

V-Ray 6

V-Ray 6, Update 2, hotfix 4 (6.20.04)

Official release

Date - May 28, 2024

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Improvements & bugfixes

- The V-Ray scene (.vrscene) export no longer requires a license
- The Tri-Planar texture viewport appearance is improved
- The viewport appearance of ray-traced textures like V-Ray Dirt is improved
- The aspect ratio of bitmap textures is preserved when viewport baking is performed whenever possible
- ImageQuality argument introduced in vrayTexturePreviewSettings command. A lower value can reduce the Rhino project file size by applying image compression
- Objects using one of Rhino's geometry modifiers (like Edge Softening, Thickening, or Displacement) are no longer misplaced when rendered (applies to Rhino 8.6 and later)
- An issue preventing the import of specific materials when pasting is resolved
- There is no longer a freeze in projects containing Scatter with a high preview instance count
- There is no longer a crash when opening a project where an Enmesh object was deleted, while the V-Ray plugin was not loaded
- Adding Scatter to an object that has already been added as a guest in another Scatter no longer leads to a crash
- A typo in the Mesh Light properties in Rhino 8 is fixed
- V-Ray GPU: System Memory for Textures implemented. It lowers the GPU memory usage significantly by offloading textures to system memory with little impact on performance
- V-Ray GPU: There is no longer a crash when starting a render, while the CUDA devices selection specified in the Asset Editor differs from the global one (defined by the GPU Device Selection tool and stored in the VRAY_GPU_PLATFORMS environment variable)
- V-Ray GPU: An issue preventing the material Raytrace Properties from working correctly is resolved
- A warning is logged instead of an error when the V-Ray UI loses connection to the host application
- The proper function of the V-Ray UI is no longer prevented by specific system proxy configurations

V-Ray 6, Update 2, hotfix 3 (6.20.03)

Official release

Date - Apr 5, 2024

Improvements & bugfixes

- Improved V-Ray toolbar icons in Rhino 8. The quality of the icons is now consistent when varying their size. A dark-theme specific icons set is also included
- The file path verification in the Export V-Ray Scene and Export V-Ray Proxy windows is improved
- Entering sleep mode no longer severs the communication between V-Ray and Rhino
- Asset Editor and other V-Ray windows now always open in the center of the Rhino window by default
- An issue preventing Hue from being set to 0 or 1 in the Color Picker is now resolved
- Deleting multiple maps of the same texture type simultaneously no longer causes a crash
- An issue causing Blend materials from vrscene files to not import properly via the V-Ray Scene Importer is resolved
- An issue preventing the Dirt texture's Ignore Self-occlusion option from functioning correctly is resolved
- An issue causing incorrect viewport representation of Rhino compound materials with V-Ray sub-materials is resolved
- Conversion of a Rhino material with nested V-Ray materials within no longer causes the sub-materials to be duplicated
- An issue preventing Rhino's Rendered View option "Shadows only" from functioning is fixed
- An issue preventing changes to V-Ray materials from being registered if they are slotted within Rhino Blend or Double Sided materials is resolved
- V-Ray Decal is no longer identified by Rhino as a bad object
- An issue causing textures within Rhino materials converted to V-Ray to disappear is resolved
- An issue causing a crash when adding and moving a Proxy Mesh during Interactive rendering is resolved
- An issue preventing the update of the Scatter's preview when changing guests probability, is now resolved
- Sending LightMix changes to a Light with a slotted texture no longer produces additional nested textures
- An issue preventing the import of Instancer geometries from Proxy Scene files is resolved
- A crash upon merging Cosmos assets during Interactive Rendering is resolved
- A crash caused by importing Enmesh assets from Cosmos during Interactive rendering is resolved
- An issue causing the NVIDIA AI Denoiser's Upscale option to be enabled for each Denoiser type is resolved
- An issue with enabled NVIDIA AI Denoiser's Upscale option breaking the preview of a Cloud job and a Viewport rendering is resolved
- An issue preventing Cloud rendering job name from being populated when restarting the submit process is resolved
- Fixed an error appearing when Cloud jobs are submitted multiple times in a row

- Attempting to upload an image via the Chaos Cloud Collaboration window before rendering no longer produces an error. A warning is shown instead
- Improved notification for missing Chaos Cloud application
- Cloud window no longer causes an error to appear briefly when closing Rhino
- Canceling a Cloud job submittal shortly after launch no longer causes an error
- Fixed an issue with V-Ray Scene files containing a Dome light with modified control points rendered in Chaos Cloud or V-Ray Standalone
- Added script access support for Python 3.9 and C# 9.0 in Rhino 8
- Grasshopper's V-Ray Camera component 'Get Active Rhino Viewport' and 'Look through Camera' functions are now accessible via script

V-Ray 6, Update 2, hotfix 2 (6.20.02)

Official release

Date - Jan 24, 2024

Improvements & bugfixes

- Adaptivity Clamp control is introduced in the Render Parameters' Optimizations section. It can be used to avoid excessive sampling of overexposed areas.
- Scatter Area Modifiers are now inactive when using '1D - On Splines' scattering mode to reflect that they have no effect on it.
- Fixed an issue preventing Scatter's 'Normal Alignment' rotation option from accepting negative values. Scatter instances can now be aligned towards the vertical down (-Z) axis
- Scatter guests with V-Ray Fur are no longer omitted from being rendered
- Improved Scatter UV Grid surface mode handling of host objects with different mapping channels
- Fixed an issue where Scatter's points previews are not drawn on the host's surfaces when Bounding box volume center guest origin is selected
- Fixed an issue causing removal of V-Ray special objects from a Scatter's guest to delete all instance previews from the viewport
- Added a 'Submit New' button to the Chaos Cloud window. Submitting multiple Cloud rendering jobs is now possible without having to close and reopen the window each time.
- Fixed an issue preventing the Cloud window from reloading automatically after updated Chaos Cloud application
- An issue causing updates of the Chaos Cloud application to produce errors is resolved
- Implemented safeguard logic preventing V-Ray log files from reaching abnormal size
- An issue causing an incorrect state of the Export button in the Export V-Ray Proxy window is resolved
- Export V-Ray Scene window now always uses the current project's name in its File Path field
- A valid default file path is now used in the Export V-Ray Proxy window
- Export V-Ray Proxy window now consistently provides the same output file name when being opened multiple times
- Fixed an issue preventing V-Ray windows from closing when opening a new project file
- Fixed an issue causing the Animation Frame sliders to disappear in specific situations
- An issue causing the V-Ray UI to crash in rare situations is resolved
- Added support for edge softening adjustments during Interactive rendering in Rhino 8
- Added support for Rhino 8 Blend materials
- Added access to the Sun creation window via the V-Ray toolbar's Sun icon in Rhino 8
- Added support for Rhino's native Clipping Plane inclusion and exclusion list in Rhino 8. A migration for preexisting scenes is implemented to ensure synchronization between the V-Ray and Rhino lists
- V-Ray properties tab no longer appears empty in Rhino 8.3
- Unassigned materials from vrscene files are no longer imported via the V-Ray Scene Importer
- An issue leading to material loss when importing a linked block with other nested blocks is resolved
- IES lights contained within Cosmos assets now produce the same illumination after asset merge
- An issue producing artifacts in subsurface scattering materials when adaptive lights are used is resolved
- The Environment Background multiplier now affects Sky texture's procedural clouds when rendered with V-Ray GPU
- Rhino render resolution is now synchronized with V-Ray upon V-Ray activation
- Grasshopper: Added viewport preview options for V-Ray Proxy Meshes, Proxy Scenes, and Cosmos Assets. The preview modes are: a simplified mesh, whole mesh, a bounding box or a point
- Grasshopper: Instancer component plugged in an Infinite plane component is now considered for calculating the automatic Z Offset
- Grasshopper: An issue causing data loss after upgrading Light Rig components from older versions is resolved
- Grasshopper: Fixed an issue with incorrect Surface Scattering Slope Limitation and Slope Angles values in specific situations after upgrading Scatter components created with previous versions
- Grasshopper: Fixed a crash when adding a Proxy Scene as a Scatter Guest

