V-Ray 5

Build 5.20.02

Official Release

Date - Dec. 9, 2021

Solaris

V-Ray

- Added support for the Referenced Shader VOP
- Added support for live (in-memory) volumes
- Added "creaseweight" attribute support for V-Ray Subdivision
- Added support for USD Prim Vars for shading (e.g. "Cd")
- Added support for string USD Prim Vars as part of the Image File VOP File Path (e.g. $HIP/<someAttr>)
- Added Distance Texture support with regex USD primitive selection
- Added native V-Ray AOVs support (i.e. component level outputs)
- Added Sampler AOV support (i.e. ray level outputs
- Added Cryptomatte AOV support
- Added MultiMatte AOV support
- Added Light Path Expression AOV support
- Added Extra Texture (i.e. arbitrary Prim Var) AOV support
- Added "V-Ray Standard Render Vars" LOP
- Added V-Ray Mesh Light parameters to the Light LOP
- Added support for instancing V-Ray Mesh Lights
- Added a "V-Ray Proxy" LOP node for loading VRMesh files
- Added support for the Round Edges material
- Added support for the FallOff texture
- Added Distributed Rendering options in the Render Settings LOP
- Added Linux support for the V-Ray Hydra delegate
- Added Mac OSX support for the V-Ray Hydra delegate
- Added support for rest attributes export ("rest", "rnml")
- Added support for instancing of Volume USD primitives
- Cryptomatte AOV is now saved to disk when rendering through Husk
- Fixed black/empty viewport when switching between available delegates
- Added support for additional Render Var data types (half3, half4, etc)
- Updated Multi ID Material/Texture to match V-Ray for Maya
- Fixed Displacement update issues
- Fixed Dome Light texture not matching Solaris viewport
- Fixed Dome Light texture rotation not working
- Fixed crowd import causes a crash
- Fixed material update issues

New features

V-Ray

- Added support for Houdini 19
- Added the V-Ray Decal SOP
- Added support for isolating Convex and Concave values in the Curvature texture
- Added a "V-Ray Aur Convert" ROP for converting VDBs to V-Ray's native AUR volume format
- Added support for any arbitrary string attribute in an alembic file for use with the Pattern ID VOP
- Alembic face sets (groups) can now be queried with the "set:<name>" syntax for use with the Multi ID Material/Texture
- Added the "Grouped Lights" option to the Light Mix render element
- Added additional material override options under the Renderer ROP's Options tab
- Added support for loaded image file frame overrides on the Image File VOP allowing looping of texture sequences
- Added support for dynamically reloading the OCIO environment configuration in the "_vfh_ipr" python module
- Added support for time-dependent expressions for the Image Output path on the Renderer ROP
- Added GPU support for rest attributes
- Added the MakeTX utility in the V-Ray for Houdini builds under the appsdk/bin folder
- Added support for Camera and Physical Camera properties on HDAs with a Camera node as the representative node
- Added support for exporting multiple cameras to the VRScene
- Added VRScene Material Import support for remapping the UV Channel Index for scenes coming from 3ds Max
- Added an option to remove the VRIMG file after the rendering has completed

- Added support for the Displacement VOP in the Referenced Shader VOP
- Added VRScene Material Import for custom plugins
- Added support for driving the Image Sampler's Min/Max Subdivisions parameter with an expression, when exporting to per-frame VRScene files
- Added support for the "N" attribute for particles when rendered as circles
- Added the "Streaks", "Thin Walled" and "Ignore Bump" options to the V-Ray Dirt texture
- Added the "Composite" texture for VRScene Material Import from Maya
- Added support for rendering Alembic particles using the Phoenix Foam Shader
- Added the "Auto" mode for the selected Transfer Function of textures on the Image File VOP
- Added the "VFH_RGB_COLOR_SPACE" environment variable for selecting the RGB Color Space option on the Renderer ROP
- Added support for "looks" in the OCIO configuration file for the new VFB

