

# Barracuda Virtual Reactor Recent Releases and Development

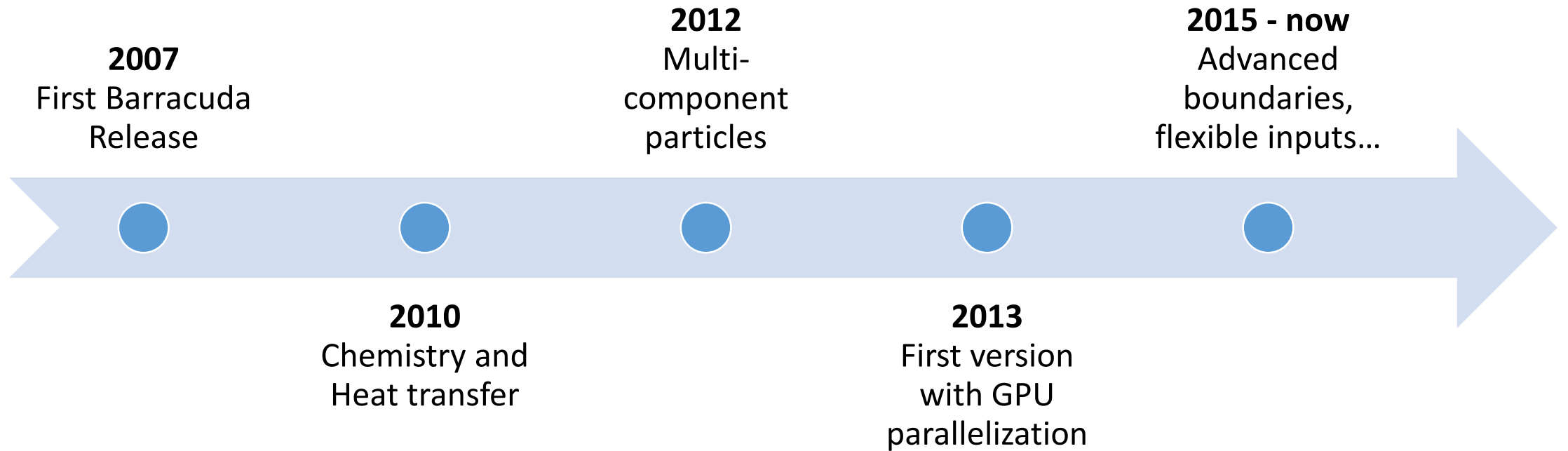
CPFD European User Group Meeting

April 9, 2018

# Barracuda Virtual Reactor Development

- Development goals
- Summaries of recent releases: versions 17.1, 17.2, and 17.3
- Demonstration of version 17.3 features