V-Ray 6, Update 2, hotfix 1 (6.20.01)

Official release

Date - Dec 18, 2023

Improvements & bugfixes

- An issue causing textures to appear tiled incorrectly in the Rhino viewport in specific situations is resolved

- Using a UVW Placement asset in a texture to no longer provokes its viewport preview to be baked
 - Bitmap resolution matching implemented. This feature ensures that the baked viewport preview of texture networks containing a bitmap matches the bitmap resolution. It is enabled by default
 - The viewport preview texture baking settings can now be changed. Use the 'vrayTexturePreviewSettings' command to change the resolution or to toggle the new bitmap resolution matching feature
 - Bump amount is now correctly taken into account when previewing materials in the viewport
 - Rhino 8: V-Ray now successfully renders lines using the Curve Piping modifier
 - Dome Light textures are now successfully imported with the V-Ray Scene Importer. The texture orientation is automatically adjusted for scenes with Up Axis different from Rhino's
 - An issue leading to a crash upon opening the Asset Editor with specific V-Ray 2 scenes is resolved
 - Using any link in the About window no longer produces errors
 - Fixed a number of typos and a missing label in the Asset Editor
 - Scatter's random rotation transform step now correctly uses degrees instead of radians
 - An error in the File Path Editor prompted by missing files is resolved
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V-Ray 6, Update 2 (6.20.00)

Official release

Date - Dec 7, 2023

Scatter

- The scattering toolset is extended in a number of ways. Major workflow changes like the new scattering modes, area modifiers, and lights scattering are combined with numerous small improvements
- Bounding box scattering mode is implemented. Note that it uses the object's bounding box instead of the actual volume boundaries
- Curve scattering implemented. Scatter objects along a path with additional control over the instances' spacing and positioning to help produce organic results
- UV Grid surface scattering mode is implemented. In this mode instances are distributed on the surface in a grid pattern. The grid position is determined by the texture/UV mapping of the host surface
- Area modifiers implemented. Limit the scattering area based on mesh or curve proximity. Note that the modifier's projection onto the host's surface is used instead of its actual physical location
- New transformation settings implemented. The new random transformation parameters provide finer offset, rotation, and scaling controls
- Light Scattering is implemented. Light sources can now be added as guests to Scatter and instantiated around the scene. Note that a big increase in the scene lights count may significantly increase render times
- The way Scatter is handled internally is updated. V-Ray scenes with scattering are now significantly smaller in size and can be uploaded for Cloud rendering in an optimal way

Cloud one-click submit workflow

- Cloud submit window is implemented. It enables a new and more intuitive workflow for submitting scenes to be rendered on the Chaos Cloud. There is no longer need to navigate to an external web browser window to submit the project for rendering
- The export and render steps from the Cloud submit process are no longer separated by a manual action

VFB

- Chromatic aberration effect implemented. This new feature is part of the Lens Effects and simulates the real-world phenomenon of light rays being focused at different points depending on their wavelength
- A shortcut that helps with enabling the VFB history feature is implemented
- Folders can now be added to the layers stack even when in Standard / RGB source mode. This helps with the layer organization and unlocks new compositing possibilities
- A plain color can now be specified in the Background layer
- Mask previews can be now copied from VFB to the clipboard
- A number of additional small UX improvements streamline the compositing workflow

IES Light improvements

- Cosmos light sources containing IES lights can now be imported
- IES Light intensity is now automatically derived from the .ies file at creation time or when the profile is changed
- The UI of the IES Light is simplified. The Intensity value is always enabled. Resetting its value (via the right-click menu) sets the intensity back to the one from the .ies file
- Light shape menu implemented. It specifies which aspects of the light emission and shadow casting are affected by its area shape and size

V-Ray GPU

- Enmesh assets can now be rendered with V-Ray GPU

- Animation texture caching is implemented. Bitmap files no longer have to be reloaded for each animation frame resulting in lower render times
- An issue preventing the rendering of Bitmap Image Sequences is resolved
- An issue preventing the render process from starting when specific materials are present in the project is resolved

Integration

- The V-Ray scene importer now converts all raw bitmap buffers to regular image files on disk before importing which speeds up the process significantly
- Export of multiple cameras is implemented. All Standard or Named views can be exported to a .vrscene via the vrayExportVRScene command. When using Chaos Vantage via Live Link all camera views from the Rhino project are loaded
- All Geometry instances are now imported as block instances via the V-Ray Scene Importer
- Packing a project that contains multiple texture files with identical names is now handled in a better way. Only one file is packed if the file contents also match. If the files are different an error message is displayed and the process is aborted. Conflicting file names are expected to be manually edited before using Pack Project again
- V-Ray now takes into account the visibility state of Enscape assets
- The 'vrayShowVFBOnRender' command is removed and its function is moved to the 'vrayShowVFB' command
- Notification is added when attempting to render animation without an image file output
- The way diffuse colors mixed with diffuse textures are shown in the Rhino viewport is improved
- V-Ray no longer modifies the native Rhino render resolution upon activation
- The 'vrayLoadSettings' command now correctly interrupts the interactive rendering process
- An issue with the Replace In Scene material operation is resolved
- Rendering with missing or invalid output image file path is now possible. Warning messages are displayed to indicate that the render output is not going to be written to file
- An error no longer appears when a light creation process is interrupted
- Scatter and Enmesh assets with Proxy Mesh guest objects no longer render incorrectly after changing the Proxy Scale Factor
- An issue preventing the opening of specific scenes saved with V-Ray Next is resolved
- An issue causing an incorrect material assignment in specific legacy scenes is resolved
- An issue with the Enscape compatibility on localized Windows systems is resolved
- A number of issues with rendering Enscape assets are resolved
- An issue causing incorrect texture preview in the Rhino viewport is fixed
- Missing Named Views or Snapshots selected in Rhino's rendering panel no longer block V-Ray from rendering
- An issue preventing the V-Ray Batch Render UI from listing multiple Rhino viewports with matching names is resolved
- An issue preventing the Proxy Mesh materials list from being populated in specific situations is resolved
- A number of issues with V-Ray Decals imported via the V-Ray Scene Importer are resolved
- An issue with switching between 4-viewports and maximized viewport layouts during interactive rendering is resolved
- Rhino 8: Added support for lines with Curve Piping modifier
- Rhino 8: Added support for Edge Softening is added
- Rhino 8: Added support for layers visibility
- The viewport's Focal Blur data no longer incorrectly overrides the user-defined depth of field configuration in specific situations

Improved viewport materials

- A way for displaying most procedural textures as well as procedural texture corrections in the Rhino viewport is implemented. This new default behavior substitutes the generic texture helpers previously employed for mapping adjustments. Differences between the rendered result and the viewport preview may occur due to the fact that only the boundaries of the first texture in the network are respected when baking or due to the fact that some procedural textures can not be baked into a 2D image (like 3D or ray-traced maps)

