AUTODESK®
MAYA®
8.5

Autodesk®

Release Notes

Legal Notice

Autodesk® Maya® 8.5

Patents
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1 Introduction to release notes

Release notes

Autodesk Maya 8.5 release notes

The Maya 8.5 release notes contain known limitations and workarounds for Maya and is organized into chapters according to Maya's functionality.

To find out which limitations were fixed for this release, see the following:

2 What's fixed in Autodesk Maya 8.5

Release notes

What is What's Fixed?

In Autodesk® Maya® 8.5, we've corrected some problems in the Maya software that have been reported by our customers. For new features and improvements, see "Overview of What's New" in the *What's New in Maya* guide.

The following sections list the software limitations that were fixed in Maya 8.5.

What's fixed in general

The following lists general limitations that were fixed in Maya 8.5.

File referencing

Lattices cannot be unlocked when referenced limitation fixed

It was previously not possible to edit lattices when they were referenced in a scene. Referenced lattices were automatically locked and could not be unlocked.

It is now possible to make modifications to lattices, NURBS curves and NURBS surfaces without history when they are referenced in a scene.

Level of Detail settings and CPU usage

Previously, whenever a Level of Detail node was selected in the Attribute Editor and the Level of Detail Threshold value was edited so that the value was larger than the Level of Detail Maximum Distance value, the CPU usage would dramatically increase and remain high until the Attribute Editor was closed or another node type was selected.

This has been fixed in Maya 8.5.

What's fixed in Modeling

The following lists modeling limitations that were fixed for Maya 8.5.

Vertices moved when using Split Polygon Tool revert when the tool is completed

Previously, if you moved a vertex that was added when using the Split Polygon Tool, it reverted to its original position when the tool was completed. This has been fixed.

UVs normalized when creating primitives

The Normalize option in the polygon cube or cylinder creation windows now properly normalizes the UVs of the primitives.

Corruption of user defined normals when using Combine feature

The Combine feature previously corrupted the indices for user defined vertex normals whenever one of the polygon meshes had a negative scale. This is now fixed.

Corruption of user defined normals when deleting a face within a polygon mesh

Previously, changing the topology of the mesh, for example, deleting a face on a mesh, could corrupt the indices for any user defined vertex normals. This is now fixed.

User defined vertex normals lost when editing meshes without history

Previously, editing the vertex face component of the normals on a polygon mesh without construction history resulted in the loss of any previously applied user defined normal data. This is now fixed.

Retriangulation results in indices for user defined normals, colors, and UVs being re-indexed

Previously, whenever deformations occurred on a mesh with the Reuse Triangles option disabled, the indices for user defined normals, colors, and UVs could get re-indexed with the triangle definitions. This is now fixed so that the display is updated with this new information.

When the Reuse Triangles option is on, performance is also improved.

UV shells become unselected and invisible when using Move UV Shell Tool

Whenever multiple objects were selected (in object mode) when using the Move UV Shell Tool and you subsequently click-dragged on one of the selected shells in the UV Texture Editor, the other shells were deselected and were no longer displayed. This is now fixed.

Coils for Helix primitives constructed incorrectly when units are in meters

Previously, when creating a polygon helix when the worldspace units were set to meters, the resulting coils were incorrectly scaled by a factor of .01. This is now fixed.

Interactive primitive creation does not snap correctly in Y axis

Previously, when the Interactive Creation option was used in conjunction with the Snap to Grids feature, the primitive height would snap to the ground plane resulting in a flattened shape. This is now fixed.

Split Polygon Tool produces inaccurate results when splitting across multiple faces

Depending on the position of the camera, the Split Polygon Tool could produce a crooked line of edges and vertices when splitting across multiple faces when compared to the original splitting curve. This is now fixed.

Split Polygon Tool doesn't slide vertex to the end of an edge

Previously, depending on the zoom setting of the camera, it may not have been possible to slide a vertex to the end of an edge when using Split Polygon Tool and the middle mouse button. This is now fixed.

What's fixed in Character setup

FBIK and mental ray

Previously, when rendering with mental ray, skeletons driven by full body IK (FBIK) would not animate properly if mental ray's Optimize Animation Detection setting was on.

This has been fixed for Maya 8.5.

What's fixed in Rendering

The following lists rendering limitations that were fixed for Maya 8.5.

MEL commands for batch rendering

The following MEL commands now work in Maya 8.5:

All of the -pre/-post commands (for example, -preFrame/-postFrame) now work with batch rendering for mental ray for Maya.

The -preRender and -postRender commands now work with batch rendering for the Hardware renderer.

Ctrl+C to abort a batch render

You can now use the Ctrl+C command to abort a batch render.

mental ray for Maya rendering

FBIK and mental ray

Previously, when rendering with mental ray, skeletons driven by full body IK (FBIK) would not animate properly if mental ray's Optimize Animation Detection setting was on.

This has been fixed for Maya 8.5.

Rasterizer

Incompatibilities between the rasterizer and final gathering have been resolved.

The rasterizer now also supports rendering of motion blur for raytracing effects such as reflection, refraction, and raytraced shadows. To enable this feature, set the Time Samples attribute in the Render Settings window: mental ray tab, Motion Blur section, Rendering subsection to a value greater than 1.

Changing the number of rendering threads to use in the mental ray Batch Render Option window has no effect

In previous versions of Maya, the number of threads was saved in the Maya Preferences, which were not saved until Maya closed or preferences were saved.

This has been fixed for Maya 8.5 and you no longer need to save user preferences explicitly before calling batch render.

Interactive addition and removal of satellite hosts

When network rendering, it is now possible to add, remove, and re-add satellite hosts interactively using the `Mayatomr -ah/-rh` MEL command.

Recognize .map files with alpha channel

Previously, when using MAYA_DISABLE_MRMAP, Maya would not recognize any alpha channel in `.map` files.

Now in Maya 8.5, when using MAYA_DISABLE_MRMAP, Maya assumes that `.map` files have an alpha channel.

Light linking works with surfaces with multiple shader assignments

In Maya 8.0, light linking did not work with surfaces with multiple shader assignments. This has been fixed for Maya 8.5.

mental ray for Maya exports the necessary include and link statement in .mi files

Previously, when exporting scenes containing custom shaders to .mi format, the appropriate link and include statements were not automatically written to the exported .mi file. This has been fixed.

NURBS surface texture warp feature now supported

The Fix Texture Warp feature on Maya NURBS surfaces is now supported in mental ray.

Dummy shaders no longer needed for .mi files containing only

phenomena

In Maya 8.0, .mi files that contain only phenomena but without any shaders did not work, and a dummy shader declaration had to be added to the file. This has been fixed for Maya 8.5.

Exact Motion Blur artifacts fixed

Previously, using Exact Motion Blur produced clipped results in the render image. This has been fixed for Maya 8.5. The .mi export has changed so that no motion bounding box is generated in the plug-in and written to the file, which forces mental ray to compute this box during rendering. This method improves rendering performance for motion blur (especially with raytracing). To enforce export of motion boxes by the plug-in, enable the option Export Objects On Demand option. You can find this option in the Render Settings: mental ray tab, Translation section, Performance sub-section.

Hardware rendering

High Quality Render and Isolate Select

Previously, Isolate Select was not supported with High Quality Render. This is now fixed.

3 Basic interface

Release notes

General UI limitations

The following limitations and workarounds relate to general UI issues. For platform-specific UI issues, see:

- "Maya for Windows limitations" on page 109
- "Maya for Linux limitations" on page 109
- "Maya for Mac OS X limitations" on page 112

Maya 3D Shockwave Exporter

Maya 3D Shockwave Exporter is no longer provided as part of Maya.

Problems loading some very large files

We made speed improvements to polygon drawing in Maya 6.5 that involve using a polygon draw cache. When loading certain very large files in Maya 6.5, the polygon draw cache of Maya may cause the memory usage of Maya to exceed the memory available to the application on your system, resulting in instability.

(Note: The 64-bit version of Maya on Windows and Linux provides enough memory space that this issue should not arise.)

If you encounter this problem using Windows XP on a 32-bit system, we suggest you increase the application memory limit of Maya; for instructions on how to do this, see "Set Maya to use maximum memory (increase the Virtual Memory limit)" on page 169 in the *Basics* book.

As well, we have added a mechanism to disable the polygon draw cache so that you can more easily load very large files. There is an environment variable called `MAYA_DISABLE_POLYGON_DRAW_CACHE`. Set it to 1 to disable the polygon draw cache.

If you disable the polygon draw cache, interactive draw performance will be slower. We recommend that you not leave this environment variable set to 1, but instead set it only for working on files that show this problem.

Maya 6.0 and Windows XP SP 2

If you're still running Maya 6.0, you may experience problems under Windows XP SP 2 where Maya may fail to start. This is a known issue with Windows; please see:

support.microsoft.com/default.aspx?kbid=842242&product=windowsxpsp2

Tear-off menus and Windows XP

Tear-off menus in Maya have display problems when using Windows XP Style UI schemes.

Workaround

Select Start > Control Panel and double-click the Display icon. Select the Appearance tab and change UI scheme to Windows Classic.

Hotkeys disabled when using Attribute Editor in main window

If you have the Attribute Editor open in the main window, and you click it, type in a new value, and then press Enter, the keyboard focus stays in the Attribute Editor. This means your hotkeys will not work until you return focus to the modeling window.

Workaround

To get the focus back into the modeling window without changing anything else, move the mouse over the window and click with the middle mouse button.

Speeding up interactive performance on Linux machines

On Linux machines, you can speed up Maya's interactive performance by closing or hiding the Attribute Editor when you are not using it.

Using the grid in perspective view

If you are working in non-default units, you may not see the grid in perspective view when you first open a file. The problem is that the grid is created at the wrong size. Zooming out will show it.

Workaround

Select Display > Grid > ❐ and click the Reset button. Then on the view panel select View > Default Home.

Tearing off menus with check boxes or radio buttons

If you tear off a menu that has check boxes or radio buttons and leave it open, the check marks and buttons may not update.

