Barracuda Virtual Reactor: Product, Training, and Support Updates

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Outline

Barracuda Virtual Reactor releases since 2019 Users’ Conference

Announcing CPFD’s Academic Starter Program

Updates to the Barracuda Virtual Reactor New User Training Course

What’s new from CPFD’s support team
Virtual Reactor Releases: 2020 – 2022

Releases are named by year
• 20, 21, 22, etc.

Two major releases per year
• xx.0 in April/May
• xx.1 in October/November
Each major release of Virtual Reactor includes a Release Guide chapter in the User Manual

- Help → Barracuda User Manual

Release Guides include:

- Full list of important changes in the release
- Descriptions of how to use new features
- Links to full documentation in the User Manual
Release Webinars

Release Webinars are presented after each major release
- Overview of what’s new
- Live demos of new features
- Time for Q&A

Past webinars can be accessed on CPFD’s website in the Resources, Webinars/Presentations section
- Getting started with...
Tecplot for Barracuda

Post-processing tool bundled with Barracuda since version 20.0
- Replacement for GMV
- Native support for both Windows and Linux
- Scriptable via macros and Python
- Buttons within the Barracuda GUI launch Tecplot for Barracuda

Tecplot for Barracuda customizations
- “Load Barracuda data” dialog
- Quick Macro Panel items
RLMCloud

Cloud-based license server option available since version 20.0

• No need to configure and maintain your own on-premise license server
• Easily run Barracuda anywhere: on-premise or in the cloud

Supports and enhances additional licensing options

• Metered licenses
• Short-term licenses
RLMCloud Metered Licenses

Supported since release 21.0.1

Flexible use of license tokens
- Solver, chemistry, and GPU tracked independently
- Unlimited concurrent simulations, until the metered time is used up
- Mix-and-match on-premise, RLMCloud floating, and RLMCloud metered licenses

Target use cases:
- Burst capacity for running many simulations in a short period of time
- Running Virtual Reactor on the cloud
Multi-GPU Acceleration

Supported since release 21.0
- Linux only
- Requires 1 GPU token per GPU used

Increase simulation speed by using multiple GPUs for a single simulation
- Compared to CPU serial, running in multi-GPU mode can increase speed by a factor of up to 500
- Larger simulations benefit more from multi-GPU acceleration
New and Improved Physics Models

P-1 Radiation Model (release 20.1)
  • Improved radiative heat transfer between walls, gases, and particles

Thermal Baffles (release 21.1)
  • Enables heat transfer to and from baffles with specified surface temperatures

Liquid Phase Improvements (release 22.0)
  • Supports multiple liquids in the domain of incompressible flow simulations
  • Liquid materials on particles can participate in chemistry

Evaporation Model (release 22.0)
  • Liquid on particles can evaporate and condense in equilibrium with gas phase
Announcing CPFD’s Academic Starter Program

Universities are invited to apply to participate in the Academic Starter Program

- Access the fluid-particle modeling capabilities of Virtual Reactor at no cost
- Enhance courses on fluidization technology with demonstrations and projects using state-of-the-art simulation
- Contact sales@cpfd-software.com to learn more and apply!

Barracuda Virtual Reactor Educational Version

- Full physics capabilities, including chemistry
- Tecplot for Barracuda included
- Maximum simulation size is capped at 100,000 real cells
- GPU acceleration and CPU parallel are not supported
Barracuda Virtual Reactor New User Training

Web-based format

• Directly on CPFD’s website, no travel required!
• Lecture portions are recorded videos
• Join a scheduled class, or go through the material on your own at any time

To join an upcoming class, contact training@cpfd-software.com
CPFD Support Updates

Updated website and support site

• Events calendar
• Resource finder
• Tecplot for Barracuda Training Videos
• Creating CAD for Virtual Reactor Training Videos

Flexible and timely support via web meetings
Questions

We welcome your questions
• Livestream attendees, please use the chat window to ask questions

As always, please contact our support team if you have questions, feature requests, or other suggestions
• support@cpfd-software.com