

3.05.00

Patch release

Date – Nov. 14, 2017

New Features

Simulation

- Resimulation over OpenVDB caches exported from Phoenix FD
- Restoring simulation from OpenVDB caches exported from Phoenix FD
- Load the simulation initial state from OpenVDB or Field3D
- Option to control the randomness in velocity direction at Splash birth
- Option to allow only expansion of the adaptive grid, but disable shrinking

Rendering

- Added a new frame blending method using both Velocity and Advection Origin, producing smoother fire/smoke retiming
- Stronger Approximate Scattering for brighter regions and lower scattering for the darker regions of the same volume

Preview

- Viewport preview for visualizing the influence of both native and Phoenix forces

Particle Shader

- Size Addend option
- Option to allow offsetting the particles vertically

Curve Controls

- Ability to horizontally or vertically stretch and flip the selection in curve and gradient controls

Path Follow

- Added an option to break the spline into segments which influence the simulator simultaneously
- Support for 3ds Max modifiers on splines

Tools

- Added a command line cache_converter tool, allowing conversion of already existing AUR cache sequences to OpenVDB without simulating again

SDK

- Added a new interface for sampling volumetrics at render time

Modified Features

Simulation

- Moved the Scene Scale option in the Grid rollout and now it affects the container dimensions text
- Change adaptive limit defaults to non-zero
- Display an error if the FLIP resimulation cannot find Liquid particles

Rendering

- Use particle ID instead of Age channel when looping particles
- Expose the Isosurface Level parameter in the Liquid simulator
- Sped up Ocean construction

Source

- Display Outgoing Velocity of sources in Surface Force mode as units/second

SDK

- Equalized the public interface classes between 3ds Max and Maya. Added new ones serving specific purposes - simulation, volumetric shading, frame data access, etc.

Removed Features

SDK

- Dropped the IPhoenixFD interface

Bug Fixes

Simulation

- Crash when simulating using any Phoenix textures in 3ds Max 2018 Update 2 and Update 3
- The General-Purpose Time Bend Resimulation was not working correctly in Phoenix FD 3.04
- Restoring Resimulation was not working in Phoenix FD 3.04
- Resimulation might produce less smoke and temperature
- Liquid particles penetrate the walls of complex or thin static geometry
- After loading a cache or simulating, CPU usage remains high on machines with many threads
- Overlapping Solid Fire/Smoke emitters in Surface Force mode emit inside each other's volumes
- Instability with high incoming velocities through the grid walls
- Fire/Smoke simulations using Solid emitters in Surface Force mode with Noise produce different results on each run
- Fire/Smoke simulations using Solid emitters and Buffered or PCG Conservation produce different results on each run
- Non-solid sources in Surface Force mode do not affect Liquid simulations
- Foam born from Sources in Surface Force mode does not respect the simulator Foam Size and Variation settings
- When splashes split, they form visible lines of particles
- Big difference between Splash behavior with Liquid-Like at 0 and at 0.001
- Increasing the Splash Threshold never eliminates all born splashes
- Foam Rise and Falling speed set to 0 do not freeze foam particles
- Submerged foam particles ascend high into the air near negative open simulator walls
- The Simulate Air Effects option may create huge velocities at voxels where the liquid contacts geometry
- Riggged non-solid bodies cannot contribute motion velocity to the simulation
- Random hang when restoring the simulation with more than 1 Steps Per Frame
- Crash when a particle system with instanced geometries used as obstacles exits the simulator
- Adaptive Grid's Extra Margin for Liquid simulators does not work
- Grid artifacts with Liquid simulation using Confine Geometry with curved surfaces
- Liquid particles get created on the back end of a moving liquid simulator with Initial Fillup, raising the liquid level
- Overlapping a Solid Surface Force source with a non-solid body with Clear Inside does not clear the smoke

Rendering

- Artifacts when rendering overlapping containers in Volumetric Geometry mode
- Flickering when rendering Smoke Color based on a gradient with varying data range with Approximate Scattering
- Using a Grid Texture as a render input for the same simulator causes double Self-Illumination calculations
- Crash when blending caches with Drag particles
- Random crash when blending between frames which contain very few particles
- Subdivided Ocean surface may abruptly change its detail with animated camera
- Using Liquid Particles for Mesh Smoothing together with Cutter Geometry still uses particles outside the Cutter
- Using Liquid Particles for Mesh Smoothing does not take effect until the Smoothness is raised to 3
- Cannot key the Playback Mode parameter during sequence render
- Fix dark and non-uniform horizon using the Horizon Roughness option

Particle Shader

- Particle Shader Motion Blur length changes between the first frame and the rest of the sequence
- Shutter speed does not affect particle motion blur
- Bucket artifacts when rendering dense bubbles with the Particle Shader's light cache enabled

Preview

- The steps per frame count displayed during simulation is wrong in some cases
- Particle channels in the Cache File Content list are wrong when using Loop with Overlap

I/O

- Error about not enough memory to save the cache when a particle channel is over 2GB

Source

- Disabling the Emit Liquid source option does not stop liquid discharge in Volume Inject mode
- Mapped source discharge by a texture does not clamp the texture input between 0 and 1
- Discharge Modifier based on normals in object space use them in wrong scale
- Discharge Modifier by World Speed does not work correctly with simulator attached to moving emitter
- Crash when deleting an emitter from the scene, adding another one to the source and changing the emit mode to Brush

Plain Force

- Plain Force with drag strength of 1 is not able to stop the fluid's motion

Body Force

- Body Force does not affect parts of the grid that expanded using Adaptive Grid

Path Follow

- The Fade Start parameter was not working in Phoenix FD 3.04
- Artifacts when simulating using a FollowPath force on a circular spline

Mapper

- The Mapper cannot completely freeze or exactly set velocity in the simulation

Phoenix FD Grid Texture

- Can't render a fire/smoke simulator using PhoenixFDGridTex from another simulator as Fire and Smoke inputs
- Grid Texture which is not plugged into a material does not update its simulator name when it's renamed

Phoenix FD

- Each time 3ds Max 2018 is started the Phoenix FD toolbar reappears, even if hidden
- Node properties saved using a decimal comma are not read properly using a dot and vice versa
- Copying a simulator with default cache paths loses the Input paths for both the original and copied simulators
- No confirmation box when overwriting presets