Workaround

Close the menu, then reopen it

Setting rotation and translation limits in the Channel Box

You cannot set rotation and translation limits in the Channel Box.

Workaround

Use the Attribute Editor. To set the limits of many objects at once, use the All tab in the Attribute Spread Sheet (Window > General Editors > Attribute Spread Sheet).

Using torn off panels in panel layouts

Panel layouts cannot use panels that have been torn off. If you select a panel layout that includes a torn-off panel, Maya displays a warning that it cannot use the panel. Any available panel is used instead. For example, the built-in

Persp/Outliner panel layout usually places the Outliner in the left pane and the Perspective view in the right pane. If you tear the Outliner off into its own window, a warning is issued and another panel is put in place of the Outliner.

Workaround

Once you close the tear-off panel, it can be used by panel layouts that include it.

Edit option menu for mode selection disabled for tools

Option windows for tools and actions include an Edit option menu at the top of the window that allows you to pick between tool and action modes. Currently, only actions can be switched to tool mode. Therefore, for tools (for example, Birail Surface Tool), the Edit option menu is disabled.

Non-sequential Enum values in the Channel Box

The Channel Box will sometimes incorrectly display an enumerated attribute's pull-down menu. Extra menu items can appear that represent the numbers in between non-sequential option values.

Workaround

Specify sequential values for the options of any enumerated attributes that will appear in the Channel Box. For example: “solo=1:triplet=2:quintet=3”.

Field callbacks must not delete the window that contains the field

If the callback for a field in a window issues a deleteUI command for the window it is in, then Maya will suffer a fatal error. For example:

```
window w; columnLayout; textField -cc "deleteUI w"; showWindow w;
```

Workaround

Use the evalDeferred command. So in the previous example, change the textField command to:

```
textField -cc "evalDeferred(\"deleteUI w\")";
```

Selection marquee or panel contents disappear

Returning to Maya after a screen saver has been activated can, with some old or low-end graphics cards, cause selection marquees or panel contents to disappear.

Workaround

Press the space bar or use the Panels menu to change the current panel configuration. All panels should now be drawing normally. To return to your previous configuration, either press the space bar again, or select the appropriate entry from the Panels menu.

Selecting components with the Lasso Tool

The Lasso Tool, when the Selection Mode is set to Object, can sometimes fail to select objects or highlighted components. This will typically occur when the lasso approaches an item of higher Selection Priority.

Workaround

If selecting components, set the Selection Mode to Component.

Isolate Select not working for subdivision surface vertices or edges

Isolate Select does not work for subdivision surface vertices or edges.

Workaround

Isolate subdivision surface faces instead.

Running Maya maximized blocks auto-hide task bar in Windows 2000

Under Windows 2000, if you run Maya with the title bar off (Maya option) and maximized with Auto hide on your Taskbar (Windows options), then you won't be able to get your Taskbar to come up.

Workaround

Don't use the Auto hide feature of the Windows Taskbar.

Power saver software causes problems

If you are using power saver software or some screensavers that use OpenGL, Maya may shut down abnormally or cause system problems at the end of a Maya session or batch render. This problem has been reported on 64-bit systems.

Workaround

Disable power saver software when working with Maya.

Japanese user interface

Custom install paths

It is recommended that custom install paths for Maya be specified using only ASCII characters. That is, typing multibyte text as part of the install path may produce unexpected results.

Multibyte node names and attributes

Maya does not support multibyte text when specifying node names and attributes.

Workaround

Do not use multibyte text for node names or attributes; only single-byte characters form valid node and attribute names.

Panel names appear in English when launching Maya files earlier than version 8.5

When loading pre-8.5 Maya files in the Maya 8.5 Japanese version, panel names may appear in English.

Workaround

Save the scene in Maya 8.5 and then re-open it to reset the panel names to appear in Japanese.

Syntax errors when using localized version of Maya

While most commands in Maya deal with multibyte text correctly, it is possible that using multibyte text in certain text fields of the user interface may result in a syntax error.

Workaround

Remove the multibyte characters from the text field and try again.

Scripting using multibyte text in Maya

Localized text in MEL that uses multibyte characters is only accepted when placed within quotation marks (“`textstring`”). Text strings comprised of multibyte characters not placed within quotation marks produce a syntax error when executed as part of a MEL command.

User interface panel/configuration name limitations

MEL and Python scripts that use English language panel/configuration names must be updated before they'll execute correctly on a localized version of Maya.

Workaround

Change the syntax of the script using the example below as a guide. For example, replace lines like:

```
getPanel -withLabel "Graph Editor"
```

with this:

```
getPanel -withLabel (localizedPanelLabel("Graph Editor"))
```

Multibyte text when setting environment variables

Using the Maya.env file to initialize environment variables with multibyte characters may result in incorrect behavior or character corruption.

Workaround

Do not use multibyte text when initializing environment variables through Maya.env.

Multibyte text for defining name clash prefixes for file referencing

Maya does not support multibyte text when defining name clash prefixes for file references.

Workaround

Do not use multibyte text for name clash prefixes; only single-byte characters work.

4 Animation

Release notes

General animation limitations

The following limitations and workarounds relate to general animation issues in Autodesk® Maya® .

Caching objects with changing topology

Caching produces useful results on objects whose topology does not change over time. Some animated modeling construction history operations result in topology changes over time. While you can create a cache for these objects, it may distort the object during playback since a constant topology is assumed.

Cut Keys with Shape option only works when shape is expanded in Channel Box

You can only cut keys from an object if its shapeNode it is expanded in the Channel Box.

Workaround

To Cut Keys on Shapes, you need to have the Shapes option enabled, and you must also have the shape node expanded in the Channel Box.

Pair blend/quaternion animation curve combination can cause jump on creation

If your rotation curves default to synchronized quaternion interpolation, setting a key on a constrained object can cause the orientation of the object in question to jump.

Workaround

Re-enter the rotation values you wanted to key to, and re-key the rotation channels.

Quaternion animation curves not correctly converted to Trax clip

Workaround

Quaternions in clips will only work properly if all three rotate channels are included in the character. This happens automatically if you use Maya's automatic character creation. However, if you create your character manually, you need to include all three rotate channels in the character if you want to use quaternions.

Synchronized quaternion curve

For synchronized quaternion curve, all three rotation channels on the object should exist at all times. Deleting one of the rotation channels will have unexpected results, such as changing the animation on the remaining channels.

Workaround

Convert the curve to Euler angles before deleting the channel. Or set the rotation keys on the channel to a static value rather than deleting the channel.

Synchronized Quaternion rotation interpolation limitation

When keyframing rotations using the Synchronized Quaternion preference, rotations will be clamped between +/- 360 degrees.

Unexpected behavior of animation if all three channels unsynchronized when modifying using the API

If you modify the keys of a synchronized animation curve (quaternion or synchronized Euler) using the API, you must keep all the keyframes synchronized on the three rotation channels. If all three rotation channels are not synchronized, your animation will behave unexpectedly and eventually crash.

Maya may hang when using a Sound Blaster 16 (ES1371) sound card (Linux)

On a Linux® system with a Sound Blaster® 16 sound card, if another application is using the /dev/dsp device, Maya will wait for the device to be available until the other application closes.

Workaround

Don't play sound from other applications when using Maya.

Options in option windows (Edit > Keys menu) disabled for current characters

When a character is current, options in several option windows are disabled. The options are disabled because they operate on all the attributes of the current character. The option windows affected are the ones under the Edit > Keys menu item.

Workaround

Set the current character to None.

Sound file import does not work if the sound file name begins with a number

When the filename begins with a number, the sound import does not work.

Workaround

Rename the sound file so that it starts with a letter.

Animation playblast limitations

The following limitations and workarounds relate to the Playblast window in Maya.

Playblast escape limitation

Before you can escape from playblast you have to wait for entire sound track to record.

Large imported audio files delay Playblast

The playback time of Playblast may be severely delayed in scenes with large imported .aiff audio files. For example, a 40MB .aiff file may cause a 20+ second delay between the initial command call and playback.

Workaround

View and play all (as long as your audio clips do not overlap) your loaded audio files from the Trax Editor or use multiple short audio files rather than single large audio files.

Sync problems with long aiff files

If you are playblasting sound with large negative offsets, you may encounter audio synchronization problems.

Workaround

Shorten your audio files so you don't need to use large negative offsets. # Dope Sheet limitations

The following limitations and workarounds relate to the Dope Sheet in Maya.

Dope Sheet Manipulator disappears

When using the Dope Sheet manipulator, expanding or compressing any channels in the Dope Sheet will cause the manipulator to disappear.

Workaround

Redo your selection to restore the manipulator.

Cut and Paste hotkeys do not use their settings from Edit > Copy or Edit > Paste in Dope Sheet

When using the Cut (default: Ctrl+x) or Paste (default: Ctrl+v) hotkeys with the Dope Sheet Manipulator, the hotkeys do not use the settings in their respective Dope Sheet menu option windows. Instead, they always shift your animation to accommodate the removal or insertion of time and keys.

Graph Editor limitations

The following limitations and workarounds relate to the Graph Editor in Maya.

Copy/paste keys in Graph Editor

When cutting and pasting keys that include multiple animation curves to multiple attributes, pay particular attention to the order that you select them, as this will impact the order in which they are pasted.

When cutting keys from multiple attributes in the Graph Editor or Dope Sheet, select the attributes from the Outliner-not the view area-of the respective editor.

Trax Editor limitations

The following limitations and workarounds relate to the Maya® Trax™ Editor.

Merging characters copies clips but not the blends between clips

Workaround

Restore the blends manually after merging.

Clips in Trax that have the same start time or end time may jump

Clips in Trax that have the same start time or end time may jump when the clip starts/ends if there is a blend between them.

Workaround

Do one of the following:

- Modify the hold on the final clip to control how long it plays.
- Use “Merge” on the blended clips to create a single clip.
- Create a pose that corresponds to the start or end point of the blended clips, then drag and drop the pose into Trax immediately before or after the blended clips to force the character to keep the pose before or after.

Unable to create layered animation on top of a relative clip

Workaround

Merge the relative clip to replace the relative clip with an absolute clip, then create the layered animation on top of the absolute clip.