Grasshopper

- The V-Ray Scatter component is updated in a number of ways to match the updated Scatter asset in Rhino. Major workflow changes like the new scattering modes, area modifiers, and lights scattering are combined with numerous small improvements
- V-Ray Scatter Area Modifier component is implemented
- V-Ray Spline Scattering component is implemented. Connect it to the Scattering input of the V-Ray Scatter component to use its options
- V-Ray Surface Scattering component is implemented. It includes Random Distribution and UV Grid modes
- V-Ray Volume Scattering component is implemented. This mode utilizes an object's bounding box to populate instances within
- Domain3 and two additional constructor components are implemented. Use them to control the Random transformation ranges of the V-Ray Scatter component
- Environment Fog component is implemented. Connect to an Environment component to produce a volumetric environment fog atmospheric effect
- Aerial Perspective component is implemented. Add a Sun input and connect to an Environment component to produce an aerial perspective atmospheric effect
- Full support for render regions in the VFB is implemented
- File path auto-resolution logic is improved
- The value of the internal Low Thread Priority parameter is now set to 2. This applies to both new and existing projects. The new value ensures there is no delay when zooming in the VFB during bucket rendering
- A visibility toggle option is added to the V-Ray Proxy Mesh and V-Ray Proxy Scene components
- Scatter bounding box previews now correctly remain active even when disabling the guest's visibility
- An issue preventing straight horizontal or vertical lines to be displayed in the V-Ray Graph component is resolved
- The V-Ray Renderer default light is now automatically disabled in whenever at least one light source is manually added to the set
- An issue causing Proxy Meshes to change color on scene change or render start is resolved
- The export of animated proxies that include mesh topology changes is now permitted

Curve editing enhancements (Spline and Bezier curves)

- An issue preventing the single-click selection of a curve point is resolved
- The Value tab of the Spline curve is now selected by default since it is the most commonly used one
- Points that precisely overlap in the corners are automatically merged. This avoids accidental stacking
- Spline and Bezier curve points are no longer deleted on right-click. Instead they can be selected and removed using the 'Delete' keyboard key or the new context menu option
- The Interpolation of the Spline curve points as well as the Tangent Type of the Bezier curve points can now be changed from the new context menu
- Continuously dragging a curve point or clicking in fast succession within the Spline and Bezier curve editors no longer causes slowdowns and lagging during interactive rendering
- Keyboard navigation between points is implemented in the curve editors. Use the Left and Right keys to change the selection

Infrastructure

- gRPC communication implemented. The protocol used for synchronizing scene changes between the integration and the UI is updated. This improves performance and reliability

Other Improvements & Bug Fixes

- Added support for Cubic Projection Mode of the Tri-Planar texture. It provides further control by introducing an optional division between positive and negative directions of each axis
- Chaos Cosmos materials can now be dragged and dropped in the Asset Editor
- The range selection between tagged assets in the Asset Outliner is improved. The range selection between members of the same group/tag is possible while range selection across groups and hierarchy levels is disallowed
- The Gamma texture user interface is improved. Note that this texture may appear after a Cosmos import or as a result of a V-Ray scene import
- An issue preventing the procedural clouds from appearing in the Sun/Sky asset preview in specific situations is resolved
- Clearing the V-Ray Log window no longer prevents it from displaying any further info
- An issue preventing the window resize arrow from showing up when using non-standard OS display scaling is resolved

V-Ray 6, Update 1, hotfix 3 (6.10.03)

Official release

Date - Oct 16, 2023

Improvements and bugfixes

- Cosmos is updated to version 2023.10.09
- A number of issues with the V-Ray scene importer are resolved. Sun light sources as well as Fur modifiers are no longer imported
- Fixed an issue with Decal assets causing abnormal render times
- The auto-generated UI of unsupported materials and textures is improved in a number of ways. The number slider range and step is updated to allow more flexible edits, string parameter values are now handled, parameter labels are better constructed, etc. Note that unsupported items can be imported using the V-Ray Scene Importer or in a number of other unconventional ways
- V-Ray GPU: An issue causing colorful artifacts when rendering scenes containing multiple objects with a Subsurface Scattering material with RTX engine is resolved

V-Ray 6, Update 1, hotfix 2 (6.10.02)

Official release

Date - Aug 28, 2023

Improvements and bugfixes

- Cosmos is updated to version 2023.8.15
- V-Ray GPU: An issue causing incorrect background texture placement when the environment texture multiplier is set to a value different from 1 is resolved

V-Ray 6, Update 1, hotfix 1 (6.10.01)

Official release

Date - Aug 3, 2023

Improvements and bugfixes

- The procedural Sky Contrails can now be animated. Ensure that the Dynamic Clouds option is enabled in the Sun light source
- An issue causing specific adjustable Enscape asset to not be rendered correctly in V-Ray is resolved
- A new Reset option is added to the vrayVPRSettings command to allow the reset of the V-Ray interactive display mode in case it has failed
- Rhino clipping planes are no longer force-renamed by V-Ray on creation
- A warning message is now printed when the Depth of Field focus point is accidentally set to be behind the camera
- More detailed information is displayed in the Rhino History Window when upgrading external / linked files
- Enscape asset adjustments can now be performed during interactive V-Ray rendering
- Grasshopper: An issue preventing the original Scatter guest object instance to be rendered is resolved
- An issue preventing the smooth interactive experience when Light Cache is used as a secondary engine is resolved
- An issue with the Dome light viewport widget rotation is resolved
- A typo in the Rhino Python 2 script documentation related to transactions is fixed
- An issue with Enmesh application from the toolbar or with a command is resolved
- An issue with IES lights rotation is resolved
- An issue preventing the Pack Project tool from packing all assets in specific projects is resolved
- An issue preventing the Pack Project tool from initializing on Windows 11 when the name of the 3dm file being packed contains the '.' symbol is resolved
- An issue with the bounding boxes of blocks used as Scatter guests or Enmesh modules when being modified during interactive rendering is resolved
- A typo in the command for creating a Dome Light as a sphere is fixed
- An issue that prevents the rendering of Fur assets mapped with a Distance texture in specific situations is resolved
- V-Ray scenes (vrscene files) can now be exported even if the .vrscene extension is not specified. This is most useful on systems where the known file extensions are hidden
- A number of issues related to the import of Enmesh assets from Cosmos are resolved
- An issue causing the top parts of a Proxy Mesh to not appear when used as an Enmesh module is resolved
- A batch rendering issue caused by files containing views in the V-Ray Interactive rendering mode (VPR) is resolved
- An issue that prevents the persistence of the VFB configuration between V-Ray installations is resolved
- An issue causing Decals part of Proxy Scene references to not render in specific situations is resolved
- An issue leading to a crash on vrscene import, when no Render Node License is available, is resolved
- Grasshopper: An issue causing Rhino and Grasshopper to hang upon opening a .gh definition containing Cosmos Assets while the Chaos Cosmos service is not running is resolved
- Grasshopper: An issue causing Camera component parameter changes to be ignored during interactive rendering is resolved
- Grasshopper: A new script function for submitting render jobs to the Chaos Cloud is implemented - ExportCloud()
- Grasshopper: An issue causing missing assets in Grasshopper animations rendered on the Cloud is resolved
- Grasshopper: An issue leading to the incorrect ordering of some components' parameters is resolved
- The automatic user interface generation for non-native V-Ray materials and textures, lights and other special objects is improved. In the common case such items are imported from a vrscene file created in a different V-Ray integration (V-Ray for 3ds Max for example). There are no longer errors displayed in the user interface or in the log window
- An issue causing the asset preview of auto-generated Assets to hang is resolved
- The user interface of the Multi-Sub Texture is updated. The random variation modes are moved outside the 'Get ID from' menu and presented as checkboxes. As a result multiple random ID sources can now be activated simultaneously
- Contrails Pace (%) parameter added to the Sun light. It controls the speed at which jets move across the sky.
- The value of the internal Low Thread Priority parameter is now set to 2. This applies to both new and existing projects. The new value ensures there is no delay when zooming in the VFB during bucket rendering
- A new, more optimized file format is internally used when submitting projects for Cloud rendering
- Warning messages are no longer logged when opening the Asset Editor for the first time
- An issue leading to unintended collapse or expansion of the tag sections during tag renaming is resolved