Modified features

V-Ray

- Updated the Image File "Transfer Function" and "RGB Primaries" parameters
- The Volume Grid Cache SOP can now only be used to load Chaos Phoenix (.aur) cache files
- Pressing the render (teapot) icon on the VFB or the "Render" button on the V-Ray shelf will only start a single frame render, regardless of ROP "Frame Range" settings
- Updated the installer to use the "houdini_version" and "houdini_python" keywords in the JSON package file to simplify deployment
- The V-Ray GUI license is now released when no V-Ray nodes are present in the scene
- The Chaos Cloud client app is now always installed when using the default/quick installation process
- Probabilistic Volumetrics are now enabled by default on the Renderer ROP
- Updated the V-Ray logo in all relevant title bars inside the V-Ray Installer and the Houdini GUI
- Removed the "Global Settings" entry in the V-Ray menu
- Reduced the font size for the Installer
- Light Mix AOV elements are now sorted by name
- Updated the V-Ray TOP's Output Path parameter value for the ROP Fetch TOP node inside the HDA
- Updated the V-Ray Log messages when .VDBs are missing on disk
- Added support for the "Override Frame Number" on the Image File VOP when inside a locked HDA
- Added the "Opacity Source" parameter
- Added a warning when a render is started that would require baking a large volume into the generated VRScene
- Light Lister entries are now sorted by name
- Added support for Cryptomatte by Material Name for materials inside HDAs

Export

- Significantly sped up the VRScene export when cached volumes are present in the scene
- Sped up the VRScene export for instanced mesh lights holding cached alembic sequences
- Changed the UV mapping for procedural textures when no UV generator is attached to ensure GPU support

VRScene

- Updated VRScene Unpack and Material Import UI

V-Ray Fur

- Added missing tessellation and distribution options

V-Ray Deadline

- Added "Advanced" tab for exporting key/value pairs as environment variables for the Deadline job

Bug Fixes

V-Ray

- Fixed the VFB History's "Use Project Path" option not working
- Fixed a crash on missing license
- Fixed a hang when exiting Houdini on Mac OSX
- Fixed an issue causing V-Ray to fail loading due to wrong default packages location
- Fixed an issue with the silent install option causing V-Ray to fail the installation when providing a config.xml file
- Fixed a Mac OS 11.2 crash on render
- Fixed a crash when exporting a VRScene sequence with a Python 3 Houdini build
- Material Library download fails if the provided path on disk does not exist
- Added the EULA file to the ZIP builds and Installer
- Light Lister's Refresh button is not working on Python 3 Houdini builds
- Fixed a crash when closing the Houdini GUI on Linux
- Fixed wrong UV mapping for unpacked VRScenes
- Fixed wrong output piping for the Remap texture when importing from a VRScene
- Fixed Distributed Rendering not starting due to a missing library
- Fixed an installer issue causing the GUI installation to fail
- Fixed Multi ID Material not imported for VRScenes coming from Maya

Export

- Fixed instanced subnetwork is always visible
- Fixed the "Override Settings Globally" toggle for Displacement not behaving as expected
- Fixed V-Ray Environment Fog not visible in the rendered image
- Fixed wrong image output path due to wrong forward slash replacement at export time
- Fixed wrong image output name when generated through an expression querying a string point attribute
- Transform is ignored when rendering multiple Dome Lights pointing to the same texture file because a single texture is exported for the shared image file path
- Wrong export for "abcframe" primitive intrinsic when rendering a sequence
- Fixed an issue with VRScenes submitted to the V-Ray Cloud that caused an error message related to the output file path format
- Fixed "abcframe" intrinsic ignored for alembics used as the source geometry for a V-Ray Mesh Light
- Fixed lights in the Renderer ROP's "Forced Lights" list ignored when rendering a sequence
- Fixed "$F" always evaluated to "10" for texture file paths in the Image File VOP
- Fixed multiple camera export issue after rendering with IPR
- Fixed wrong AOV tag export causing wrong output image file naming
- Extra Texture AOV in animation renders black after first frame
- Wrong material assignment when bypassed nodes are present in the Material Builder when using the "Forced Materials" list on the Renderer ROP
- Fixed crash after rendering of packed geometry or when exporting to a VRScene
- Fixed doubled Motion Blur effect for V-Ray Mesh Lights using Alembics as source geometry

OSL

- Parameter values and connections are missing on scene re-open when using the OSL texture and/or material
- Changing OSL code wipes all parameter values
- Fixed float input errors when other nodes are attached
- Fixed float output from shaders not exposed
- Fixed surface derivatives not working
- Fixed absorption and ray depth not exposed for refraction
- Fixed user attributes not exposed for texture binding
- Fixed emissive surfaces not emitting light