Blends not working for certain clip configurations

When an absolute clip is followed by a relative clip and then blended into another absolute clip, the blend may behave incorrectly.

Workaround

Create a hold for the first absolute clip and drag it to the end of the relative clip. Blend this with the second absolute clip. You should now have the correct animation.

Changing animation frame rate can cause Trax time warp and blend problem

If you change the animation frame rate, Trax time warps and blend curves do not scale properly.

Workaround

All time warp and blend curves must be scaled to compensate for the frame rate change. They are supposed to always be between 0 and 1, but when the frame rate changes they get scaled to fit the new frame rate. You must scale the curves to fit between 0 and 1 in the time range.

Path animation limitations

The following limitations and workarounds relate to path animation in Maya.

Geometry popping out of flow lattice

If a transform object with several pieces of geometry grouped under it is animated with path animation, and then flow is applied with the lattice around the object option, occasionally some of the geometry may “pop out” of the flow lattice.

Workaround

Do one of the following:

- Set the Outside Lattice attribute for the FFD to “All” so that all the geometry grouped under the transform object is affected by the flow lattice.
- Select the base lattice of the flow’s FFD and scale it a little larger until the geometry “pops back” inside the flow lattice.

5 Character setup

Release notes

General character setup limitations

The following limitations and workarounds relate to general character setup issues in Autodesk® Maya® .

When you delete a top-level character set, Maya no longer recognizes its subcharacters

If a character with subcharacters is deleted, and the subcharacters are not deleted, the subcharacters will no longer be recognized by the Maya UI because it is no longer part of the character partition.

Workaround

Manually add the characters that are now the top-level characters into the characterPartition by typing:

```
partition -add characterPartition <subCharacterName>;
```

Skeleton and Inverse Kinematics limitations

The following limitations and workarounds relate to skeleton and inverse kinematics issues in Maya.

Advanced twist attribute on ikSpline only works for joint orientation +x

The advanced twist attributes on the ikSpline solver assumes a joint orientation of +x.

Set Preferred Angle limitation

Using Skeleton > Set Preferred Angle on joints in a chain controlled by an IK Handle will appear to have no effect.

Workaround

Create the IK handle after setting the preferred angles of the joints. Alternatively, deleting the IK handle and then performing an Undo operation to restore it will yield an IK solution that respects preferred angle.

IK solver may interfere with a batch render

If you have IK handles in your scene that are not being animated, they normally follow their end-effectors as the end-effectors move. However, when a scene is first loaded into Maya, the IK solver will be invoked once which can interfere with a batch render.

Workaround

If you are not using these IK handles for animation (which is likely to be the case), delete them. If you cannot delete them, turn off their SolverEnable attribute.

Full body IK limitations

The following limitations and workarounds relate to full body IK (FBIK) issues in Maya

FBIK not working with constraints during playback

When a Full Body IK effector's reachTranslation or reachRotation values are set to 0, and it is driven by a constraint or other influencing object, the effector will not follow the constraint during playback.

Workaround

Make sure that the Reach attributes are set to 1 when you want to wire additional controls like constraints to your FBIK effectors.

Editing Key Selected FBIK keys in Time Slider desychronizes FBIK skeletons

If you use Key Selected to set FBIK keys on your character, only the currently selected objects' (FBIK effectors or FK joints) keys are loaded in the Time Slider when Body Part Autoload is off. Therefore, you can easily desynchronize your FBIK Input and FK skeletons when editing FBIK keys set with Key Selected in the Time Slider. For FBIK to work properly, your Input and FK skeletons need to be always synchronized.

Workaround

When editing FBIK keys set with Key Selected in the Time Slider, you need to select the FBIK effectors *and/or* their corresponding FK joints on which the keys reside so that you are editing *all* the appropriate FBIK keys in the Time Slider. This will keep your Input and FK skeletons synchronized.

Skinning limitations

The following limitations and workarounds relate to smooth and rigid skinning issues in Maya

Colorized skin weight display for vertices does not work for NURBS or Subdivision Surfaces

The colorized skin weight display on *vertices* (set by the Colorize Skeleton option in the Smooth Bind Options window) is only supported for polygonal objects. However, skin weight coloring for *surfaces* is supported on all geometry types.

6 Deformers

Release notes

General deformer limitations

The following limitations and workarounds relate to deformers (non-skin deformations) in Autodesk® Maya® .

Deformer set's weight field for a SubD surface vertex member blank

The weight field in the Component Editor for a subdivision surface vertex member of a deformer set (cluster, skinCluster, or jointCluster) may sometimes appear blank, and entering new weight values has no effect.

Workaround

Pick the cluster handle or joint and select the cluster members by invoking the Deform > Edit Membership Tool. The Component Editor will now display and edit weight values for the cluster members. If you now turn "off" List > Auto Update in the Component Editor window, clicking the name of the component in the first column of the table will identify the cluster member by selecting it in the modeling views.

Wrap deformer sometimes tears a NURBS patched model

The wrap deformer sometimes tears a NURBS patched model.

Workaround

Global stitch the patch model and then add the wrap deformer.

Adding a new influence object to a smooth skin

If you add a new influence object to a smooth skin, it will not immediately appear in the Component Editor.

Workaround

Close the Component Editor and reopen it.

Unpredictable results when changing an object's topology upstream from a deformation

Changing an object's topology upstream from a deformation causes unpredictable results. When you deform an object, Maya generates references to some of the object's components (CVs of NURBS curves or surfaces, polygon vertices, or deformed lattice points).

There are several ways to change the topology (for instance, the number of such components the object has) "upstream" of the deformations. For example:

The Rebuild Curve operation may change the number of CVs in a curve, changing the sections or spans attributes of a makeNurbSphere node may change the number of CVs in the resulting NURBS surface, and the Polygons

> Smooth operation can drastically change the number of polygon vertices in the smoothed object. Unfortunately, Maya does not yet have a way to communicate these changes to the nodes downstream in a way that allows the “right thing” to happen.

Workaround

If the object being modified is being deformed: remove the object from the deformer’s deformation set, apply the topology-changing operation, and then restore the modified object to the deformation set. If the deformation was a cluster and you had edited the associated percentages, you must repeat that step after changing the object’s topology.

If the object being modified is bound as skin to a skeleton: Detach it from the skeleton (Skinning > Detach Skin), apply the topology-changing operation, and then rebind the skin (Skinning > Bind Skin).

If the object being modified is a curve used as a wire curve (for instance, it is the “influence object” for a wire deformation): Remove the curve from the wire deformer, change its topology, and then add it back to the wire.

Other examples of this limitation

- Wrap behaving unpredictably

  If you modify the face or CV count of shapes used as wrap deformers, the wrap behaves unpredictably.

  Workaround

  Remove the shape as an influence object and then add it as an influence object again. This will reset the data for the wrap so that it will work again.

- Changing the CV count of a deformed object downstream

  If you change the CV count of a deformed object downstream (after) the deformation, translate, rotate and scale of the CVs of the object may affect the wrong CV. Examples of operations that would cause this problem are: inserting or removing a knot on a NURBS surface, or deleting a polygon face or vertex.

  Workaround

  Disconnect the message attribute connection between the deformed shape and the tweak node. To do this, select the shape and display its history in the Hypergraph. You will see a connection between a tweak node and the shape. Select the connection and press the Delete key to break the connection.

Lattices with partial resolution may distort target geometry

The loss of accuracy caused by the Partial Resolution Lattice deformer setting may severely distort lattice deformed geometry.

Workaround

Decrease the value of the Lattice deformer’s Partial Resolution attribute, or use Full Resolution.

Jiggle deformers may not evaluate properly when used in combination with Fur or motion blur

Workaround

Batch rendering of Fur objects and motion blur with the jiggle deformer requires the creation of a jiggle disk cache.

Ghosting is not reliable on jiggle deformations

Workaround

Creating a jiggle disk cache will typically allow ghosting to work on the jiggle object.

7 NURBS modeling

Release notes

NURBS modeling limitations

Bevel Plus limitation

In some rare occasions when Bevel at Start is turned off, undesirable results may occur if the end face becomes self-intersecting.

Workaround

Turn on Bevel at Start, turn off Bevel at End and set the Bevel Depth and Extrusion Length to negative values (precede the value with a "-"). If required, modify the original curve to ensure desired results.

Create Adobe Illustrator Object limitations

Unexpected results when importing an Illustrator file

In certain cases, you may find that an imported Adobe Illustrator file shows points shooting off or other strange geometry.

Workaround

You may be able to fix the problem by changing the position of the origin or type in the Illustrator file and re-importing.

Adobe Illustrator file does not import

You may get an error similar to the following:

```
// Error: bevelPlus1 (Bevel Plus Node): Group 2 curve 4 is not
inside the previous curve. Group these curves appropriately in
Adobe (R) Illustrator (R)

// Error: Failed to create bevel output //
```

Workaround

You may need to fix the groupings and compound paths in the Adobe Illustrator file. If Maya doesn't import anything, you need to perform the Create Adobe Illustrator Object operation again.

Beveled text does not tessellate correctly when rendered

Sometimes the surface created using Create Adobe Illustrator Object and bevel appears fine in wireframe mode, but displays poorly in shaded mode. These kinds of surfaces do not render well in the Maya renderer because of poor tessellation.

Because mental ray uses a different tessellation algorithm, rendering with mental ray can produce significantly better results.

8 Subdivision Surfaces

Release notes

Subdivision Surfaces limitations

Weight field for a subdivision surface vertex member of a deformer set may appear blank

The weight field for a subdivision surface vertex member of a deformer set (cluster, skinCluster, or jointCluster) may sometimes appear blank, and entering new weight values has no effect.

Workaround

Pick the cluster handle or joint and select the cluster members by using Edit Membership Tool. Use the Component Editor to now display and edit weight values for the cluster members. If you turn off List >Auto Update in the Component Editor window, clicking the name of the component in the first column of the table will identify the cluster member by selecting it in the scene view.

Unexpected results with non-proportionally scaled Subdivision surfaces

Subdivision surfaces with non-proportional scale and hierarchical edits may not behave properly when a rotation is applied to the coarse mesh components (including base).