V-Ray 6, Update 1 (6.10.00)

Official release

Date - May 31, 2023

Enscape compatibility (Chaos bridge)

- Added support for the new adjustable assets introduced in Enscape 3.5
- Some of Enscape's visual settings can now be transferred to V-Ray. This helps with matching Enscape's environment and illumination - Sunlight, Sky, and Camera exposure. The synchronization is done by manually performing the 'Apply Enscape Settings' action from the V-Ray / Tools menu
- Improved performance when loading and rendering Enscape assets in V-Ray
- An issue leading to incorrect transfer function of normal map textures in specific Enscape materials is resolved. This fixes many visual artifacts when rendering both Enscape materials and assets
- The conversion and rendering of emissive Enscape materials is improved
- An issue causing incorrect transparency of some Enscape assets is resolved

Decal

- Decal 'Auto Resize' button is implemented. Clicking on the button shows a menu with three possible actions - Fit to Mask, Fit to Material and Fit to Bitmap. All three ensure that the Decal aspect ratio matches the one of the corresponding image file. Fit to Mask only works when there is a texture in the mask slot. Fit to Material finds the first eligible bitmap in the Decal's material shader while Fit to Bitmap can set the aspect ratio based on any file from disk
- Decal Length lock toggle is implemented. It allows the aspect ratio between Width and Length to be preserved while resizing. The ratio lock is automatically disabled when the Width or Length value is set to 0
- Decal Displacement is implemented. For fine control over the displacement appearance and quality a Displacement modifier has to be added to the base geometry
- Decal Bump control is implemented. Disable the 'Decal Bump Only' option to use the base surface bump. Use the Amount slider to blend between the base and decal bump effects
- Decal Bend implemented. Materials can now be projected onto curved surfaces with the help of the new Bend parameter. This for example allows for stickers to be added to cylindrical objects like bottles
- Decal's default Normal Angle value is updated to 90 degrees
- Decal 'Projection Offset' parameter is implemented. It offsets the projection away or towards its target
- Decal's mask can now be disabled by toggling the checkbox on the right of the map slot
- Decal's Height parameter is renamed to Depth. In addition the parameter's tooltip is improved

Procedural clouds

- Contrails added to the procedural clouds. Select the Sun Light in the project to change the appearance of the contrails
- The procedural clouds are now, by default, visually similar to the ones in Enscape (when configured the same way). Legacy projects can be migrated by enabling the 'Enscape Compatibility' checkbox in the Clouds parameter section of the Sun. Note that once enabled the checkbox will disappear

Cosmos (Enmesh patterns)

- Enmesh patterns can now be browsed and imported from Cosmos. If a scene object is selected the pattern is automatically applied on import

VFB (V-Ray frame buffer)

- Masking for Lens Effects and Denoiser layers in the VFB is implemented. Use the standard masking workflow to utilize the feature
- A new Color transformation configuration is added to the Background layer in the VFB. Use it to apply a separate display correction to the Background layer
- Viewing stereo panorama images in the VFB using the Panorama View mode is now possible. Note that even though only the left-eye image is displayed in this mode, the stereo properties are preserved

V-Ray GPU

- Mesh Clipper support is added. Create complex section cuts fully renderable with both CUDA and the RTX (OptiX) engines
- Compressed Textures mode is implemented. When active all textures are loaded with compression to decrease their memory footprint without degrading their quality
- An issue leading to a crash when rendering specific Cosmos assets is resolved
- An issue causing a crash when rendering scenes with normal displacement and using CPU as a CUDA device is resolved

Installation

- The Chaos Cloud Client application is now always installed with V-Ray

Integration

- An issue producing disconnected and orphaned materials when saving and opening Rhino files containing linked blocks is resolved
- A new RhinoScriptComputeDeviceInfo interface is implemented. Two new methods are now also available - RhinoScriptObject.GetDeviceList(engine) and RhinoScriptObject.SetDeviceList(engine, ids) in the V-Ray for Rhinoceros Object Model
- Indirectly used V-Ray materials are no longer considered unused and therefore are not purged in Rhino 7
- The vraySetMtlID command / action can now be applied only to the selected objects
- The performance of the Interactive Light Cache calculation is improved. Note that Interactive Light Cache is now enabled by default
- An issue leading to interactive GPU rendering errors when changing the Volumetric Environment toggle state is resolved
- The OCIO mode of the Display Correction layer in the VFB is no longer incorrectly switched to sRGB when a render is initiated
- The option for loading .vrmf files in the V-Ray Batch Render window is removed
- An issue preventing block instances from being excluded (or included) from a Clipper or a Decal is resolved
- An issue causing visual artifacts (intensity multiplication) in specific render elements when denoising with the NVIDIA AI Denoiser is resolved
- Changing the visibility of Rhino Layers containing lights now correctly triggers an interactive rendering update
- A change to the visibility of Scatter guests during interactive rendering is now correctly updated

- Using File / Import to load a .vrscene in Rhino now correctly assigns material slots to all Proxy Mesh assets contained within that file
- An issue leading to excessive render times in V-Ray Cloud in specific situations is resolved
- An issue affecting the UVW mapping of VisualARQ objects is resolved
- Manually changing the file extension from .vrmesh to .vrscene directly in the Proxy Mesh interface no longer leads to a crash
- An issue causing a crash upon opening scenes containing a linked block with a Scatter asset inside is resolved
- An issue preventing the use of projects containing Scatter with a Density textures by users with a single render node license is resolved

Improved native lights handling

- Rhino lights are no longer automatically converted to V-Ray light sources on creation. A conversion can be performed using the vrayLight command at any stage. Note that all native lights are rendered but their viewport contribution matches the one in V-Ray only if the physical Exposure is disabled
- The Sun intensity is now synchronized between the Asset Editor and Rhino's Sun panel
- Shadows cast by native Rhino Point and Spot lights are improved to more closely resemble their appearance in the native Rhino renderer

Grasshopper

- Chaos Cloud is now integrated within V-Ray for Grasshopper. Right-click the V-Ray Render component to use the new 'Render on the Cloud' action. Note that when an animation is present in the definition it'll be automatically submitted for rendering
- V-Ray Render component's 'Light Rig' input is now divided into two - 'Light' and 'Environment'. Light Rig components' outputs are updated accordingly. This change provides more control by accommodating independent changes over the global scene illumination and environment
- V-Ray Environment component is implemented. It brings finer environment control and can be used as an alternative to the Light Rigs. Additionally volumetric environment effects like the V-Ray Outlines can be connected to its Volumetric input slot
- V-Ray Outlines component is implemented. Connect it to the Volumetric input of the Environment component to see the outlines rendered
- V-Ray Sky texture component is implemented. To control its appearance use a Sun input
- The V-Ray toolbar is reorganized. Two new panels are introduced - a Textures panel containing all available texture and texture placement components, and an Environment panel containing the Environment and Outlines components
- The V-Ray Bitmap component's icon is updated. Its Color Space parameter is renamed to 'Transfer Function' with its former 'Linear' option now corresponding to 'None'
- V-Ray Texture Placement Environment component is implemented. It offers advanced texture mapping controls including projection modes such as Spherical or Screen suitable for environment textures
- V-Ray Texture Placement UV Channel component is implemented. Connect it to the UVW Placement input of a Bitmap or Gradient component to control the texture placement in the objects' UV space
- V-Ray Gradient texture component is implemented. It procedurally creates color gradients by blending multiple color inputs with specific interpolation rules
- V-Ray Simple Mix component is implemented. Use it to blend a texture with a color and connect its output to a material component
- A new Units parameter is added to most Light components in Grasshopper. It specifies the unit of measurement for a light's intensity and can be helpful in simulating physically-accurate illumination
- The 'Auto Export' state of the V-Ray Exporter component is now preserved between sessions
- V-Ray Material from File component now supports direct browsing of all downloaded Cosmos materials (via its context menu)
- Object animations including dynamic creation and deletion of meshes can now be exported in a single .vrscene file
- Missing Proxy Mesh files no longer prevents Grasshopper definitions from being rendered
- The global illumination toggle of the V-Ray Light Rig Simple component is deprecated