Rendering

- Fixed a bug causing no anti-aliasing for Cryptomatte in Material mode due to a missing parameter export for live geometry
- Non-cached (in-memory) volumes would occasionally fail to render due to size limitations
- Fixed wrong illumination over instanced geometry when using the Rayserver Instancer
- Sped up rendering for instanced geometry when using the Rayserver Instancer
- Fixed a crash when rendering volumetrics in a specific scene
- Fixed an issue causing light links to fail for alembic sequences
- The "Zero Infinity Depth" option was not working when "Filtering" was enabled for the Z-Depth render element
- Fixed a rendering slowdown when using the TexOCIO VOP
- Baking a single UDIM tile has no UDIM tag in the name of output image
- Baking to UDIMs bakes the specified UV range for every tile, even when disabled
- Enabling "Specify UV Range" caused the "UDIMs" option to stop working
- Added support for baking a UV range without using the UDIM workflow so baking to a single texture is possible
- Fixed an issue causing significant slowdown when rendering Alembic files on NUMA machines
- Fixed an issue causing the V-Ray Log to fail updating during IPR sessions
- The "Save Deep Data to Separate Files" toggle was causing a crash
- Setting the number of Render Threads to a value higher than the hardware threads caused a crash
- Fixed a crash related to the stored ROP settings on a particular scene
- Fixed the TriPlanar texture "Random by User Attribute" option not working
- Fixed texture baking using packed Alembics not working
- Pattern ID texture does not work with delayed load Alembics
- Fixed a crash when rendering groomed fur/hair
- Fixed a random error related to volume rendering on NUMA machines on Linux
- Fixed artifacts on packed Alembics containing degenerate primitives when texture filtering type is any other but "None" or "Nearest"
- Fixed "-parameterOverride" flag not working for VRScenes exported from V-Ray for Houdini when using vray.exe
- Fixed a crash with Denoiser and the Volume Grid Shader with the "Volumetric Z-Depth" option set to "Separate V-Ray Element"
- Fixed a crash after rendering with IPR after production render with LightMix in the scene
- Fixed V-Ray Fur not rendered when more than one texture attribute is used
- Fixed an edge-case crash when rendering a volume with an assigned material that is not the Volume Grid Shader
- Fixed a volumetrics related crash at render time with a specific setup
- Fixed a crash with Light Mix after rendering if the name of a light is changed and the render repeated
- Fixed a crash when rendering an Alembic file containing single-vertex polygons
- Fixed non-default "Screen Window Size" camera values doubled if Motion Blur is enabled or a Velocity AOV is present in the scene

IPR

- Fixed a bug preventing an IPR update when changing any of the Fields tab options on the Volume Grid Shader
- Fixed a crash when starting IPR with a wrong COP network image path in the Image File VOP
- Fixed a crash when using the Renderer ROP's Clear Cache button when texture caching is enabled with a tiled EXR texture
- Fixed a crash on Mac OSX when stopping IPR
- Fixed a problem causing slow IPR update when simultaneously assigning a single material to multiple objects while IPR is running
- Fixed a crash when quickly undo-ing and redo-ing an object delete operation
- Fixed no Volume Shader updates when the render flag is set over a Null SOP for a Packed Disk Primitive VDB loaded through a File SOP
- Fixed an IPR update problem causing the camera position to refresh with a one-step delay
- Fixed an IPR crash when changing the Motion Blur settings on the Renderer ROP during IPR
- Fixed an IPR crash when changing the frame when using the Phoenix Foam Shader assigned to particles

- Fixed Debug flag not working when a VOP node inside a material builder is assigned to the geometry
- Fixed a crash when changing the timeline frame when using the "Override Frame Number" option on Image File VOP
- Fixed no GI during IPR regression
- Fixed empty render and wrong export after running IPR