Workaround

Use Modify > Freeze Transformations with the scale option set to remove the non-proportional scale from the object in question.

Selecting UV vertices on texture borders in the UV Texture Editor

In the UV Texture Editor window, selecting UV vertices that are on texture borders may sometimes result in multiple vertices being picked.

9 Polygons and games

Release notes

General polygon and games limitations

The following lists general polygon and games limitations and workarounds.

Magnet tolerance when using Insert and Offset Edge Loop tools

The Insert and Offset Edge Loop tools only snap to the ends of a selected edge whenever the Snap magnets preference setting is greater than 0 and the Magnet tolerance setting is set to a high value (for example, 10).

Workaround

Reduce the Magnet tolerance setting to a lower value, or set the Snap magnets setting to 0.

Shared faces with opposite UV winding may have normals reversed

When working with UV maps on a mesh that has two faces with opposite winding orders, but that share UVs across one edge, the normals on one face may display incorrectly, as if the face was split down the middle and flipped.

Workaround

For many scenes with this problem, unshare either the UVs or the normals along the shared edge to correct the problem.

Combining instanced polygon meshes may delete geometry

Combining two instanced polygon meshes using the Combine command can result in one of the two polygon meshes being deleted without prior warning. This occurs when the transform node for one of the selected polygon meshes has more than one DAG path from the root level.

Workaround

If this occurs, duplicate the polygon meshes using the Copy option prior to using the Combine command.

UV snapping in UV Texture Editor appears offset when Retain Component Spacing is turned on

UV texture coordinates may not snap to the grid in a predictable manner in the UV Texture Editor when the Retain Component Spacing is turned on for the Move Tool. That is, the UVs can be moved, and the component spacing is maintained, but the grid snapping appears offset.

Black color per vertex values are not saved on corner vertices

Black color per vertex values that are assigned to corner vertices of a polygon mesh are not retained when the file is saved. The CPV information on the corner vertices of the mesh values appears white or grey when the file is subsequently opened.

Workaround

If you need to apply black CPV values to corner vertices, use a small numerical value instead of 0. (For example, 0.01)

Maya does not maintain the order of selected components

The global selection list does not preserve selection order of polygon mesh vertices, faces, edges.

Workaround

Use the following script to collect each selected component in an array, and then use the array as desired.

```
global proc selectProc()
{
global string $gSelectedComponents[];
string $selC[] = `ls -sl -flatten`;
if (size($selC) > 0) {
int $match = 0;
for ($newSel in $selC) {
$match = 0;
for ($oneComponent in $gSelectedComponents) {
if ($newSel == $oneComponent)
$match = 1;
}

if ($match == 0)
$gSelectedComponents[size($gSelectedComponents)] = $newSel;
}
} else {
clear ($gSelectedComponents);
}
int $debug = 1;
if ($debug && (size($selC) > 0)) {
print ("Selected components (in the order) ...\n");
print ($gSelectedComponents);
print ("\n");
}
}

// to load the scriptJob
int $jobNum = `scriptJob -e "SelectionChanged" "selectProc"`;

// to unload the scriptJob
scriptJob -kill $jobNum;
```

Blend weights limited to 0 to 1 range in Color Set Editor

Blending color sets using the Blend option in the Color Set Editor results in the blend weights being limited to the 0 to 1 range when the image is rendered. That is, blend weight values higher than 1 are clamped to a maximum value of 1. This is a known limitation of the OpenGL default rendering pipeline.

Poly component convert selection

When you have multiple component types selected and choose a polygon action, Maya automatically converts the selection to that expected by the action. This automatic conversion has been implemented on all poly commands except the following:

- polyEditUV
- polyGeoSampler
- displacementToPoly
- untangleUV
- polyUVSet
- polyProjection
- polyNormalPerVertex
- polyForceUV
- polyFlipEdge
- polyColorPerVertex
- polyClipBoard
- polyBlindData
- polyAverageNormal
- blindDataType
- polyCreate
- polyUnite
- polySeparate
- polyBoolOp
- polyWedgeFace

In addition to those corresponding to the above commands, the following menu items will also not perform the conversion:

- Extrude
- Transform Component
- Subdiv Proxy
- Duplicate Face
- Extract

Polygonal faces disappear in shaded mode

When you apply a “freeze transforms” operation on an object, the “opposite” rendering option is automatically turned on. This means front-faced polygons are culled when in back-face culling mode in 3D views.

When back-face culling is also on in the polygon display options, back-faced polygons are also culled. If the object is not selected, all the polygonal faces are culled in shaded mode display making it seem as though the object has disappeared.

cp attribute limitation

On polygonal objects, the cp attribute is supposed to represent the actual position in local space of a vertex, while the pnts attribute represents the tweak value (its offset relative to the rest position).

The cp attribute is a compound attribute with child attributes named xv/yv/zv. When you get the value of the parent attribute, Maya incorrectly returns the same value as for the pnts attribute.

Workaround

Use the xv/yv/zv child attributes individually instead of the entire cp compound attribute.

For example:

```
polyCube; select -r pCube1.vtx[0] ; move -r .1 .1 .1;
getAttr pCube1.cp[0];
       // Result: 0.1 0.1 0.1 //
 getAttr pCube1.cp[0].xv;
       // Result: -0.4 // Real X position (-.5 + .1)
```

polySeparate command

The polySeparate command fails if the object is invisible.

The error message in this case can be misleading:

```
Warning: polySeparate works only on polygonal objects.
```

Workaround

Make the object visible.

Booleans do not preserve color per vertex and component level blind data info

Mesh > Booleans operations do not preserve color per vertex or component level blind data information.

Flipping edges from multiple objects

Flipping edges from multiple objects at the same time can lead to a crash.

Workaround

Select and flip edges from one object at a time.

Color per vertex animation not working for polygonal objects without history

Color per vertex animation will not work for polygonal objects which do not have modeling/construction history.

Workaround

Introduce some benign construction history (such as a move component operation that doesn't actually move anything).

Unexpected results in Cleanup when removing lamina faces and non-manifold geometry

When using Cleanup, combining the removal of lamina faces with the removal of non-manifold geometry can lead to unexpected results.

Workaround

Cleanup the lamina faces first. In many cases, this also eliminates the non-manifold geometry.

MfnMesh limitations

The MFnMesh::assign UVs() method does not properly support history. As a result, UVs can be removed as history rebuilds the object.

The MFnMesh::create UVSet() method does not work if the MFnMesh is using mesh data.

Envelope attribute for Transfer Attributes

The Envelope attribute is not supported for TransferAttributes. **User defined normals ignored on skinned polygon mesh**

User defined (locked) normals are ignored on a non-uniformly scaled polygon mesh when it is subsequently skinned.

Workaround

Freeze transformations on the polygon mesh prior to skinning.

10 Artisan, 3D Paint, and Paint Effects

Release notes

Artisan limitations

The following lists Artisan limitations and workarounds.

Paint Vertex Color Tool

Map Import/Export cannot be used when painting vertex faces as opposed to vertices.

Color feedback in Artisan tools

- Although they work the way they should, trimmed surfaces do not display color feedback in Artisan tools.

Exporting attribute maps from NURBS surfaces

Exporting attribute maps will not work correctly for NURBS surfaces with a degree other than 3.

Importing subdiv edge selection map

Importing subdiv edge selection map will not work.

Workaround

Import them as Vertices and convert the selection to edges.

3D Paint Tool limitations

The following lists 3D Paint Tool limitations and workarounds.

Unable to paint on textures assigned to layered shaders

You cannot paint on textures assigned to layered shaders.

3D Paint slow with large textures

If you find a large slowdown in performance when editing larger than 1K by 1K images then this could be due to insufficient video card memory to display textures at that resolution.

Workaround

You have the option to clamp the maximum size of textures used for display by setting the Maximum Texture Display Resolution, which is in the Display category of the Preferences window (Window > Settings/Preferences > Preferences). It is recommended that you restart Autodesk® Maya® in order for these settings to take effect.

Texture placement

The 3D Paint Tool ignores any changes you make to texture placement parameters.

Workaround

Convert the texture with modified texture placement to a file texture (Edit > Convert to File Texture, in Hypershade) and paint on the converted texture.

Painting with Fast Interaction

The 3D Paint Tool doesn't work when Display > Fast Interaction is turned on.

Workaround

Turn Fast Interaction off while painting.

Paint Effects limitations

The following lists Paint Effects limitations and workarounds.

Self-shadowing and directional lights

When rendering Paint Effects with a directional light, self-shadowing may not compute correctly.

Workaround

Replace the directional light with a narrow spot light that is located far enough away from the objects in the scene that the light is effectively directional.

Paint Effects strokes that had transformations applied to the strokes themselves may sometimes appear different from 6.5 to 7.0.

Prior to 7.0, if a stroke painted on the view plane was rotated, and useNormal was ON, the stroke may not be drawn correctly if it was dependant on the stroke normal. If you have older files where you have adjusted some paint effects brush attributes to compensate for the draw problems with transformed strokes, these strokes may appear different in 7.0. Strokes painted on a surface should not have this problem.

Workaround

Re-adjust those same attributes that were used to compensate originally, if that information is still available. If it is not, you can convert the strokes to polygons in 6.5 and delete history for an accurate match. You may also find that modifying the normal on the stroke node may help you to match the pre-7.0 look of the stroke.

Missing comma in output of pfxstrokes command

The file output of the pfxstrokes command was modified in Maya 7.0 to add a missing comma. The comma location is following the normalZ value for pfxHair nodes.

Workaround

Any user scripts created in Maya 6.5, or an earlier version of Maya, that previously worked around this missing comma will need to be updated.

Pop-up menu on color boxes in Paint Effects Brush Settings window

The Paint Effects Brush Settings window has various color slider attributes on which you can right-click and a pop-up menu appears. Of the items displayed in this menu, only the Color Chooser item has any effect. The rest of these items should be ignored as they will not change the behavior of the color value.

Paint Effects Mesh brushes

The interpolation for Paint Effects triangles with Mesh brushes may result in distorted textures where the triangle count is low.