Other Improvements & Bug Fixes

- Self-illumination parameters are added to the V-Ray Material. The use of the Emissive material layer is no longer required when shading light emitting surfaces
- The term Contours is replaced with Outlines in all its UI occurrences. This applies to both the global effect as well as the material override
- The Interactivity slider is now correctly disabled when Interactive Light Cache is enabled
- Interactive Light Cache is now active by default
- The Trace Depth option is removed from the Interactive Parameters in the V-Ray Asset Editor's Settings
- Changes of the Brute Force GI Depth now affect both interactive and production rendering
- NVIDIA AI Denoiser Upscaling option is implemented. When enabled the image is rendered at half size to speed up its calculation while the image displayed in the VFB is at full resolution. Note that render elements without the 'Denoise' option enabled are upsampled using standard interpolation
- Denoise option is added to the Extra Texture render element
- Single File Output option is implemented. Set a file path in the Asset Editor / Render Output / Save Image / File Path field and enable the Single File Output to autosave only the main image channel (RGB color or effectResult)
- The UI theme configuration in the Asset Editor now automatically changes the initial UI theme of the Cosmos Browser
- Right-click action behavior in the Outliner is updated. A right-click on an item now automatically selects it. Any consecutive context menu actions are applied to the active selection only. Note that to apply an action to multiple items at once, they have to be selected and the right-click should be performed on top of any selection member
- Distance texture's Distance value is now correctly respected when a distance texture map is also used
- The Sky texture now uses the Sun Light preview swatch scene which fixes the overexposed sky preview
- Right-clicking on a color variation in the Color Assistant now correctly sets it as a current color
- An issue with reapplying an already selected Light Gen scenario is resolved
- An issue causing multiple Asset Editor, Chaos Cosmos or Light Gen windows to appear on macOS is resolved
- Rectangle light's U Size parameter label is now correctly displayed in Chinese
- An issue preventing a Light Gen regeneration after a scenario has been applied is resolved

V-Ray 6, hotfix 3 (6.00.03)

Official release

Date - Apr 18, 2023

Other Improvements

- The End User License Agreement (EULA) is updated.

V-Ray 6, hotfix 2 (6.00.02)

Official release

Date - 17 Feb, 2023

Improvements and bugfixes

- Point Clouds support added. Note that only point particles are currently supported and only a single material can be applied to a point cloud. The size all particles are rendered at depends on the value set in PointCloud object settings located in Rhino's Display Modes options.
- V-Ray Decal assets can now be imported from Cosmos. Note that the Decals category is under Materials
- number of issues with V-Ray Decals located within blocks are resolved
- Scaling of legacy Enscape assets is no longer set incorrectly
- An issue causing unnecessary mix textures to appear in textured environment slots after Light Mix changes are applied to the scene is resolved
- Starting a renderer that will overwrite the image output file now triggers a confirmation dialogue window
- An issue leading to incorrect texture mapping caused by specific meshes' topology is resolved
- Improved Distance texture's handling of hidden objects during interactive rendering
- Changing Rhino Decal mapping type during interactive rendering is now respected
- The workflow when using the `vraySetObjectID` command is improved. Assigning a single ID or random IDs is streamlined. Added the option to assign a sequence of multiple IDs from a defined number domain
- The workflow when using the `vraySetMtlID` command is improved. It now affects all V-Ray materials and ensure a Material ID attribute is applied to each one
- Environment Fog no longer produces incorrect render results when objects are moved during interactive rendering
- V-Ray GPU: Fixed an issue causing increased render time of specific scenes with the V-Ray CUDA GPU engine
- Mathematical calculations can now be performed in all number field inputs. This includes basic operations like addition, subtraction, multiplication, and division (example: $100 \cdot 0.2 = 20$) but also more advanced operations like modulus, power, root, permutation, factorial, sine, cosine, etc.
- The Pick Focal Point button no longer enters an active state when clicked. Instead it activates the tool for picking the distance once and then returns to its initial state
- Errors caused by missing textures being replaced by raw bitmap buffers during Swarm rendering no longer cause the Log window to pop up
- Errors caused by an attempt to save a Host Material to a custom Asset Library in the left fly-off panel no longer cause the Log window to pop up
- Tag names are now respected when inputting a string in the outliner's search box
- The GPU device selection is no longer reset each time its dropdown is expanded
- An issue causing all color slot sliders to move with an offset when the Sliders Color Space is set to Screen(sRGB) in the Configuration settings rollout is resolved
- The Collaboration window is no longer blank when opened with no internet connection. A 'Try again' screen is shown instead

Grasshopper

- Improved handling of changes to color nodes during Interactive rendering
- Scene changes, especially rapid ones, now update the interactive render process more smoothly
- Using the V-Ray Asset Editor to stop rendering an animation transferred via the Render in Project component no longer causes Grasshopper to lose responsiveness
- Adding a Dome Light no longer cause an error with the V-Ray Render in Project component
- Launching Grasshopper without a V-Ray license no longer leads to a crash
- Fixed an issue preventing Dome Light parameters from updating during interactive rendering

V-Ray 6, hotfix 1 (6.00.01)

Official release

Date - 03 Nov, 2022

Improvements and bugfixes

- Chaos Cloud is updated to its latest version
- The normal maps Intensity parameter of Enscape materials is now respected when they are rendered in V-Ray
- The Dynamic Clouds option can now be toggled during interactive rendering
- The Transfer Function of Enscape materials' Reflection Roughness map is now correctly set to None
- The V-Ray installer no longer copies plugin files for Rhino versions not selected for installation
- An issue related to Enscape materials with commas in their names is resolved
- An issue preventing the import of Cosmos assets right after updating the Cosmos Browser is resolved
- The Batch Render tool now contains an intuitive 'Add Current Model' button as an alternative to the already-existing context menu action
- Deleted Enmesh assets no longer remain in the object properties' Enmesh modifier dropdown list
- A new way for ordering assets in the outliner is implemented. The new default method orders items based on their type first and only then alphabetically. This avoids mixing assets of different types and improves the project organization in some situations. There is a new configuration option that controls this behavior - Advanced Settings / Configuration / Order Assets
- An issue preventing shadow catcher materials set up using the Wrapper shader and its Matte option from being rendered with V-Ray GPU is resolved. Note that such materials saved with the beta or initial V-Ray 6 versions have to be re-created for the issue to be resolved
- Saving and loading .lighset profiles in Light Gen is once again possible
- The logic that orders tags in the outliner based on their names is improved. Tags using the same base name plus a number suffix are now ordered more intuitively
- Asset and tag names are no longer spell-checked during editing
- Creating an Asset tag now automatically selects the tag name for editing
- An issue preventing specific library assets from being imported to the scene using drag and drop is resolved
- An issue preventing Light Gen from working correctly after a manual modification to the Cosmos download folder is resolved. Note that under no circumstances should the user alter the contents of this folder
- Copying colors by drag and dropping one color slot into another no longer produces an imprecise result