GPU

- Fixed a crash with a particular scene containing point particles
- Fixed "v" not used for motion blur in specific scene when rendering with CUDA
- Fixed a crash when rendering the V-Ray Toon material
- Fixed a crash when enabling the Matte/Shadow object properties while IPR is running with GPU
- Fixed a "Default Color" difference between CPU and GPU for missing textures, if the File Path field is empty
- Wrong render for the Image File VOP's color output when used as a float input for the V-Ray Material's opacity socket
- Point attributes from alembic files are not used at render time when rendering with GPU
- Fixed an Opacity issue related to the MultiID Material when rendering with GPU
- Fixed a crash when rendering volumes on the GPU, with CPU Light Cache enabled and Volume Light Cache disabled
- Fixed a GPU crash with a specific setup utilising the UV Explicit VOP and the Bercon Noise VOP

UI

- Fixed duplicate parameter labels on the VRScans material
- Fixed a UI issue with the Color Constant VOP causing errors in the Houdini Console
- Fixed VFB "Source" layer string empty if Light Mix is selected

Build 5.10.20

Official Release

Date - June 17, 2021

New features

V-Ray

- Added support for Solaris
- Added support Houdini 18.5.532
- Added support Houdini 18.5.563
- Added support Houdini 18.5.596
- Added support for the "Texture" mode Render Mask option on the Renderer ROP
- Added the "Absorption Color" option for the Volume Grid shader
- Updated the V-Ray Material's "Translucency" modes
- Added the "Occlude Other Lights" option for Rect, Disk, Mesh and Sphere lights
- Added "rest" attribute support for the TriPlanar texture for Alembic files (specified in the V-Ray Object Properties)
- Added support for specifying any arbitrary string attribute stored in the Alembic file for the PatternID Texture VOP
- Added support for the Cryptomatte "Per Attribute Value" mode for V-Ray Scene Ref primitive types, when "Rayserver Instancer" is enabled (specified in the V-Ray Object Properties)
- The V-Ray GUI License is now released when no V-Ray Renderer ROPs are present in the Houdini scene

Modified features

V-Ray

- The VFB is now cleared on render start if the "Render Mask" option on the Renderer ROP is enabled

Textures

- Added support for the Image File VOP's frame overrides allowing linear/loop/ping-pong/hold playback of texture sequences
- Changed the Default Color parameter of the Image File VOP to black instead of gray

Export

- Fixed a bug causing a significant slowdown of VRScene export of instanced volumes
- Added support for animated Physical Camera parameters
- The "Hair Width Multiplier" option is now always exported for Alembic files, even when the V-Ray Object Properties are not present on the parent node
- Geometry/Subnetwork node transform samples for Motion Blur are now exported even when "Velocity Blur" is enabled on the Sampling tab

Rendering

- The "N" attribute is now respected when rendering points as circles

OSL

- Updated the OSL Material and OSL Texture due to various issues

UI

- The V-Ray Displacement's generation method now defaults to "Pre-Tesselated" instead of "On the Fly"
- Deprecated the "Log Window" option on the Renderer ROP in favor of the new VFB's Log icon (bottom right corner)

Bug fixes

V-Ray

- Fixed a bug causing the VFB to disappear when selected, in Houdini Python 3 versions only
- Fixed a bug causing V-Ray to fail loading if first used in the /stage context
- Swimming texture coordinates with TriPlanar when using rest attributes with an Alembic file

V-Ray GPU

- Crash on render start with the V-Ray Toon material
- Crash on render start with Matte geometry

IPR

- Crash when deleting a Subnetwork or HDA during IPR with the debug flag enabled on the node
- The IPR refresh was always one step behind the user input

Install

- The V-Ray Installer selects the Python 2 version of V-Ray instead of the Python 3 one when the Advanced mode is used
- Fixed various issues with the Silent Install option

Export

- Alembic files loaded through the MOPs instanced cause a crash on render start
- Using V-Ray Subdivision on MOPs instances causes a crash on render start
- The "UV Channel Name" VOP was not working after a Solaris related change
- Hidden forced objects in the light's Illumination Mask are not illuminated at all
- The "Skin" material's "Primary Reflection" and "Secondary Reflection" options were not exported
- Fixed a regression with the "Bercon Noise" VOP
- The $F4 tag is evaluated incorrectly when rendering in a Subnetwork/HDA in TOPs
- Fixed wrong forward slash replacement for network paths
- Fixed a crash when rendering a Geo node with Object Merge SOP pointing to an Alembic file
- Fixed wrong export of Alembic's "abcframe" primitive intrinsic attribute when rendering an animation
- No motion blur for per-frame alembic files containing multiple frame samples
- The Physical Camera "Exposure Value" parameter was always exported as thirteen