Workaround

Increase the triangle density on the brush or convert the Paint Effects strokes to polygons to render.

Film fit adversely affects Paint Effects

Workaround

Set the film aspect ratio to match the xres/yres, or the value shown in the Device Aspect Ratio in the Render Settings window. Be careful not to push the film aspect too far (too low in the example file) or the perspective will change.

Renaming strokes with brush springs

If a Paint Effects stroke has brush springs and the brush is renamed, the springs may no longer evaluate correctly.

Workaround

Rename the brush back or edit the expressions to reference the new brush name.

Interactive Performance Settings and redrawing strokes

If the Performance Settings for Paint Effects are set to Interactive, then immediately following playback, updates to the selected stroke/brush will not cause the stroke to be redrawn.

Workaround

Select some other object, then re-select the stroke. Interactive updates will now work.

Strokes rendering white with light fog

Light fog causes Paint Effects strokes to render white.

Workaround

If the lights in your scene have light fog, turn off "Real Lights" for any brushes that have "Illuminated" turned on.

Turbulence stops working during playback

Once it is turned off, turbulence stops working on Paint Effects stroke during playback.

Workaround

Open the Flow Animation block in the Attribute Editor.

Paint Effects canvas wrapping with Mesh and ThinLine brushes

Paint Effects brushes with a ThinLine or Mesh brushType do not wrap when scene or canvas wrap is on.

Stroke shadows in IPR

Paint Effects strokes do not show up in IPR, but their cast shadows do.

Workaround

Hide the strokes before rendering to prevent the shadows from being shown.

Light linking

Paint Effects does not support light linking.

Brushes in Visor

Brushes do not show up in Visor on Microsoft® Windows® if your MAYA_LOCATION environment variable has backslashes as path delimiters.

Workaround

Change the back slashes to forward slashes in the environment variable (Control Panel > System > Environment).

Field rendering

Paint Effects does not support Field Rendering.

Workaround

Render with the By Frame value set to 0.5 and interlace in a compositing package.

Popping near the edge of a frame

Paint Effects renders can sometimes ‘pop’ where the stroke is near the edge of the frame.

Workaround

Increasing the stamp density and transparency may fix this.

Scaled objects and jumping strokes

On objects that are scaled very large, Paint Effects strokes may ‘jump’ when crossing isoparametric lines on the surface.

Workaround

To prevent this, apply the Freeze Transformations command to the object.

Z-up environment

Paint Effects gives unexpected results in a Z-up environment.

Workaround

Set the environment to Y-up and restart Maya.

Freeze Transformations

Freeze Transformations does not work for Paint Effects strokes.

Transformations and units

Paint Effects can give unexpected transformation results if the units are not set to centimeters.

Playing back scripts

Parameters that are dynamically set on stroke creation, such as pressure values and settings, are not arguments to the stroke command itself. Playing back scripts will therefore not exactly match what you created.

Changing Screenspace Width option

If you turn on Screenspace Width for an object like a tree, the tree size is now based on the canvas scale, not the scene scale.

Workaround

Make the canvas scale equal to the scene scale, and then scale down the widths of the tubes, flowers and leaves to the desired levels.

Modifying 3D Paint Tool textures in the Paint Effects canvas

A file texture may not update correctly when you try to use the Paint Effects canvas to edit a texture map created with the 3D Paint Tool.

Workaround

Save the scene before trying to edit the texture in the Paint Effects canvas.

Most recent brushstroke gets re-drawn several pixels off

Using paint effects, some graphics cards may redraw the last stroke drawn a few pixels off from where it was.

Workaround

Before running Maya, set the environment variable MAYA_RENDERVIEW_USE_TEXTURES to 1. Maya will then use an OpenGL texture call to draw the stroke instead of the normal glDrawPixel call.

11 Dynamics

Release notes

Dynamics limitations

Particle system can have inconsistent results between disk cache and non disk cache when using rand() in expression

Workaround

Seed the random number. For example, if(frame < 2) seed(1).

Rigid bodies have a different playback result after saving the scene

The cycle involved with the rigid solver causes a different evaluation order. This problem has to do with to the DG evaluation order in a cycle.

Workaround

Before you save the scene that contains rigid bodies, do the following:

1. Select Solvers > Memory Caching > Delete.
2. Select Solvers > Memory Caching > Disable.

Interactive Playback limitations

Interactive Playback does not currently work with passive rigid bodies. For example, if a passive rigid body is moved while the solver is playing, active rigid bodies will only collide with the passive rigid body in its original position.

Surface emission from a trimmed surface won't reflect new holes

With surface emission from a trimmed surface, if you add more trims or untrim the surface, the emission won't reflect the new holes.

Workaround

Bring up the geoConnector node associated with the emitter, and change the tessellation value a little, for instance, from 200 to 201. This forces re-tessellation, and the re-tessellation picks up the new trims correctly.

Rigid body keyframed passive to active resets incorrectly

Rigid body keyframed passive to active resets incorrectly if you don't freeze transform.

Workaround

Model your object first, select Modify > Freeze Transformations, then set active/passive keys, adding any fields as the last step.

Flow effects and curve flow don't work if units not in cm

Workaround

Set the scene units to cm, create a new scene, then reopen original scene.

File referencing not supported for particle expressions

Workaround

Put your particle expressions in the main file.

Fields and emitters don't convert particle positions

Fields and emitters don't convert particle positions for non-standard units

Workaround

Use standard units.

Particles may collide on creation

Particles may collide on creation when surface emitter is also a collision object.

Workaround

Reverse the normal speed parameter of the surface emission.

Rotate pivot and instancing

Instancing does not handle situations where the rotate pivot is not at the origin.

Workaround

See the script, createInstancerPivot.mel in the scripts/unsupported directory (under the main Maya install directory). The script contains directions for use.

Hardware rendering with motion blur limitation

Hardware rendering with motion blur works only if the multipass value is set at least as high as the motion blur value.

Identical rigid bodies may not collide

Two identical rigid bodies on top of one another may not collide.

Workaround

Scale, rotate, or translate one of the rigid bodies slightly.

Rigid bodies do not recognize non-planar polygons

Workaround

Triangulate the non-planar polygons.

Copying a rigid body/rigid constraint systems

When copying a rigid body/rigid constraint system, the copied constraint does not connect to the copied rigid body.

Workaround

Turn on Duplicate Input Graph in the Edit > Duplicate options window.

Ghosting is not reliable on simulated objects such as particle simulations, soft bodies, and rigid bodies

Ghosting is not reliable on simulated objects such as particle simulations, soft bodies, rigid bodies, classic cloth and jiggle deformers.

Workaround

Creating a disk cache for the simulation will typically allow ghosting to work on the object.

Particles may not evaluate properly when using emit command to emit particles

This problematic behavior may be the result of the expression not being executed or Maya may be getting the incorrect amount of particles during batch mode or prompt mode.

Workaround

Invoke `getAttr` on the count attribute in the order where the events are expected to happen. The `getAttr` can be called from within a MEL script or a regular expression as long as it happens once every frame.

Error messages appear if you modify soft body polygon topology

Modifying a polygon object's topology (by editing its upstream construction history) after making it a soft body will result in error messages.

Workaround

Adjust the construction history as desired before creating the soft body, or delete and recreate the soft body after such changes.

12 Rendering

Release notes

General rendering limitations

The following lists miscellaneous rendering limitations and workarounds.

Changing polygonal topology may affect shader assignments

Changing the topology (number of faces) on a polygonal object by modifying attribute values on history nodes connected to the object can adversely affect shader assignments. This happens if the shader assignment is done after the operation that modifies the topology, or at the component (face) level (for instance, shaders assigned to portions of the object instead of the entire object).

Workaround

Redo the shader assignment after the topological modifications have been completed.

Presets in the Render Settings window

The Presets > Load Preset > Default Settings menu item in the Render Settings window only loads the default settings for the Maya Software renderer. This feature is not supported when the renderer is set to Maya Hardware, Maya Vector or mental ray.

Rendering scripts

The following command line rendering scripts are now unsupported:

- mayarender_with_mr
- mayaexport_with_mr
- mayaVectorRender

mayabatch -render command obsolete

The `mayabatch -render` flag on Windows (`maya -render` on Linux/Mac OS X) is obsolete and will be removed in a future release of Maya. Use the Render -r command instead.

Output to AVI only renders frame one

If you select AVI as the image format for your render output, and you have never clicked the Compression button in the Render Settings window, your render output may only include frame one.

Workaround

In the Render Settings window: Common tab, select AVI as your image format and press the Compression button. Select a compression scheme from the Compressor drop-down list and click OK.

Interactive scene view limitations

Seams noticeable during texture baking

Within Maya's scene view, texture seams may appear on objects after mental ray baking, even when Fill Texture Seams is used during baking.

Workaround

Either scale down the UVs on the objects in your scene and/or render.

(Mac OS X) Alpha channel display

Alpha channel display in image planes do not display properly.

View fit problems with joints

View fit has problems with some joints, where it will zoom out too far.

Resolution Gate and Film Gate incorrectly display

Resolution Gate and Film Gate may not correctly display with non-standard Film Fit Offsets, when Film Fit is set to Vertical or Fill.

Workaround

The Horizontal setting works correctly.

Camera limitations

Look Through Selected

Look Through Selected can produce unexpected results if the camera is duplicated, or the scene is saved.

Manipulator undo and two- or three-node cameras

Manipulator undo does not work for two- or three-node cameras.

Problems if camera not proportionally scaled

Problems exist if the camera is not proportionally scaled. The view and render will be skewed and manipulation may result in odd behavior.

Hypershade limitations

Deleting shaders

When deleting shaders in Hypershade, its shading group is not deleted. This may result in orphaned shading groups, or worse, whatever was assigned to that shading group now does not show up in software rendering, and only shows up as dense wireframe in hardware shading.

Workaround

To get around the latter problem of software and hardware rendering, reassign those objects to another shader.

Showing tabs

When flipping back and forth between showing top/bottom/both tabs, the view is not reset, and may mislead the user into thinking that whatever was visible in one of the tabs is now invisible.

