Release Notes

Havok Content Tools

Version : 6.0.0 RC1

Including all development after version 5.5.0 RC1

Documentation

Improvements

| **EXP-1500** | Implemented | **Havok Animation needs more non-technical docs on root bone, motion extraction and move animation to origin.** | 6.0.0 RC1 |
| | | More documentation with examples and illustrations has been added to the Content Tools userguide. | |

Filter Manager

Bugs

| **EXP-1490** | Fixed | **Memory corruption during hctFilterUtils::deepCopyObject()** | 6.0.0 Beta1 |
| | | A bug in the memory hadling while passing data between filters was fixed. For certain rare data configurations, this bug could cause corrupt memory, crashing the filter manager. | |

| **EXP-1525** | Fixed | **Standalone Filter Manager should not crash when attempting to load assets from later versions of the SDK.** | 6.0.0 RC1 |
| | | The Standalone Filter Manager will now warn if you attempt to do this, and ignore the file. | |

| **EXP-1532** | Fixed | **Use of HK_ERROR causes an infinite loop in the Content Tools.** | 6.0.0 Beta 2 |
| | | Now an HK_ERROR raised in release will print a 'Fatal Error' message and exit the filter run early.
In debug, it will force a breakpoint. | |

EXP-1484	Fixed	**Truncation Ratio slider in Wavelet compression filter does not save value.**	6.0.0 Beta1

Now updates correctly when slider is moved.

Improvements

EXP-1543	Implemented	**Standarized product icons (colored buzzsaws) in filter manager UI**	6.0.0 Beta1

The icons used in the filter manager to represent filter categories (products) have been replaced with more consistent havok buzzsaw product icons. New categories have also been added for Cloth and Destruction.

Filters - Animation

Bugs

EXP-1521	Fixed	**Animation looping filter accidentally removed, must be re-added to the content tools.**	6.0.0 Beta1

The animation looping filter has be re-added to the 6.0 content tools.

EXP-1337	Fixed	**HKO 'rig files' are not refreshed correctly in batch filter manager modes in CreateAnimation filter.**	6.0.0 Beta 2

When run in batch mode, the rig file was not re-loaded and re-parsed which meant that if the user had changed the rig file since the .hko had been saved the new bone names were not correctly detected. This has been fixed to ensure the rig file is always re-loaded and re-parsed when the filter is processed.

EXP-1524	Fixed	**Spline Compression Advanced Settings - labels and values do not match up**	6.0.0 Beta1

Spline Compression Filter Advanced Settings: labels and options now properly correspond

| **EXP-1587** Fixed | **Create Skin Filters : Simplify Mesh Binding leaves hkxSkinBinding in inconsistent state** | 6.0.0 RC1 |

Using the "Simplify Mesh Binding" option in the Create Skin filter changes the bone indices stored in the hkxMesh to match those in the hkaSkeleton. However, the hkxSkinBinding that points to the hkxMesh was not touched. This object contains nodes and transforms indexed by the original boneindices; so it was left in an inconsistent state. This problem has been fixed : the hkxSkinBinding nodes and transforms are now reordered, whenever possible, to match the new indices. If that is not possible, the hkxSkinBinding is removed from the scene.

| **EXP-1550** Fixed | **Animations in world/model space not exported when there is no animation in local space (skeleton root not parented to world root).** | 6.0.0 RC1 |

If the skeleton root was not animated with respect to its (scene hierarchy) parent it was assumed that it was not moving and would be only represented by two (identical) keyframes - this could result in the whole skeletal animation being considered static if it was also the case that none of its children had any local animation.
Now the filter will examine the scene hierarchy parents to determine the actual number of keyframes in world space the root may have, and such animations will export correctly.

| **EXP-1580** Fixed | **Create Skins Filter crash when no bone weights available in mesh** | 6.0.0 Beta 2 |

The Create Skins filter was asserting/crashing when processing a skinned mesh with no bone weights assigned to it. The filter will now warn and continue.

New Features

| **EXP-1516** Implemented | **Create footfall analysis filter prototype** | 6.0.0 Beta1 |

The Footstep Analysis filter has been added to the content tools. This filter analyzes input animations and adds annotations describing when the feet of the character contact the ground. The user inputs the bones which comprise the feet as well as tolerances used in analysis.

| **EXP-1534** Implemented | **Create filter to align animations to a specific world axis** | 6.0.0 Beta1 |

The Rotate Animation filter has been added into the Animation filter suite in the content tools. It can be used to align the start of an animation(s) in the direction of a specific world coordinate axis.

| **EXP-744** | Implemented | **Content tools should preview animations before and after compression** | 6.0.0 Beta 2 |

The Preview Scene Filter now allows for the skeletons of compressed and uncompressed animations to be overlaid upon one another. This allows users to preview how compression differs from the original uncompressed animation (or alternate compression settings). Users can choose unique colors in the Create Animations filter.