V-Ray Proxy

- Crash on export with Houdini 18.5.462

Chaos Cloud

- Cloud ROP fails silently if wrong ROP is connected

VRScene

- Incorrect import of reMap value from a .vrscene file, exported from Maya
- Incorrect import of volumeNoise (3D noise) from a .vrscene file, exported from Maya

Chaos Cosmos

- Texture assets from Cosmos using the ".tx" format were failing to load

AOVs

- Node names are always used as AOV names for the Light Select element
- The Light Select RE was not working due to a missing parameter export
- Empty Light Select after the first frame, when rendering a sequence

OSX

- Fixed a crash on render start with MacOS Big Sur 11.2

Build 5.00.50

Official Release

Date - Nov. 17, 2020

New features

V-Ray

- Support for rendering in ACEScg color space with option to recognize the texture color space from the file name
- Updated the V-Ray for Houdini installer so the V-Ray Material Library can be automatically set up in Houdini
- Added the V-Ray Material Library (Windows only)
- Added support for Post-Translate scripts in V-Ray 5 for Houdini
- Simplified Renderer ROP UI
- Added support for the V-Ray Memory Tracker

V-Ray GPU

- Add support for Out-of-Core codepath
- Support for 2D displacement
- Add support for OSL shaders
- Add support for the Cellular map
- Add support for the Bercon Tiles and Bercon Wood maps

VFB

- Add entirely new implementation of the VFB with integrated Layers compositing
- Added support for the Light Mix Render Element

Materials

- Added Coat and Sheen layers for the V-Ray Material
- Added a new car paint material with more precise flakes filtering and reduced memory usage

Textures

- Add a UVW Randomizer that should be used solely as Image File and Triplanar VOPs' uvwgen input with stochastic tiling support
- Added randomization options for the Multi ID texture
- Added a "Same Object Mode" option for the V-Ray Dirt texture

Lights

- Added an Illumination Mask option to the V-Ray Lights

Modified features

V-Ray

- The "Light Path Expression" option under the Light Select element is now always available regardless of presence of the VFH_LPE_ENABLE environment variable
- V-Ray shading VOPs are no longer visible in the Material Builder context of 3rd party render engines
- Dropped support for Houdini versions below 18.0

V-Ray Proxy

- Updated the Proxy Export Simplification Type drop-down

Materials

- The Gallery files for the V-Ray Material Library now ship with the V-Ray for Houdini installation

Textures

- The Color Space parameter for files loaded in the Image File VOP is now automatically set up based on the file's name
- Added support for the "Reference Space" and "Reference Transform" options for the TriPlanar texture for world-space projections
- Added the "Random" and "Pattern ID" textures for V-Ray 5

Rendering

- Light Select elements with a Lights list pointing to non-existent scene lights will be ignored

Export

- Optimized scene export for scenes containing large numbers of lights in multiple subnetwork levels
- Added support for expressions in the Renderer ROP's Objects lists
- Added support for selecting subnetwork in the Light Select's "Lights" list
- Improved export time for instances with motion blur
- Added support for V-Ray Object Properties placed over a Geometry node holding a VRScene SOP
- Added support for exporting UV sets from unpacked alembic files even if the attribute type info is not "texturecoord"

Baking

- Added support for named UV sets for the Renderer ROP's UV Mapping type

Material Library

- Updated the material library

Bug fixes

V-Ray

- Fixed a bug preventing V-Ray from loading on OSX
- Fixed a bug causing the Standalone V-Ray executable to fail on Windows
- Fixed V-Ray not loading on Linux
- Fixed a crash when rendering using Light Select Light Path Expressions
- Fixed a crash when closing the Volume Grid Shader custom ramps on OSX
- Fixed a bug causing textures with $F in the file name to not be evaluated correctly for production rendering
- Fixed a crash when the License Server is not installed and rendering is attempted

V-Ray GPU

- Fixed an 'Exception in Core' crash with CUDA and RTX
- Fixed a bug causing incorrect evaluation of attributes in the texture's path when rendering with CUDA or RTX
- Removed legacy message "Unsupported 2D Type for Displacement" printed in log when using V-Ray GPU
- Fixed a CUDA crash on Linux
- Fixed a bug causing displacement to fail when rendering with CUDA or RTX
- Fixed a bug causing attributes on particles to be ignored for shading