Workaround

To resolve this, set View > Frame All for the problem tab.

Render Layers/Passes limitations

Assigning objects to Render Layers through the Relationship editor

Assigning objects to Render Layers via the Relationship editor is not recommended since you may inadvertently assign an object without it's transform.

Workaround

Use the Render Layer editor to assign objects to layers.

Shadow passes and objects assigned with layered shaders

The shadow pass results may be incorrect from objects assigned with layered shaders.

Workaround

Pick one of the shaders that is connected to the layeredShader, and connect up that shader's outMatteOpacityR to the layeredShader's matteOpacity attribute.

(Linux) Render layer color indicators do not appear correctly

If you have a modified MayaScheme file, you may not see the correct layer indicator colors for selected layers in the Layer editors (light blue and darker blue). As well, you may not see the correct color indicator for the override of layer attributes (orange and bolded).

Workaround

Add the following lines to your custom MayaScheme file:

```
*layerAdjustmentTextForeground: #e56929
*blueSelectBackgroundColor1: #3884c4
*blueSelectBackgroundColor2: #81a7c1
```

Raytracing limitations

Translucence limitation with raytraced shadows

When using raytraced shadows on a translucent object, the Translucence Depth parameter will not function correctly unless the object's transparency is non-zero. If the transparency is zero, no light will ever penetrate through the object, regardless of the Translucence Depth value.

Workaround

Adding a tiny amount of transparency to the translucent object will cause all translucence parameters to behave as expected.

Rendering workflow issues

Light-linking with plug-in lights

There are some problems involving light-linking with plug-in lights:

- They do not appear in the Light-linking Editor or Relationship Editor.
- The query option to the lightLink command does not work for plug-in lights. This results in Lights > Select Objects Illuminated by Light and Lights > Select Lights Illuminating Objects failing.

Light Linking Editor and deleting lights

The Light Linking Editor sometimes gets confused when you delete lights while using it. You may see error messages such as: “Error: No object matches name: directionalLight1” after deleting a light. Also, the display of which lights are selected can be incorrect after undoing a light’s deletion.

Workaround

Deselect everything in a modeling view to clear the editor.

Break Connection on Environment Fog does not delete fog

If you have turned on Environment Fog in the Render Settings window, and try to turn it off later using right-mouse button Break Connection, the fog remains.

Workaround

Find the Environment Fog material in Hypershade and delete it.

Maya Software rendering limitations

The following lists miscellaneous software rendering limitations and workarounds.

Software rendering from the command line

The software rendering command line (`mayaSWrender.exe`) is now unsupported.

Texture reference objects limitation

Texture reference objects do not work with several things, including displacement mapping and subdivision surfaces.

Shadow color has no effect on surfaces

Shadow color has no effect on surfaces assigned to a useBackground shader.

Bump mapping Stencil textures

You must make manual, explicit connections to bump map Stencil textures.

Workaround

Bump map the texture, then manually connect the bumpValue to the stencil outAlpha.

Raytracing refractions through a useBackground shader

When raytracing refractions through a useBackground shader, artifacts may appear on the useBackground shaded surface.

Workaround

In such cases, set the “refractions” attribute of the refracted object’s shader to off.

Per-patch shading assignment

Per-patch shading assignment is currently not respected when software rendering.

Optimized scene file location when using the -optimizeRender flag

When using the -optimizeRender flag, the location for the optimized scene file to be created is based on the current project defined by the preferences or by the MAYA_PROJECT environment variable.

Workaround

Provide the absolute path where you would like the optimized file to be created.

General motion blur and Maya Software rendering limitations

- Motion blur does not work with software particles.
- When you have a light illuminating a moving object, the object’s shadow does not blur correctly (use mental ray rendering instead).
- When you have a moving spot light that illuminates a surface, the spot light’s beam moving across the surface does not blur (use mental ray rendering instead).
- Motion blur is not rendered in raytraced reflections and refractions.

Maya Software IPR Rendering limitations

General IPR limitations

- IPR does not support raytracing, 3d motion blur, or particles. Use mental ray IPR instead.
- IPR does not properly handle shadows on objects with a Use Background material.

IPR and mental ray for Maya rendering and animated parameters

mental ray for Maya does not update animated parameters, including changes to the time slider, when using IPR (Interactive Photorealistic Rendering).

IPR image plane display options

IPR doesn't respect image plane display options. When updating, IPR displays the image plane in the background though the image plane is set to none.

Workaround

Delete the image plane.

Manual feedback from IPR

Manual updates are needed to get feedback from IPR when making changes to:

- image planes
- shadow maps due to light location changing, depth map resolution changing, or the auto focus changing
- tessellation

Workaround

Redo the IPR render after these changes (or select IPR > Update Shadow Map).

Using Apply Fog in Post

When using Apply Fog in Post, the results cannot be seen in IPR.

mental ray for Maya rendering limitations

This section contains information about the unsupported features, software limitations and workarounds, as well as some tips for this version of mental ray for Maya.

Unsupported features

mental ray for Maya does not support the following Maya rendering features:

- Keyframing or set driven keyframing on the RGB components of a ramp shader's colorEntryList (the list of colors that comprise the ramp shader) are unsupported.
- postprocessing effects: Paint Effects, light glow, optical effects, and 2d motion blur
- Field Rendering
- The `-hardware_echo` flag is not supported through the command line.

Known limitations

The following lists the software limitations and workarounds for this version of mental ray for Maya.

mental ray impacted by Hyperthreading

Intel CPUs offer hyperthreading as a feature to simulate additional logical processors which are actually running on a single physical CPU. This feature is intended to accelerate applications which make use of additional processors for parallel execution like mental ray. However, since hyperthreads are not able to deliver a performance gain like a physical processor but only about 15-25%, the performance increase may be small or not visible.

Workaround 1

Turn off hyperthreading when using mental ray.

Workaround 2

Disable “Auto Render Threads” and set the number of render threads manually.

Volume method for fur rendering does not produce shadows

In the Fur Render Settings (Fur > Fur Render Settings) if you set the Fur Shader to Volume the fur does not render with shadows if the scene uses shadow maps.

Workaround

Do one of the following:

- Use raytraced shadows.
- Set the Fur Shader to Hair Primitive and re-render the scene.

Shadow method is set to Simple by default; simple shadows are not compatible with volume effects

The Shadow Method in the Render Settings window: mental ray tab is set to Simple by default. Simple shadows are not compatible with volume effects such as fluids, volume fur, particles and volume shaders and therefore may not render shadow volume effects correctly.

Solution

Use Shadow Method Segments.

Intersecting fluids show artifacts in mental ray rendering

Intersecting volume effects such as fluids, particle clouds and volumetric lights may cause artifacts in mental ray rendering. For example, the bounding box may show in the rendered image.

Workaround 1

Avoid an overlap of the volume containers.

Workaround 2

Render each volume effect via a separate layer and composite the layers into a final image.

Material swatches do not update during mental ray IPR

When rendering in mental ray IPR, material swatches in the Hypershade and Attribute Editor do not update with adjustments.

To get swatches re-rendered with mental ray, stop mental ray IPR.

mental ray contour shaders are not compatible large images

mental ray contour shaders cannot handle large images with high resolution (for example, >6K).

Workaround

Use Maya shaders instead.

Contour rendering artifacts (on Mac OS X)

In some cases, artifacts appear when rendering contours in mental ray for Maya.

Workaround

Export the scene to .mi and render in mental ray standalone.

Exporting to .mi with dynamics

Exporting to `.mi` interactively may produce incorrect results with dynamics.

Workaround

Do one of the following:

- Manually run up the scene to the current frame and export
- Use batch export to `.mi`

Depth map shadow quality with Rapid scanline rendering

The quality of depth map shadows with Rapid scanline rendering is decreased compared to the quality of depth map shadows and default scanline rendering.

Workaround

In the Attribute Editor (light shape node), in the mental ray > Shadow Maps section, increase the number of Samples.

Advanced filtering and file textures

Scenes that contain custom shaders for volume effects or environment shader may not render correctly with advanced filtering (quadratic, quartic, etc.) for file textures.

Workaround

Use mipmap filtering, or turn off filtering.

Custom mental ray shaders and importing or referencing

Imported or referenced Maya 5.0 files containing mental ray shaders, with color, scalar, or texture parameters, do not correctly convert in the current release of Maya. You may notice shaders becoming disconnected.

Workaround

Open the Maya 5.0 scene file in Maya Interactive, and save it. Then import or reference the file in the current release of Maya.

Maya's environment shaders do not work well with IBL

IBL provides UV coordinates to the attached shading network, but Maya's environment shaders do not base their calculations on UVs. Maya environments are supported with final gather-based IBL, but photon and light emission are unsupported.

IBL node with primary visibility off ignores camera environment settings

Adding an IBL node to your scene with primary visibility turned off results in a black background regardless of your camera environment settings.

Workaround

Create a geometry sphere and apply an HDR image to it. Turn off the primary visibility. Now, you can change the environment color of your camera.

Lightlinking is not obeyed when baking vertex color with IBL

Lightlinking appears to be ignored when vertex baking is used with IBL. This is not a problem with the baking. Instead, the hardware display needs to be adjusted.

Workaround

Under the mesh node, and under the Mesh Component Display section, set Display Color Channel to None.

Partial creases rendering as full creases

Partial creases of subdivision surfaces are not supported in this version of mental ray for Maya. They will be rendered as full creases.

Depth map shadows and particle rendering

Depth map shadows and particles are not supported.

Workaround

Use raytrace shadows.

Directional light does not work well with Photons

Workaround

Use a point or spot light instead.

Rendering final gather in a scene created using Maya version 7.0 or earlier

Artifacts much like polka dots may appear when you use Maya 8.5 to render scenes with final gather that was created using Maya version 7.0 or earlier.

Workaround 1: Recommended workflow

Add global illumination to your scene. Lower the final gather trace by turning the Secondary Diffuse Bounces control off and on. You can find the Secondary Diffuse Bounces control in the Render Settings window, mental ray tab, under the Final Gathering Options in the Final Gathering section.