# The Evolution of Barracuda Virtual Reactor



# Development goal

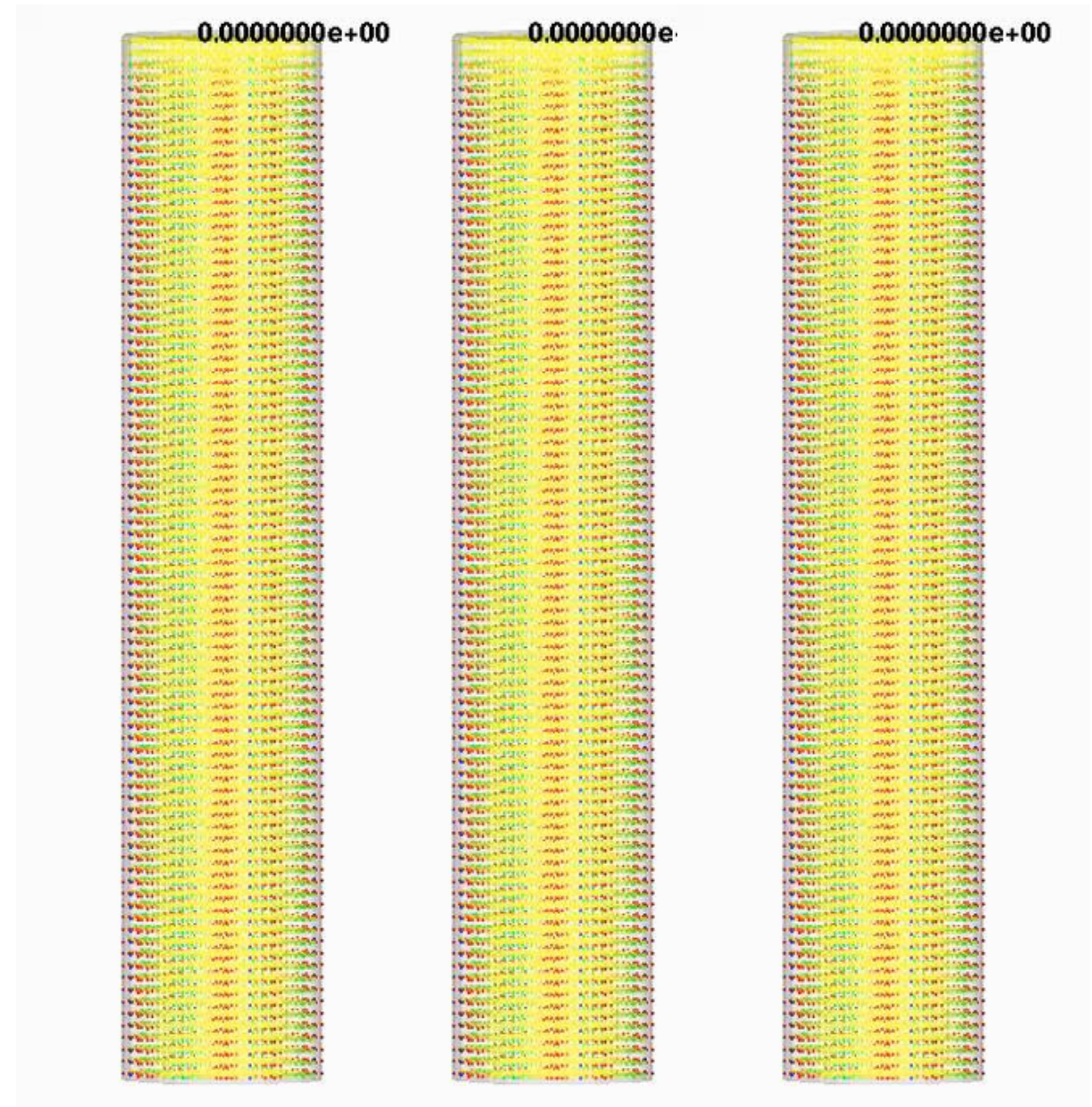
## *Why develop?*

Increase value of Barracuda Virtual Reactor to the customer by reducing the total cost of obtaining a simulation solution

- Reducing user time to setup, modify, and analyze a simulation
- Reducing unnecessary reruns of simulations due to setup mistakes or changes in model conditions (user time, computer time)
- Reducing total computer time to achieve a result

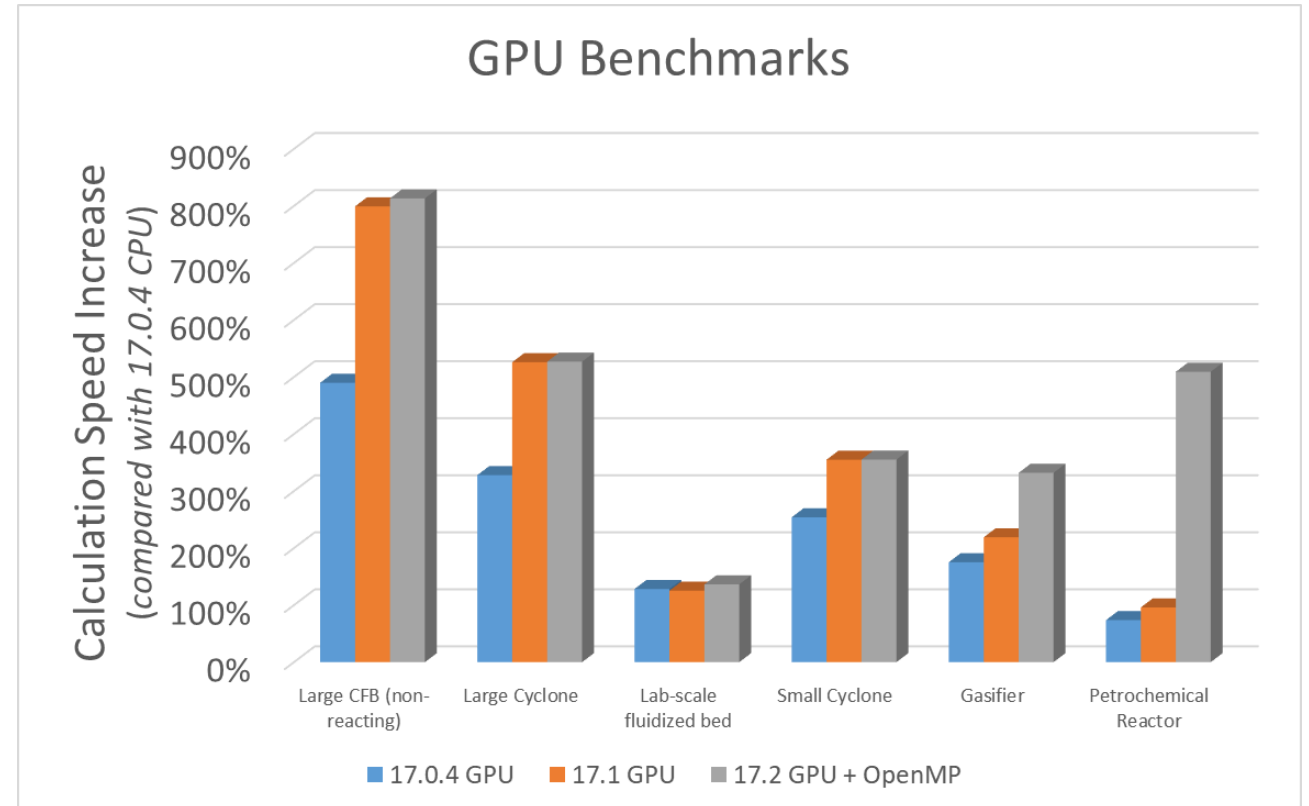
## Version 17.1 (Dec 2016)