Improvements

| **EXP-1482** | Implemented | **Allow user to get scene order of bones in the CreateAnimation Filter.** | 6.0.0 Beta 2 |

The CreateSkeleton filter now saves the bone set in the order displayed in the filter dialog.
In all cases except 'From File', this order matches the scene hierarchy. When using 'From File' this order will now either match the scene hierarchy or the file order depending on whether the 'Use File Order' checkbox is selected.

| **EXP-477** | Implemented | **Identify and prune identity hkAnimationBindings.** | 6.0.0 RC1 |

There is now an option to prune identity binding indices (though not the binding itself which contains blend hint information) in the Prune Types filer. If the binding indices do not represent the identity mapping they will not be pruned.

| **EXP-1542** | Implemented | **Allow user to name skeleton in CreateSkelton filter.** | 6.0.0 Beta 2 |

The user may now name the skeleton in the Create Skeleton filter. By default, the 'old behavior' (auto-naming the skeleton to be the same as the name of first root bone) is used. Note that because of HKA-657 this name will also be copied to all Mesh Bindings, Animation Bindings, and Bone Attachments.

Filters - Core

Bugs

| **EXP-1567** | Fixed | **MergeAssets filter will crash if merging an asset with metadata stripped.** | 6.0.0 Beta 2 |

Filters now load and process packfiles with metadata stripped.

Improvements

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| **EXP-1518** | Implemented | **Improve preview of annotations in preview window (for motion analysis filters)** | 6.0.0 Beta 2 |

Improved scrub abilities and a step frame backward button have been added to the animation preview window.

Filters - Physics

Bugs

| **EXP-1547** | Fixed | **Create rigid Bodies filter always wrapped list shapes in MOPPs when MOPP check box is unticked** | 6.0.0 Beta 2 |

If the 'Wrap list shapes with MOPP code' checkbox in the Create Rigid Bodies filter was unchecked, shape collections would always get wrapped in a MOPP, incorrectly. This has been fixed. Now when the checkbox is unchecked a MOPP is never created.

| **EXP-1577** | Fixed | **Create Rigid Bodies filter always fails to calculate welding information for hkpExtendedMeshShape** | 6.0.0 RC1 |

A bug in the 'Create Rigid Bodies' filter resulted in the welding information never being calculated, even if the mesh was valid. This has been fixed. Welding can now fail only in the one-sided welding case, and only if the algorithm detects inconsistent winding in any neighbouring triangles.

Improvements

| **EXP-1515** | Implemented | **Improve performance of hkGeometryUtils::weldGeometryVertices()** | 6.0.0 Beta1 |

hkGeometryUtils::weldGeometryVertices() has been optimized to improve performance when welding mesh vertices during the "create rigid bodies" filter.

Release System / Installers

Improvements

| **EXP-1540** | Implemented | **Remove physics dependency in max, maya and xsi tools** | 6.0.0 Beta1 |

Dependencies to Havok Physics libraries (hkpDynamics, etc..) have been removed from the 3ds Max, Maya and XSI plugins. They can now be built using just havok common libraries.

EXP-1535	Implemented	**Remove unnecessary sprintf-style deprecation warnings from HCT**	6.0.0 Beta1

These warnings have been removed.

EXP-1562	Implemented	**Drop support for 3ds Max 6.0, Maya 6.0, Maya 6.5.**	6.0.0 Beta 2

Support for 3ds Max 6.0, Maya 6.0, and Maya 6.5 has been dropped. These versions are very old and do not give us some SDK operations necessary for the latest features.

Scene Exporter (3ds Max)

Bugs

EXP-1477	Fixed	**3dsMax Export cannot handle selection sets which reference non existant nodes**	6.0.0 Beta 2

3dsMax Export now properly ingnores selection sets members which reference non existent nodes.

EXP-1491	Fixed	**Max assertion when exporting certain vertex selections**	6.0.0 Beta1

Exporting named vertex or triangle selections was sometimes causing 3ds Max to assert, particularly when topology changes were made after selections were created. The exporter will now detect invalid selections, warn the user, and ignore them.

EXP-1503	Fixed	**Camera Near and Far Planes not exported correctly**	6.0.0 Beta1

A bug in the 3ds Max Scene Exporter was exporting the incorrect value for the Far plane of cameras whenever the user tried to override the defaults in 3ds Max. This bug has been fixed.

Scene Exporter (Maya)

Bugs

EXP-1581	Fixed	**Maya Mesh Export - Unnecessary vertex duplication during export**	6.0.0 Beta 2

The Maya Scene Exporter was sometimes unnecessarily duplicating vertices during mesh export. This has been fixed.

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EXP-1539 Fixed	**Maya exporter should not export intermediate objects**	6.0.0 RC1

Maya no longer exports intermediate objects. This fixes any cases such as that where an object may have multiple child intermediate meshes appearing before the final skinned mesh. Since the exporter picks the first mesh, it failed to export the desired (skinned) mesh.

If you wish to revert to the previous behaviour where the first child object is exported (even if it is intermediate object) please add a variable called 'do_not_export_intermediate_objects' to the exporters environment variables.

Scene Exporter (XSI)

Bugs

EXP-1546 Fixed	**XSI can export bad transforms in certain scenarios due to CMatrix4::Invert() miscalculation**	6.0.0 Beta 2

The built-in matrix inversion function could fail for some matrices giving inaccurate transforms on export. This has been fixed by using a more accurate inversion algorithm.