Workaround 2: Use this workflow to obtain the exact same render results as you did with Maya 7.0

Switch back to compatibility with the mental ray 3.4 final gather algorithm using the following command:

```
setAttr miDefaultOptions.finalGatherMode 0;
```

Warning messages appear when importing scene files in Hypershade

When importing scene files containing mental ray nodes, you may see warning messages such as:

```
// Warning: 'Draft.message' is already connected to
'mentalrayItemsList.options'. //
```

These warning messages, about pre-existing connections between mental ray related node, are harmless and can be safely ignored.

A warning dialog box also appears when these warnings occur. If you are importing many files and wish to avoid manually closing the warning dialog box for every file, you may want to use the `file` command with `-prompt false`.

Tearing off mental ray for Maya Render menu may crash Maya

If you tear off the Maya Render menu, then load the mental ray for Maya plug-in and tear off the mental ray for Maya Render menu, Maya may crash.

Workaround

Close the menu before loading mental ray for Maya.

mental ray for Maya crashes or won't load when a firewall is active

Firewall software may block command ports. When you load mental ray for Maya, your firewall prompts you if you want "to allow the Maya application to access the internet: IP 127.0.0.1 port 1333." If you select no, Maya instantly exits without a warning or error message. If you select yes, mental ray for Maya starts up as expected.

Workaround

If you are using any firewall software, you will need to give permission to Maya to communicate on port 1333 in order for mental ray for Maya to work correctly.

Missing Motion Blur

When rendering with motion blur, sometimes parts of deforming geometry will fail to blur. This is because sometimes, during animation, Maya creates incompatible changes to vital mesh data (number and order of vertices, normals, uv indices, polygons). You need to ensure a consistent tessellation for mental ray.

Workaround

Turn on the "keep tesselation" flag on the smooth node, and do not triangulate.

Custom Text Does Not Work for Interactive Renders

The Custom Text feature is intended for use only with the mental ray standalone renderer. To correctly render a scene containing shader/object modifications made using Custom Text, the scene must first be exported to .mi format, then rendered with the standalone product.

Unsupported File Texture Formats

The following file texture formats are currently unsupported by mental ray for Maya:

- AVI files
- Maya BOT files
- certain variants of the TIFF format (those with LZW compression, including those generated by the Maya renderer)
- Cineon CIN files
- DDS files
- EPS files
- GIF files
- IFF16 files
- Wavefront-alpha files

Workaround

(TIFF,CIN,GIF) For these unsupported file formats, Maya's imgcvt image conversion tool can be used to convert the files to a supported format such as IFF or RGB. For a complete list of file texture types supported by mental ray, see the Rendering with mental ray Handbook.

(BOT) There is currently no workaround that will allow Maya BOT files to be used in conjunction with mental ray for Maya. mental ray does support its own memory-mapped map file texture format, however. Standard image files can be converted to this format using the imf_copy command:

```
imf_copy -p <filename>.rgb <filename>.map
```

See the Rendering with mental ray Handbook for a full description of memory-mapped textures in mental ray.

3D Paint issues with mental ray for Maya

When painting a texture with 3D Paint, mental ray for Maya will not pick up new paint strokes automatically.

Workaround

Save either the texture being painted or the entire scene before rendering with mental ray to ensure that all strokes are rendered correctly.

mental ray images folder

By default, mental ray batch rendered images used to go to `mentalRay/images` folder of the project. As a result of the design changes in Maya 7 that made all renderers more consistent, any such images are now being saved to the `images` folder under the project.

mental ray for Maya transfer maps limitation

If, in addition to baking a mental ray transfer map, you also:

- bake a Maya transfer map with the `.tif` or `.dds` file format, *and*
- you choose the Connect maps to shader option,

then, when you bake a mental ray transfer map for a second time, mental ray generates an error.

mental ray does not understand the `DDS` format or the `LZW` compressed `TIF` format.

Workaround:

You may do one of the following to avoid this error:

- Use a mental ray friendly file format for your Maya transfer map, for example, `EXR`.
- Assign a different material to the source surface before baking your mental ray transfer map for the second time.
- Unselect the Connect maps to Shader option.

mental ray for Maya transfer Maps custom shaders limitation

When creating a Custom Map, Transfer Maps does not support baking Contour shaders or Geometry shaders to texture. Only Material shaders (shaders listed under the Materials section of the mental ray tab in the Create Render Node window) can be baked to texture. Ensure that your custom shader is recognized as a material shader in Maya.

Removal of Zpic support

The Softimage Depth (Zpic) file format is no longer supported for mental ray for Maya rendering.

mental ray IPR fails to remove default light

If you start mental ray IPR on a scene that does not contain lights, IPR correctly uses the default light. However, IPR fails to remove this default light after you add a new light.

Workaround 1

Start IPR only after you have added at least one light.

Workaround 2

Turn off Enable Default Light in the Render Settings window: Common tab before starting IPR.

mental ray satellite rendering limitations

The following lists miscellaneous mental ray satellite rendering limitations and workarounds. For more information on mental ray satellite, see “mental ray network rendering: Satellite and standalone” in the *Rendering* guide and “Overview of mental ray (satellite)” in the *Installation and Licensing* guide.

Uninstall mental ray satellite for previous versions before installing new mental ray satellite

The mental ray satellite for Maya packages have the same name. Therefore, you must manually uninstall previous versions of mental ray satellite before installing the current version of mental ray satellite. On Mac OS X, you need to use the mental ray satellite uninstaller in the mental ray satellite folder to properly uninstall this product. If you delete the mental ray satellite folder, port and machine associations may not be updated properly once you install the latest version of mental ray satellite.

Compatibility issues

Due to a number of changes between mental ray satellite for previous versions of Maya and the current mental ray satellite, there are incompatibilities with using a master (with the current release of Maya) with slaves using a previous version of Maya.

Workaround

Use master and slave machines with the same version of Maya (for example, Maya 8.5 or Maya 8.0).

mental ray for Maya rendering tips

Rendering Color and Z-depth

The following is true when rendering to a format other than Maya IFF or RLA. If rendering to Maya IFF or RLA, all channels RGBAZ are written to one file. For all other image formats, when the Depth Channel option is enabled in the mental ray Render Settings, mental ray will write out a separate image file containing depth information. Z-depth is now written out in IFF format and rendered to a separate file that has “Depth” as a suffix to the image name, for example, imageDepth.#.iff.

Depth map shadow settings and volumes (like light fog)

To cast shadows into volumes you have to increase the number of volumes samples in the "Render Stats" section of the shape node ("coneShape1"). This is standard procedure for ray trace shadows. mental ray requires you to

do the same thing for Dmap shadows. To eliminate Dmap shadow artifacts on the cone boundary try increasing "Samples" in the mental ray "Shadow Map" section of the light shape node.

Hardware rendering limitations

This section contains information about the unsupported features, limitations and workarounds for Hardware rendering.

Known limitations

Light linking for instanced lights

Hardware rendering supports per light-instance light linking. For example, two instances of a light shape can have different light linking.

For a light instance to illuminate the scene, the light instance should be connected to a light linker node, either indirectly through a light set, or directly through a transform node or a shape node.

If the light shape node is connected to a light linker node, all the instances of the light shape are affected.

The light linking relationship editor does not support instance light linking, so making per-instance light linking must be done indirectly by using light sets.

For example, put light_instance1 and light_instance2 in separate light sets, and set light linking relationship of each of the light sets.

Breaking the light linking of a light_instance directly in the light linking relationship editor (as opposed to through lightset) operates on the light shape, resulting all the instances of the light shape breaking.

Cube map is not affected by translation and scale

The translation and scale on the environment cube map are not taken into consideration by the hardware renderer. The cube map will render very differently compared to software rendering. There is no workaround for this limitation.

Hardware renderer performance is slow when baking projected textures

The hardware renderer performance is slow when baking projected textures.

Workaround: Reduce the baking resolution (Color resolution, Bump resolution) in the Render Settings: Maya Hardware tab.

Hardware renderer doesn't correctly sort transparent polys and there are artifacts on transparency mapped objects

If objects or parts of objects with different shaders have overlapping 3D bounded regions with respect to the camera, then the transparency sorting may not be as expected with respect to a software rendering.

This is due to the fact that the hardware renderer does not sort on a per pixel basis. There are basically two modes for transparency sorting in the Render Settings:

- Per Object
- Per Polygon

The axis aligned world space bounding box of objects is used as the main criteria for depth sorting with respect the current camera used for rendering.

For Per Object, objects are sorted from furthest to closest in depth to the camera. The distance measurement is from the center of the bounding box to the camera “look from” position. If more than one shader is assigned to an object, then each part of the object will have its bounding box computed. Each distinct part is called a shader section and the box, the shader bounds. If the whole object uses one shader then the shader bounds" are equivalent to the bounds for the entire object. The shader bounds are sorted from back to front.

Per Polygon provides further sorting refinement. The polygons are sorted for each object from back to front. When drawing the depth-sorted shader bounds the polygons are drawn from back to front. If this option was not turned on, then the polygons would be drawn in arbitrary order per shader bounds.

Workaround

For possible better sorting, the you can either:

- Split up polygons of the object into separate objects.
- Split up single shader regions on single objects into separate objects with one shader per object.

Hardware bump maps are dependent on texture resolution

The bump map appearance is dependent on the size of the mapped file texture, or the bump resolution and preset quality in Render Settings. If the resolution is changed the bump appearance will also change.

Workaround

Adjust the bump depth to restore the desired appearance.

Environment reflection maps must be mapped to the reflected color channel

Sphere and cube environment maps are only supported on the reflected color channel. Assigning one to another channel will produce undefined results.

BOT files are not supported by the hardware renderer

BOT file textures will be rendered black by the hardware renderer.

Hardware renderer clipping planes deviates from the default behavior of

the software renderer and the mental ray renderer

For the software renderer and the mental ray renderer, if part of an object is beyond the far clipping plane, the entire object is rendered, including the part beyond the far clipping plane.

