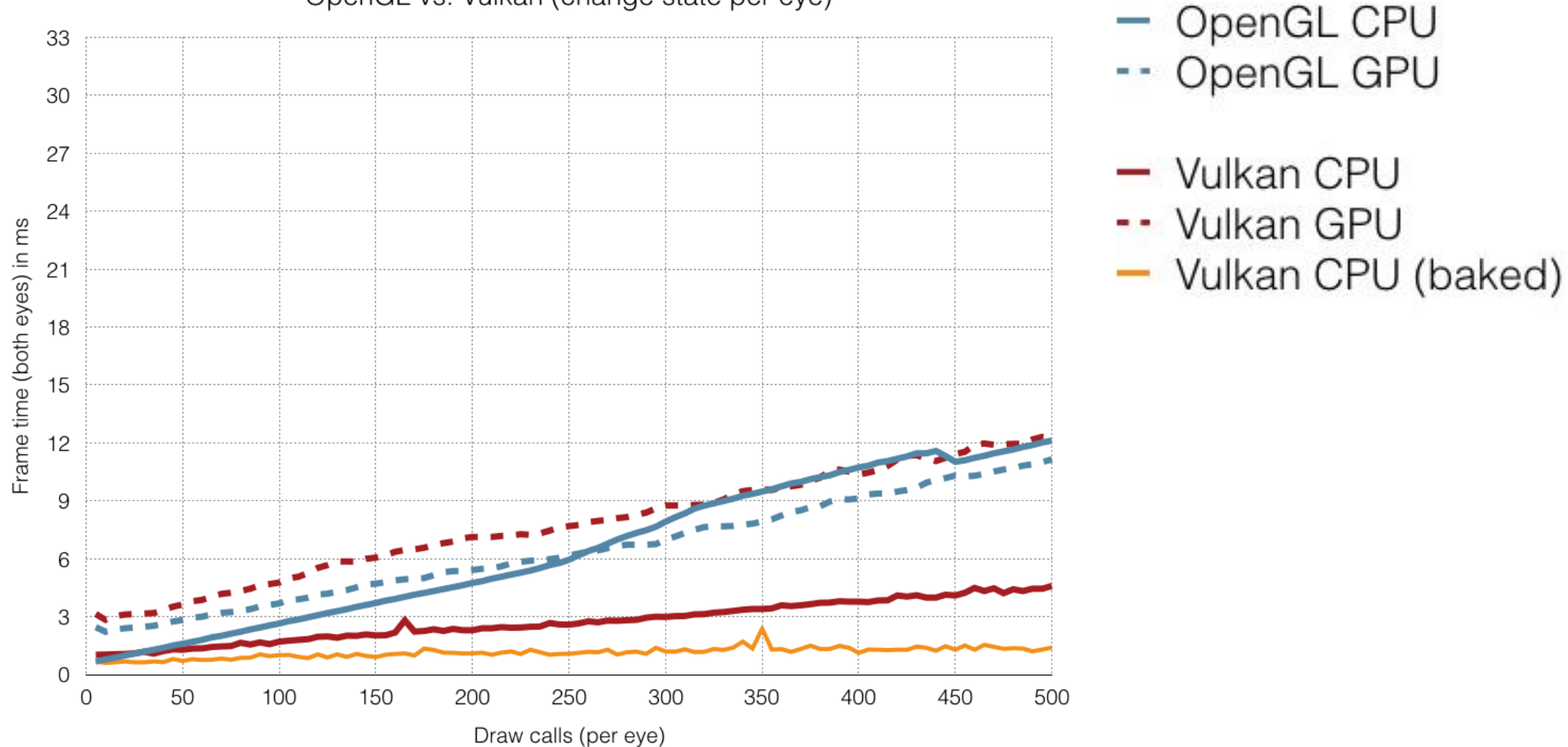
OpenGL + VK Results (State change per-eye)

OpenGL vs. Vulkan (change state per-eye)



OpenGL + VK Results (State change per-eye)

OpenGL vs. Vulkan (change state per-eye)



In Conclusion

