Computational fluid dynamics (CFD) is a field of engineering that can numerically simulate fluid flow for a number of different applications from aircraft flight to industrial heat exchangers. However, as these applications become more detailed and complicated the computational power and time required to solve these systems increases significantly. One possible solution to these challenges is to perform serial mathematical operations in parallel using graphic processing units (GPUs).

Typical CFD systems use a tri-diagonal matrix and the Thomas Algorithm to solve massive linear systems.