Vision

- Procedural clouds support is implemented
- Clouds animation support is implemented
- A cap of 60 frames per second is reintroduced to Vision's frame rate

V-Ray 6 (6.00.00)

Official release

Date - 04 Oct, 2022

Enscape Compatibility

- Enscape compatibility. Scenes set up using Enscape will now render in V-Ray. Materials and even the Enscape assets will be automatically handled by V-Ray providing a great starting point when transitioning from the Enscape design stage to the high-end visualization in V-Ray
- A global Enscape Compatibility toggle is implemented. It disables the special handling for Enscape materials and assets
- * Note that Enscape assets provided by 3D PEOPLE are currently not supported

Rendering

- Resumable Rendering implemented. Incomplete renders can now be resumed where they left off from the previous session. Ensure that an output image path is specified to take advantage of the feature
- The interactive rendering workflow is updated. The Interactive UI toggle is removed and the production render settings remain visible at all times. Interactive rendering is enabled by using the Render Interactive button on the toolbar, the one in the asset editor or in the VFB
- Interactive Parameters rollout added to the Advanced Settings/Render Parameters section. A few parameters specific to interactive rendering can be changed there. One example is the Interactivity slider, another the toggle for Interactive Light Cache
- Interactive Light cache implemented. Toggle the 'Advanced Settings/Interactive Parameters/Allow Interactive LC' option and ensure that Light Cache is selected as a secondary GI engine to use it. When enabled the Automatic Exposure, Automatic White Balance and Adaptive Lights features will work in interactive sessions
- All rendering-related icons on the toolbar and in the Asset Editor are updated

Unified Login

- Chaos Unified Login implemented. This is a system that ensures a single Chaos login enables all Chaos products, services and product features that require authentication

Cloud Collaboration

- Chaos Cloud Collaboration implemented. This is an image-sharing platform available for free for all V-Ray users. Use the shortcuts in the VFB for a quick image upload. Note that the platform is still in beta

Cosmos

- Cosmos is updated to its latest version
- Cosmos is the new central and only remote assets provider. The legacy remote contents downloader is deprecated and is no longer part of V-Ray
- Material Library in Cosmos. The built-in V-Ray material library is no longer available in the Asset Editor. Use Cosmos to browse and import preset materials in your project. Note that the vmat library panel will remain as part of the Asset Editor mainly for managing custom asset libraries
- A shortcut that opens the V-Ray Material Library in Cosmos is now available in the left fly off pane of the Asset Editor. Select the default Materials entry to see it in the contents pane
- The logic used for importing Cosmos materials is improved in numerous ways to accommodate the new library workflow
- Light Gen environments from Cosmos. Light Gen no longer uses a proprietary system for downloading its HDR environments and instead gets the images from Cosmos. Note that saving and loading .lightset files is temporarily disabled
- Cosmos materials are now automatically selected after import

Procedural Clouds

- Procedural clouds can now be enabled in the V-Ray Sky. Select the Sun Light in the project to change the clouds parameters
- Dynamic Clouds implemented. Enable the option in the sunlight parameters and the clouds will automatically move when the time of day changes. Use the Wind Speed, Direction as well as the Phase Velocity parameters to control the movement

Enmesh

- V-Ray Enmesh Implemented. Apply the Enmesh modifier to an object and then pick an item to cover the object's surface forming a 3D pattern. Note that the base object's UV texture coordinates determine the items positioning
- Enmesh crop-box preview implemented. Changing the Spacing parameters in the Asset Editor reflects in the viewport preview showing the way the pattern-forming objects are spaced or cropped

Asset Tagging

- A new Tags system used for grouping the scene assets in the Asset Editor is implemented. Use the tags to organize and work more efficiently in complex projects
- Tag entry added to the assets context menu in the Outliner. Use it to create new tags, change the asset's tag assignment or add multiple assets to a tag all at once
- Tag assignment via a drag and drop of an asset is implemented. Note that only a single asset can be added to a tag this way

Camera Clipping

- Camera Clipping options added to the Advanced Camera Parameters rollout. Use the feature to clip nearby objects in tight spaces

Material and Texture Improvements

- Distance Texture implemented. The texture outputs color values based on object proximity and can be utilized for restricting Fur generation or even be used as a displacement map
- Dirt texture Exclude and Affected By options implemented. Exclude objects from the dirt effect or make sure they are ignored when calculating the proximity
- GTR energy compensation is enabled for all V-Ray Materials. The option ensures more accurate reflection values for most blurry reflective materials using the Microfacet GTR (GGX) BRDF model
- Thin Film parameters added to the V-Ray Material. Toggle the advanced parameters to see the Thin Film rollout
- Car Paint 2 material implemented. It replaces the legacy Car Paint in the UI and comes with an improved flakes and coating layers
- The rendered appearance as well as the UI of V-Ray Materials using the SSS Translucency are improved
- The Bitmap texture's parameter previously known as Color Space is now correctly renamed to Transfer Function. It determines the gamma correction curve applied to the bitmap
- Automatic Transfer Function mode added to the Bitmap texture. It automatically determines the color transfer function. If a bitmap file name contains the suffix '_srgb' the transfer function is sRGB. If a bitmap file name contains the suffixes '_lin_srgb' or 'raw', no correction is applied. For bitmap files with 8 bits per color component and 3 or 4 color components (like png, jpg and other), the transfer function is set to sRGB. In all other cases, no correction is applied
- Mix Amount parameter is added to the Mix (Operator) texture. It specifies the degree to which the two input textures are blended
- The slider precision for the Reflection Glossiness, Metalness and refraction Glossiness parameters of the V-Ray Mtl is increased
- Local Space Bump mode is added to all materials that support bump mapping. Enable it to measure bump amount in local texture space instead of in world units. This mode was previously called Bump Texture Channel and should be selected when an Edges texture is applied for a Round Edges effect
- Special handling for rotated normal maps is implemented. Normal maps rotated manually or by the UVW Placement randomization feature no longer render inverted
- The upper limit of the Intensity parameter of Emissive materials is removed

Color Management

- ACEScG color space management implemented. Select the ACEScG RGB Primaries in the color management settings to ensure that V-Ray is rendering in the new color space. Most standard RGB bitmap textures should use the sRGB Primaries option in this workflow
- ACEScG color space support is added to the Color Picker

Finite Dome Light

- Finite Dome parameters added to the Dome light source. It limits the size of the Dome shape and introduces a ground projection that can be adjusted using the Projection Height and Ground Blend parameters

Assets Preview Swatch

- Live preview for Decals implemented
- Sphere swatch preview scene added for material assets. The preview is similar to the one used in Cosmos
- The automatic texture resize is disabled for the GPU asset preview. The material swatch no longer lacks details and appears blurry
- The Environment textures' preview no longer appears incorrect when the GPU mode is enabled
- The V-Ray typography of the Generic material preview is updated to match the current company branding

VFB

- Panorama viewer implemented. Use the Panorama View toggle in the View menu to enable the new mode. Looking around in this view is done by holding the middle mouse button and moving the mouse. The field of view can be altered by scrolling
- Proportion Guides layer implemented to help you with the frame composition
- Batch image processing implemented. Use it to apply corrections to a set of pre-rendered images
- Flip buttons implemented. Use the quick flip feature to have a fresh eye on the image composition and verify it works in all settings
- Dither colors option implemented in the VFB settings / Render View rollout. Make sure it is enabled to avoid banding with low-contrast gradients
- The VFB configuration including the History state and folder location is preserved between installations
- The Exposure (display only) slider part of the Display Correction's layer parameters no longer affects images saved from the VFB