- Particle exit boundary
- Adjustable particle feed rates at boundaries
- GPU parallelization of fluid solvers
- Direct links between GUI and user manual



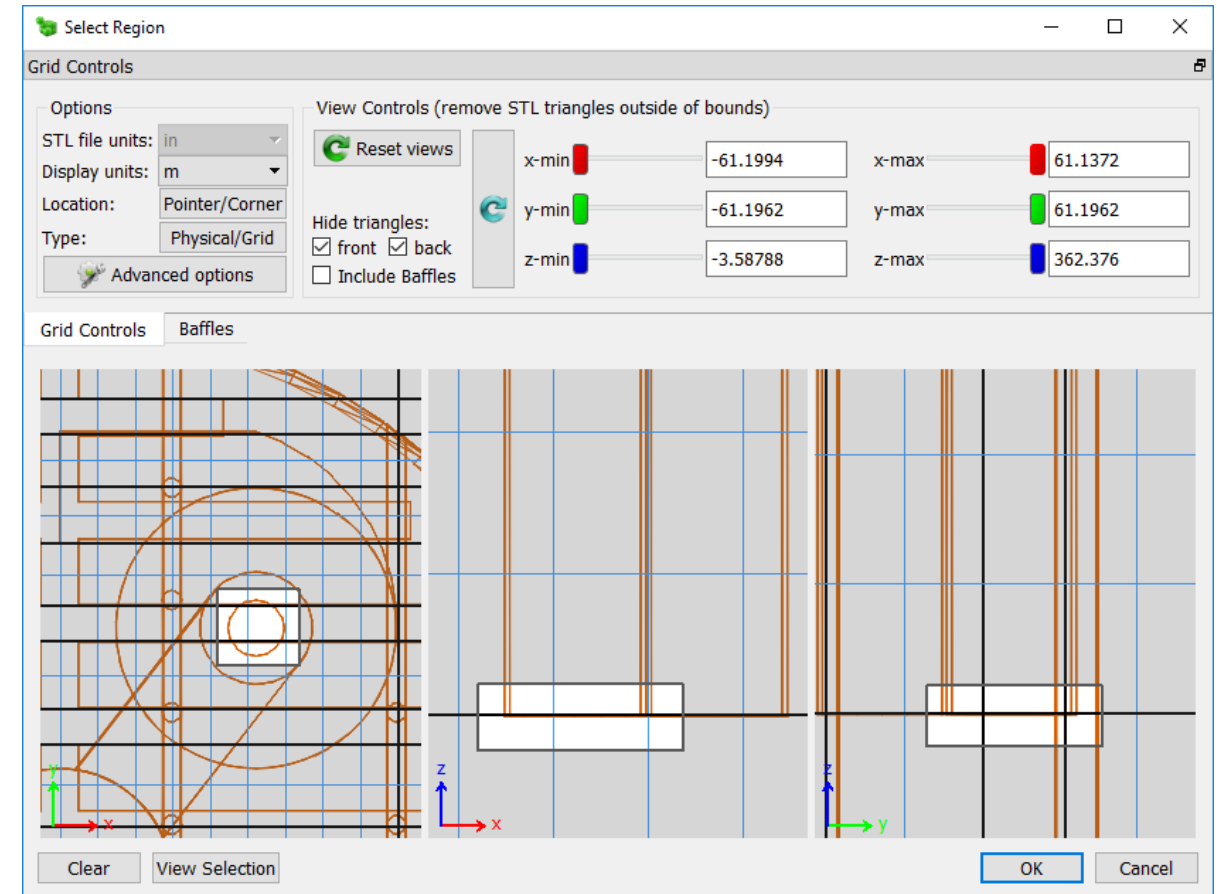
## Version 17.2 (June 2017)

- Chemistry parallelization on CPU
- Heating / cooling loads on BC connectors
- Particle filters on BC connectors
- Particle feed algorithm improvements
- License usage tracking



## Version 17.3 (March 2018)

- Graphically select BCs and ICs in physical coordinates (grid independent)
- Initialize new simulations from the IC file of a previous simulation
- Specify particle initial conditions by mass
- Material property bounds and look up table
- Particle feed warnings



# Demonstration of Version 17.3