IPR

- The Subdivision toggle under the Displacement Properties does not update the IPR
- Changing any of the OCIO Texture's parameters does not update the IPR
- The Illumination Mask parameter is not updated in IPR
- Fixed an IPR crash after production rendering
- Fixed an IPR crash when starting IPR on frames other than 1
- Fixed an IPR crash when changing the timeline frame during IPR
- Fixed a bug causing IPR to halt when changing a parameter on the new Car Paint 2 material

VFB

- Fixed a crash on second render after adding a new layer in the compositor
- Fixed a bug causing inaccurate Render Region in production rendering
- Fixed a bug causing production renders to disable the history and clear the set up History folder path
- Fixed "Use VFB Background Image" option under the Renderer ROP not working with the new VFB

V-Ray Proxy

- Fixed crash on export with Proxy Export SOP

Export

- Fixed bad parsing for quotes in Light Select's Light Path Expression
- The Illumination Mask parameter does not behave correctly when the same light is present
- Fixed an incorrect export for the OSL Texture and OSL Material
- Fixed Exposure Value of Physical Camera is not exported
- Fixed Hair Properties' Render as Smooth Curves toggle breaks material assignments with Multi Material for hair
- Fixed a Deadline issue causing wrong export path for VRScenes in a specific case
- The Material ID VOP's "lpe_label" parameter was set up to export incorrect data type which caused wrong LPE output
- Some animated Renderer ROP parameters are ignored when the render camera is also animated
- Fixed a bug causing the V-Ray UVW Randomizer VOP to behave incorrectly when used with the V-Ray Triplanar texture

- Fixed a bug causing double export for the lights in the Light Select element producing incorrect results
- Fixed wrong parsing for Image File node's File Path parameter

Rendering

- Fixed VFB Render Region is discarded on render or IPR start
- Fixed UI locked after render is done or stopped when the Renderer ROP is connected to another node
- Fixed Bezier Curve texture produces values beyond 1 even if Extrapolate Beyond End Points is OFF

UI

- The "Pack Scene" button causes an error when looking for the V-Ray Log if the relevant environment variables are not present and the log file is missing
- Set Light Select default "Lights" parameter to "*" instead of empty string
- Added additional Sun Light options to the V-Ray Light Lister

VRScene

- Fixed a bug causing the "Unpack to Polygons" option to occasionally cause a crash
- Fixed a crash when creating a VRScene SOP if V-Ray is not initialized by creating a Renderer ROP
- Fixed a crash when creating a VRScans VOP if V-Ray is not initialized by creating a Renderer ROP

Cloud

- Fixed an issue causing upload of multiple jobs from multiple Renderer ROPs connected to the Chaos Cloud ROP to fail

Installer

- Updated the V-Ray Installer for OSX and Linux

Build 5.00.30

Beta Release

Date - Sept. 16, 2020

New features

New VFB

- Add entirely new implementation of VFB with integrated Layers compositing

V-Ray

- Support for rendering in ACEScg color space with option to recognize the texture color space from the file name
- Simplified Renderer ROP UI

V-Ray Library

- A material library browser utility for the V-Ray Material Library

Materials

- Added Coat and Sheen layers for the V-Ray Material
- Added a new car paint material with more precise flakes filtering and reduced memory usage

Textures

- Add a UVW Randomizer that should be used solely as Image File and Triplanar VOPs' uvwgen input with stochastic tiling support
- Added randomization options for the Multi ID texture

GPU

- Add support for Out-of-Core codepath
- Support for 2D displacement
- Add support for OSL shaders
- Add support for Cellular map
- Add support for BerconTiles and Bercon Wood maps

Known Issues

- No Post Translate support yet
- The Light Mix element is not yet available
- VFB Render Region is ignored for Production rendering and IPR
- Physical Camera's Exposure Value parameter does not work as intended
- PatternID and Random textures are not yet implemented for V-Ray 5
- Displacement from VOP network does not behave correctly when applied with a Material SOP to Merged meshes - only if some of the faces do not have a material with displacement assigned to them
- Incorrect message "Unsupported 2D Type for Displacement" printed when rendering with V-Ray 5 GPU