V-Ray GPU

- Improved performance and reliability
- Added support for the Lighting Analysis render element
- Improved trace depth limit handling
- Improved round edges rendering quality
- The global trace depth logic used by the GPU engine now matches the one used in Production CPU rendering. Enabling the Render Parameters /Optimizations/Max Trace Depth checkbox ensures that the value specified overrides all corresponding max depth settings in the materials
- The standalone GPU Device Selection tool is updated. The new user interface allows specific devices to be selected for Denoising (should be considered when NVIDIA AI denoising is used). This can help boost rendering performance on systems with more than one GPU
- An issue preventing spotlights from being scatter by the Environment Fog is resolved

Integration

- Rhino 8 is now supported
- V-Ray scene importer implemented. Import any .vrscene file for editing in Rhino. V-Ray shaders are also added to the scene. 'Unsupported' shading nodes use an auto-generated UI - still remaining editable. Note that this feature is still in an experimental stage
- Implemented support for Double-sided material in Rhino 7 and Rhino 8
- An issue causing materials from legacy scenes to not get loaded correctly in the current V-Ray version is resolved
- Materials can now be assigned to object faces in Rhino with the Apply to Selection context menu action in the Asset Editor
- An indication of VPR initialization is displayed at the bottom of the viewport
- Displacement modifiers no longer disappear when exporting a Proxy Scene
- The handling of V-Ray data from linked blocks is improved
- The handling of V-Ray data when using Rhino worksessions is improved
- Copying a light in Rhino now results in the copy being selected in the Asset Editor
- IES lights intensity is read from the file on import and is automatically set as the Intensity (lm) number
- The vrayCosmos command is updated. It is now more convenient for an asset ID to be used as a selector. Exact asset names can also be used instead of the ID
- V-Ray textures which are inverted or multiplied are now displayed correctly in the Rhino viewport
- Changing the Focal blur options in Rhino (with the V-Ray's Depth of Field / Focus Source set to Rhino) is now supported during interactive rendering
- The way Rhino Linear Lights are rendered is improved. The resulting Rectangle light has its Double Sided option enabled
- A number of issues regarding the LODs (levels of detail) of Cosmos assets are resolved. Note that the LODs are only used in V-Ray Vision
- Chaos Vantage is no longer automatically stopped when Rhino is closed
- The vrayMtlFromRhino command is improved to account for per-face material assignments
- When a Binding texture is used the viewport material representation now ignores all other parameters
- V-Ray materials without a Rhino counterpart can now be preserved when opening the project thanks to a new warning message that presents this option. Note that this is a corrupted state which by design should not occur. It is most often achieved when the project is edited without the V-Ray plugin being loaded or in specific rare cases when the File/Import or File/Insert Rhino actions are performed
- The local Environment texture that can be added to native Rhino materials is now supported by V-Ray

- The 'Reset To Defaults' material-specific action that can be performed in Rhino's materials list is now supported. Note that all V-Ray shaders are reset to a gray Generic material

Grasshopper

- Dome light implemented
- Sun light implemented
- Mesh light implemented
- The items in the V-Ray Render Toolbar section are now better organized
- The default file type of the Proxy Mesh component is now correctly set to .vrmesh
- All Color inputs of the V-Ray components now accept color values that exceed 1.0
- Rapidly changing the current frame in the Timeline component during interactive rendering no longer leads to a crash

Vision

- A new system for evaluating V-Ray textures is implemented. Most of V-Ray's procedural textures and texture corrections are now supported in Vision. This is achieved through 'baking' which leaves raytraced or camera-based procedural maps still unsupported (Dirt, Falloff, Distance, Edges, etc.)
- Measurement tool implemented. Use the toolbar button or the Z key to enable the tool, then select the two points to measure the distance between them
- Depth of field support added. Change the DOF settings in V-Ray to see an effect in Vision. Note that the defocus amount is limited in Vision
- The Orbit navigation mode hotkeys now match the ones in the host application
- A new handling for materials opacity is implemented. Visual artifacts no longer appear when multiple transparent objects overlap in the frame
- The V-Ray Infinite Plane is now supported in Vision. Note that in Vision the plane still has a finite size but will automatically resize based on the scene bounding box
- The overall stability and reliability of Vision is improved
- The parameters in the Settings panel are now organized in rollouts
- Hours can now be displayed in the timeline end label
- An issue preventing Vision from working on macOS is resolved
- The default range of the Ambient Light Intensity slider is increased to 200
- The active camera FOV (Field of View) is taken into consideration when calculating the mouse sensitivity. This improves the Vision navigation in specific situations
- Vision settings are now organized in rollouts that can be collapsed or expanded depending on the situation
- Tri-Planar textures using a plane color instead of a texture now work correctly in Vision
- Added support for the Self-illumination parameters of the VRay Mtl
- Parallax Displacement mapping implemented. Make sure that a displacement is set up in V-Ray to see the effect
- The V-Ray Decal is now supported in Vision
- Navigation shortcut keymaps implemented. The one matching the host application (SketchUp or Rhino) is automatically selected
- Bitmap texture's Automatic Transfer Function support added. The transfer function selection in Vision matches the one in V-Ray
- Flipping face normals in the host application no longer leads to incorrect texture placement in Vision
- An issues caused by materials with similar names (same name but a different number suffix) is resolved
- The Output image File path can now be typed manually
- Deleting a Mesh Light no longer requires a live link restart to take effect
- Creating a Group or Component in SketchUp during a live session no longer misplaces the object in Vision
- Vision no longer hangs when a Cosmos asset is merged during a live session
- Grass strands (V-Ray Fur with 'grass' in its name) no longer get misplaced during a live session
- There is no longer a dark or bright circle artifact under the camera when the high quality shadows are enabled
- The Ctrl + O shortcut can once again be used for opening .vrscene files
- A number of issues affecting the fly navigation mode are resolved
- UI mouse and key interactions no longer affect the view
- A fly speed exceeding 200 can now be set
- The A and D fly navigation keys no longer unintentionally change UI slider values
- CarPaint2 material support added
- Cosmos asset no longer disappears if a merged version of the same asset exists
- The trunk material of the American Beech 002 Cosmos asset is no longer rendered black
- Support for Dome lights using a plain color instead of a texture is added
- A number of issues with textures instanced in multiple materials are resolved

Other Improvements & Bug Fixes

- A number of issues related to the duplication of materials and textures in the Asset Editor are resolved
- the Refraction fog color Depth value can now be reset
- The warning that indicates that the Cryptomatte render element does not work in all rendering modes is removed since this limitation no longer exists
- A number of parameter labels and tooltips are updated to better indicate what the parameter does
- Applying Light Mix IES light edits to the scene now correctly enables the intensity override checkbox and sets the target intensity value
- V-Ray objects in a linked block are now updated correctly after the block is edited separately
- The Progressive rendering toggle's state is now correctly restored after stopping viewport render
- Decal's material is no longer incorrectly duplicated after its deletion is undone
- Rhino no longer becomes unresponsive upon fast materials import from Cosmos
- Rhino no longer becomes unresponsive after a Decal widget is exploded and then rendering is initiated
- Duplicated Decals are no longer incorrectly translated
- Cosmos assets' preview is no longer incorrect after import using the vrayCosmos command
- The render result is no longer black when using Depth of Field with Rhino's Focus Source set to 'Autofocus on selected objects'

