

Design Goals

For users

- Easy to switch to a new EOS model
- Easy to switch to another **Flash Calculation** algorithm
- Easy to add a new IMPES/IMPEC method

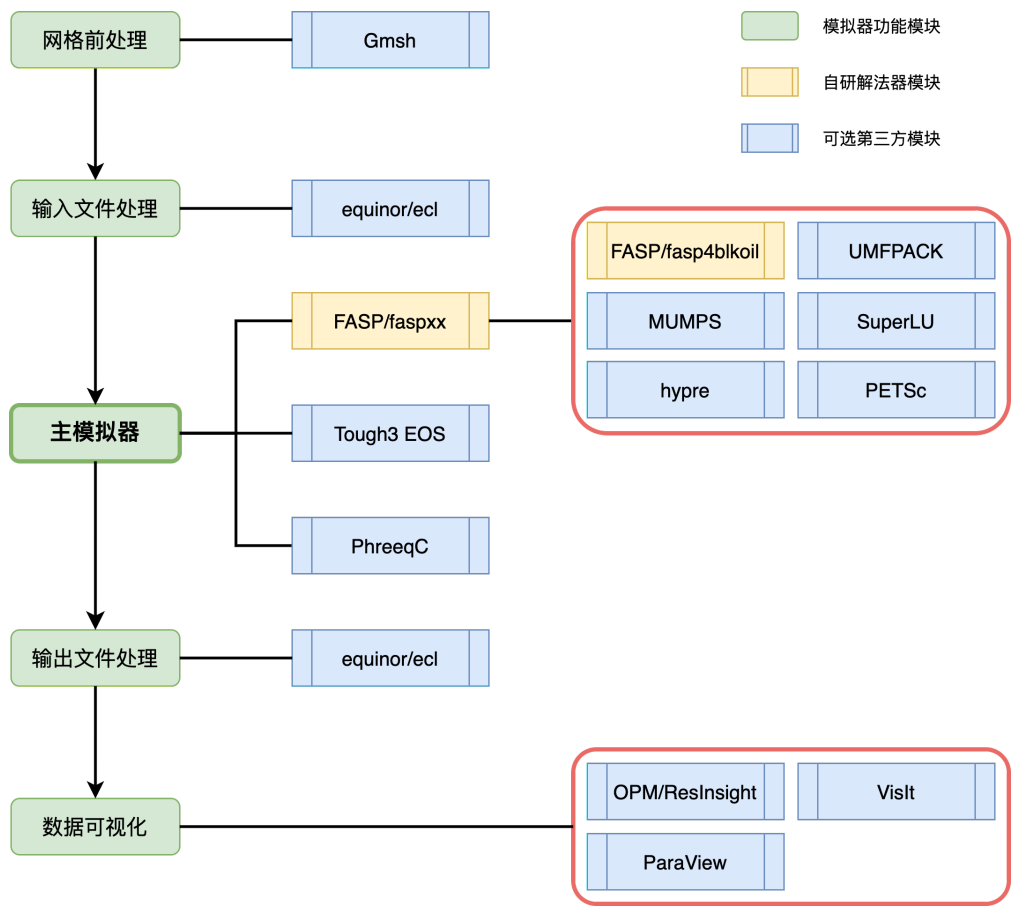
For developers

- Easy to change to a different grid structure
- Easy to add a new spatial discretization
- Easy to add a new temporal discretization

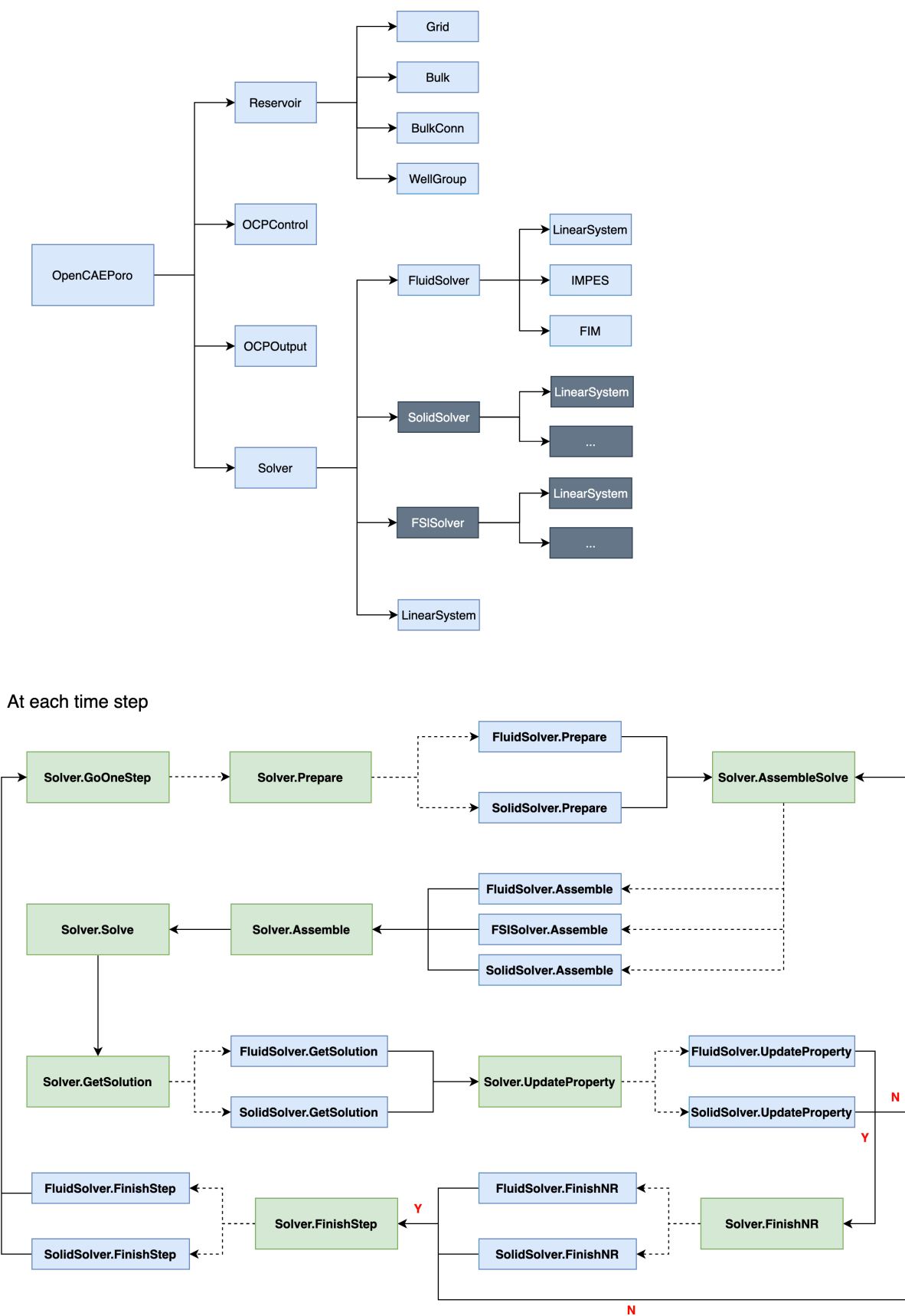
For optimization

- Easy to add a new linear solution method
- Easy to parallelize linear solvers
- Easy to optimize code at certain steps

Overall design



Flow chart



Notes:

(1) If the problem does not involve fluid-structure interaction, for example, only contains the fluid part, then Solver.AssembleSolve will only call the corresponding function in FLSolver (FSolver.AssembleSolve) to accelerate the simulation.

Linear solution methods

