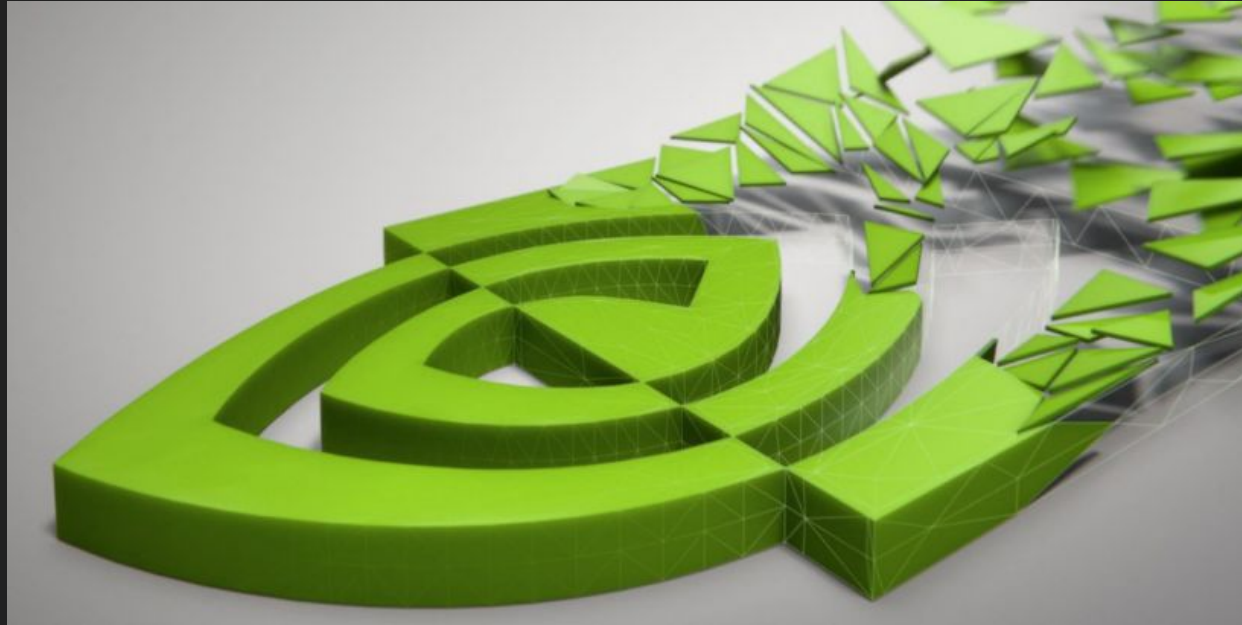


# Jacobi using the GPU

By: Michael Plekan

# Figuring out which Library to use

- OpenGL
- CUDA
- OpenMP



# Benefits of OpenMP

- Simple coding
- Not much boilerplate code
- Can parallelize both GPU and CPU tasks

# Troubles/ Fixes tried

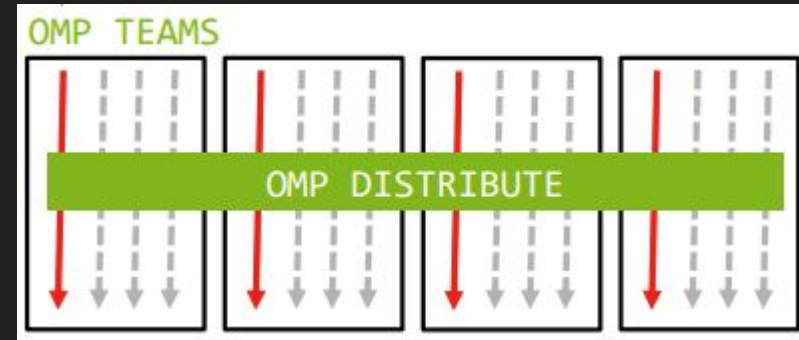
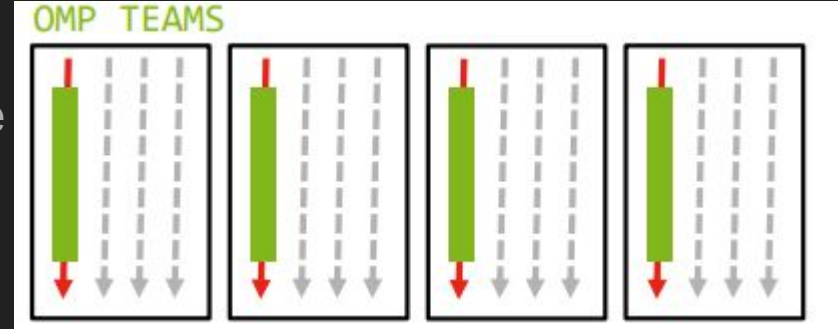
- Wouldn't run on GPU, but instead on CPU
- Didn't Compile with target pointer in command line
- Tried NVCC and MingW64
- Tried WSL
- Tried PSC GPU node

# Why is the GPU used?

- Really good at lots of simple tasks
- Has possibility to increase parallelism to a higher level
- Already used in AI, Science, Games, and Engineering.

# What I learned?

- Threads are split into thread blocks
- Use Teams directive to get more than one
- Using only Teams causes an issue
- A lot of redundant computing
- Use Distribute to split this up



# Bibliography

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