- Mesh Lights in blocks with multiple instances are no longer incorrectly classified in Light Mix
- The Engine options of the Grasshopper V-Ray Render component are now correctly listed as CPU, CUDA and RTX
- An issue with the material conflict resolution when inserting or pasting files containing V-Ray materials is resolved
- A V-Ray material applied to more than one special object no longer gets duplicated when imported into a new project
- Importing a vrmf material using a drag and drop action into a project where a material with the same name already exists no longer causes issues
- An issue causing materials to get incorrectly duplicated in specific situations is resolved
- Manual Cloud rendering of multiple views no longer results in multiple renders of the same view to be performed on the Cloud
- The native Rhino material names are now correctly considered when renaming V-Ray materials in the Asset Editor. Duplicated material names are avoided in all situations
- An issue leading to incorrect material duplication after a forward slash (/) is used in a native Rhino material's name, is resolved
- Cosmos Assets in blocks are now correctly hidden when their corresponding block is hidden
- The V-Ray Displacement object modifier no longer disappears when the geometry is exported as a Proxy Scene
- Undoing a light deletion is now correctly reflected during interactive rendering
- Circular references are now correctly eliminated when opening a corrupted project
- An issue causing specific legacy materials (pre RDK) to get deleted when the project is loaded, is resolved
- Renaming a material in the Rhino materials panel no longer prevents the material from being updated further during interactive rendering
- Loading a scene with badly serialized (disconnected) materials and selecting the Delete option now works correctly
- Duplicated material names are no longer allowed even when one of the materials is a Rhino sub-material
- A number of issues preventing interactive updates of material assigned to a layer are resolved
- Applying a material to a object with existing face material assignment (and choosing to preserve the face assignment) during interactive rendering no longer makes the object black

Build 6.00.b1

Beta release

Date - Aug 23, 2022

Enscape Compatibility

- Enscape compatibility. Scenes set up using Enscape will now render in V-Ray. Materials and even the Enscape assets will be automatically handled by V-Ray providing a great starting point when transitioning from the Enscape design stage to the high-end visualization in V-Ray
- Enscape material properties are now respected even when Enscape is not installed. Note that these properties matter only when Enscape Compatibility is enabled
- The Enscape Compatibility toggle state now persists between sessions

Rendering

- Resumable Rendering implemented. Ensure that an output image path is specified to take advantage of the feature
- The interactive rendering workflow is updated. The Interactive UI toggle is removed and the production render settings remain visible at all times. Interactive rendering is enabled by using the Render Interactive button on the toolbar, the one in the asset editor or in the VFB
- All rendering-related icons on the toolbar and in the Asset Editor are updated

Procedural Clouds

- Procedural clouds can now be enabled in the V-Ray Sky texture. Select the Sun in the project to change the clouds parameters
- Dynamic Clouds implemented. Enable the option in the sunlight parameters and the clouds will automatically move when the time of day changes. Use the Wind Speed, Direction as well as the Phase Velocity parameters to control the movement

Enmesh

- V-Ray Enmesh Implemented. Apply the Enmesh modifier to a geometry and then pick items to cover its surface. Note that the base mesh UV texture coordinates determine the items positioning

Asset Tagging

- A new Tags system used for grouping the scene assets in the outliner is implemented. Use the tags to organize and work more efficiently in complex projects
- Outliner tags can now be assigned to multiple assets all at once via the context menu
- Right-clicking on a tag icon now shows a context menu with options for the tag to be deleted or renamed

Camera Clipping

- Camera Clipping options added to the Advanced Camera Parameters rollout. Use the feature to clip nearby objects in tight spaces

Material and Texture Improvements

- Distance Texture implemented. The texture outputs color values based on object proximity and can be utilized for restricting Fur generation or even be used as a displacement map
- Dirt texture Exclude and Affected By options implemented. Exclude objects from the dirt effect or make sure they are ignored when calculating the proximity
- GTR energy compensation is enabled for all V-Ray Materials. The option ensures more accurate reflection values for most blurry reflective materials using the Microfacet GTR (GGX) BRDF model
- Thin Film parameters added to the V-Ray Material. Toggle the advanced parameters to see the Thin Film rollout
- Car Paint 2 material implemented. It replaces the legacy Car Paint in the UI and comes with an improved flakes and coating layers
- The rendered appearance as well as the UI of V-Ray Materials using the SSS Translucency are improved
- Automatic Transfer Function mode added to the Bitmap texture. Note that the parameter previously known as Color Space is now correctly renamed to Transfer Function. It determines the gamma correction curve applied to the bitmap
- Mix Amount parameter is added to the Mix (Operator) texture. It specifies the degree to which the two input textures are blended
- The slider precision for the Reflection Glossiness and Metalness parameters of the VRay Mtl is increased

Color Management

- ACEScsg color space management implemented. Select the ACEScsg RGB Primaries in the color management settings to ensure that V-Ray is rendering in the new color space. Most standard RGB bitmap textures should use the sRGB Primaries option in this workflow
- ACEScsg color space support is added to the Color Picker

Lighting

- Finite Dome parameters added to the Dome light source

Assets Preview Swatch

- Live preview for Decals implemented
- Sphere swatch preview scene added for material assets. The preview is similar to the one used in Cosmos

VFB

- Panorama viewer implemented. Use the Panorama View toggle in the View menu to enable the new mode. Looking around after that is done by holding the middle mouse button and moving the mouse. The field of view can be altered by scrolling
- Proportion Guides layer implemented to help you with the frame composition
- Batch image processing implemented. Use it to apply corrections to a set of pre-rendered images
- Flip buttons implemented. Use the quick flip feature to have a fresh eye on the image composition and verify it works in all settings
- Dither colors in the frame buffer to avoid banding with low-contrast gradients

V-Ray GPU

- Added support for the Lighting Analyses render element
- Improved performance and reliability
- Improved trace depth limit handling
- Improved round edges rendering quality

Cosmos

- Cosmos is updated to its latest version
- The materials from the standard material library are now in Cosmos. The legacy material library will be phased out and Cosmos will remain the central, unified asset provider
- The import of specific Cosmos materials is improved

General

- Rhino 8 is now supported
- V-Ray scene importer implemented. Import any .vrscene file for editing in Rhino. V-Ray shaders are also added to the scene. 'Unsupported' shading nodes use an auto-generated UI - still remaining editable. Note that this feature is still in an experimental stage
- Implemented support for Double-sided material in Rhino 7 and Rhino 8
- An issue causing materials from legacy scenes to not get loaded correctly in the current V-Ray version is resolved
- Materials can now be assigned to object faces in Rhino with the Apply to Selection context menu action

- An indication of VPR initialization is displayed at the bottom of the viewport
- Displacement modifiers no longer disappear when exporting a Proxy Scene
- Inverted V-Ray textures are now correctly displayed in the Rhino viewport
- The handling of V-Ray data from linked blocks is improved
- The handling of V-Ray data when using Rhino worksessions is improved

Grasshopper

- Dome light implemented
- Sun light implemented
- Mesh light implemented

Vision

- A new system for evaluating V-Ray textures is implemented. Most of V-Ray's procedural textures and texture corrections are now supported in Vision. This is achieved through baking which leaves raytraced or camera based procedural maps still unsupported (Dirt, Falloff, Distance, Edges, etc.)
- Measurement tool implemented. Use the Z key to enable the tool, then select the two points for a distance to be measured between
- Depth of field support added. Change the DOF settings in V-Ray to see an effect in Vision. Note that the defocus amount is limited in Vision
- The Orbit navigation mode hotkeys now match the ones in the host application
- A new handling for materials opacity is implemented. Visual artifacts no longer appear when multiple transparent objects overlap in the frame
- The V-Ray Infinite Plane is now supported in Vision. Note that in Vision the plane still has a finite size but will automatically resize based on the scene bounding box
- The overall stability and reliability of Vision is improved
- The parameters in the Settings panel are now organized in rollouts
- Hours can now be displayed in the timeline end label
- The output image file path can now be manually edited
- An issue preventing Vision from working on macOS is resolved