However, for the hardware renderer, if part of an object is beyond the far clipping plane, then only the part of the object that is in front of the far clipping plane is rendered. Parts of the object that is beyond the far clipping plane is clipped and not rendered.

ATI Ashli hardware shader plug-in unstable on 64-bit Linux

The ATI Ashli hardware shader plug-in is unstable on 64-bit Linux, and can cause Maya to crash when loading in shader files for display.

Shadows broken with newest version of Cg on nVidia cards

(Windows, Linux) We have supplied the beta 2 version of the Cg 1.5 libraries. Shadows do not work properly with later versions of these libraries on nVidia cards (on all platforms). ATI cards do not appear to have this problem.

(Mac OS X) Because a universal binary library version is required, we have supplied the 1.5.0012 version of the Cg libraries. On nVidia cards using Mac OS X 10.4.8, shadows do not render properly.

You can replace the Cg libraries in the run-time area with new versions for CgFx plugin shader development. However, we do not qualify or support newer versions of the libraries (for example, they will show this shadow problem).

Hardware renderer limitation with texture mapped to transparency channel

The hardware renderer does not support connecting a greyscale texture's outTransparency attribute to a shader's transparency channel.

Workaround

Use outColor instead of outTransparency.

Same texture placement must be used for color and transparency

Color and transparency textures need to use the same placement.

Hardware renderer limitation for Alpha Is Luminance flag

The hardware renderer does not support the Alpha Is Luminance flag for diffuse procedural textures on NV30 class hardware.

Workaround

Use a file texture with alpha instead of a procedural.

Hardware renderer does not support point light shadows

Shadows are not created for point lights when the hardware renderer is used.

Vector rendering limitations

The following lists the Vector rendering limitations and workarounds.

Image is not displayed in browser when Open in Browser is on

On Macintosh systems vector rendered images are not displayed in Internet Explorer 5.2 or lower when the filename is longer than twenty characters.

Workaround

Use a newer version of Internet Explorer or another browser (for example, Safari, Netscape, Mozilla).

By Frame ignored in Vector rendered filenames

By Frame has no effect when using the Maya Vector renderer.

Hardware shading limitations

The following lists hardware shading limitations and workarounds.

Projected textures or 3D texture placement on NURBS

Projected textures or 3D texture placement on NURBS surfaces may not reflect the correct placement in the views after you transform the shapes.

Workaround

Make an insignificant change to any of the texture's parameters to force a proper update after the transformation.

Mapped 3D texture on polygonal object

If a polygonal object has a mapped 3D texture then hardware texturing requires that the surface have a regular grid of unique UVs between 0 and 1 for sampling the texture over the surface.

Maya Software plug-in limitations in hardware shading

General limitations:

- Shader plug-ins and textures plug-ins are supported when you use Hardware Texturing. When you use Smooth Shade All mode, only the attributes of the following specific names are used: diffuse, hardwareColor, color, transparency, incandescence, specularColor, shininess.

Default texture resolution issues

Default texture resolution issues (which can be modified by switching quality in the material's Attribute Editor) include the following limitations:

- The 2D file texture attempts to use the full resolution (rounded to a base 2 number) of the file, but some configurations of texture placement will result in the use of a 64x64 hardware texture (for example, if you set the Coverage to less than one this occurs).

- All 2D procedural textures are represented by a 64x64 swatch.
- All 3D textures are represented by a 32x32 swatch, but a dynamic attribute named resolution may be added to configure this setting.

(Mac OS X) Unsupported image file formats appear in the Hardware Render Buffer window

In the Hardware Render Buffer window > Render > Attributes window, unsupported image file formats appear in the Image Format drop-down list. The following are the supported image file formats: Tiff, Tiff16, SGI, MayaIFF, JPEG, Maya16IFF, Targa, Windows Bitmap, MacPaint, Photoshop, PNG, QuickDraw, and Quick Time Image.

When you select another (unsupported) format from the drop-down list, Maya renders the image as an .iff file.

Texturing limitations

The following lists the texturing limitations and workarounds.

Convert to File Texture and Layered Shader

You cannot use Convert to File Texture on materials that are a layer of a Layered Shader.

Workaround

Disconnect the material from the Layered Shader, do the conversion, and then reconnect the resulting file texture to the Layered Shader.

Photoshop integration limitations

The following lists the Adobe® Photoshop® integration limitations and workarounds.

Show Batch Render, View Image and View Sequence do not support PSD format

You cannot use Render > Show Batch Render, File > View Image (FCheck as the default), or File > View Sequence (FCheck as the default) with PSD images.

Rendering optimizations

A node cycle detection prevents endless loops and crashes when translating DG graphs

The performance impact grows with the depth of the visited shading graphs. The cycle detection is enabled by default, but you can disable it by adding a dynamic attribute nodeCycleCheck (boolean) to the render globals node. We recommend using the cycleCheck MEL command to detect the cycle in the DG graph to fix it.

Technical notes (for scenes created using Maya 6.5 or earlier)

Changes to render globals nodes

Due to changes in the Render Settings (previously Render Global Settings), some attributes have changed.

The following tables outline the affected attributes for particular renderers.

Maya Hardware renderer

Previous attribute name (short name)	Current attribute name
hardwareRenderGlobals.imageFilePrefix (fn)	defaultRenderGlobals.filename
hardwareRenderGlobals.startFrame (sf)	defaultRenderGlobals.startFrame
hardwareRenderGlobals.endFrame (ef)	defaultRenderGlobals.endFrame
hardwareRenderGlobals.byFrame (bf)	defaultRenderGlobals.byFrame
hardwareRenderGlobals.imageFormat (if)	defaultRenderGlobals.imageFormat
hardwareRenderGlobals.imfkey (imfkey)	defaultRenderGlobals.imfPluginKey
hardwareRenderGlobals.enableDefaultLight (edl)	defaultRenderGlobals.enableDefaultLight
hardwareResolution.width (w)	defaultResolution.resolutionX
hardwareResolution.height (h)	defaultResolution.heightresolutionY
hardwareResolution.pixelAspectRatio (par)	defaultResolution.pixelAspectRatio
hardwareRenderGlobals.preRenderMel (pre)	defaultRenderGlobals.preRenderMel
hardwareRenderGlobals.postRenderMel (pst)	defaultRenderGlobals.postRenderMel
hardwareRenderGlobals.modifyExtension (me)	defaultRenderGlobals.modifyExtension
hardwareRenderGlobals.startExtension (se)	defaultRenderGlobals.startExtension
hardwareRenderGlobals.byExtension (be)	defaultRenderGlobals.byExtension
hardwareRenderGlobals.outFormatControl (ofc)	defaultRenderGlobals.useCustomExtension
hardwareRenderGlobals.outFormatExt (ofe)	defaultRenderGlobals.customExtension

Previous attribute name (short name)	Current attribute name
hardwareRenderGlobals.enableRenderLayers (el)	(None, flag is obsolete.)

Notes

Image Format

The numbering for image format (defaultRenderGlobals.imageFormat) has changed. To find the appropriate numbering, do the following:

1. Set the Image Format in the Render Settings window, Common tab.
2. Use the following command:

   ```
   getAttr defaultRenderGlobals.imageFormat
   ```

   The result is the correct numbering.

Out Format Control

The value for the out format control (defaultRenderGlobals.outFormatControl) has changed from boolean to a numbered value, from 0 - 2. To find the appropriate numbering, do the following:

1. Set the Image Format in the Render Settings window, Common tab.
2. Use the following command:

   ```
   getAttr defaultRenderGlobals.outFormatControl
   ```

   The result is the correct numbering.

mental ray for Maya renderer

Previous attribute name (short name)	Current attribute name
mentalrayGlobals.imageFilePrefix (ifp)	defaultRenderGlobals.imageFilePrefix
mentalrayGlobals.periodInExt (peie)	defaultRenderGlobals.peiodInExt
mentalrayGlobals.putFrameBeforeExt (pff)	defaultRenderGlobals.putFrameBeforeExt
mentalrayGlobals.extensionPadding (ep)	defaultRenderGlobals.extensionPadding
mentalrayGlobals.animation (an)	defaultRenderGlobals.animation
mentalrayGlobals.startFrame (sf)	defaultRenderGlobals.startFrame
mentalrayGlobals.endFrame (ef)	defaultRenderGlobals.endFrame
mentalrayGlobals.byFrame (bf)	defaultRenderGlobals.byFrame
mentalrayGlobals.renderableObjects (ro)	defaultRenderGlobals.renderAll

Previous attribute name (short name)	Current attribute name
mentalrayGlobals.outFormatExt (oft)	defaultRenderGlobals.outFormatExt
mentalrayGlobals.outFormatControl (ofc)	defaultRenderGlobals.outFormatControl
mentalrayGlobals.renumberFrames (rnf)	defaultRenderGlobals.modifyExtension
mentalrayGlobals.startExtension (se)	defaultRenderGlobals.startExtension
mentalrayGlobals.byExtension (be)	defaultRenderGlobals.byExtension
mentalrayGlobals.preRenderMel (prm)	defaultRenderGlobals.preRenderMel
mentalrayGlobals.postRenderMel (pom)	defaultRenderGlobals.postRenderMel
mentalrayFramebuffer.width (w)	defaultResolution.width
mentalrayFramebuffer.height (h)	defaultResolution.height
mentalrayFramebuffer.deviceAspectRatio (dar)	defaultResolution.pixelAspectRatio
mentalrayFramebuffer.format (fmt)	defaultRenderGlobals.imageFormat

Notes

Image Format

The numbering for image format (defaultRenderGlobals.imageFormat) has changed. To find the appropriate numbering, do the following:

1. Set the Image Format in the Render Settings window, Common tab.
2. Use the following command:

   ```
   getAttr defaultRenderGlobals.imageFormat
   ```

   The result is the correct numbering.

Device Aspect Ratio

Due to changes regarding aspect ratios, this attribute has been replaced by Pixel Aspect ratio.

Maya Vector renderer

Previous attribute name (short name)	Current attribute name
vectorRenderGlobals.imageNamePrefix (inp)	defaultRenderGlobals.imageFilePrefix
vectorRenderGlobals.imageFormat (if)	defaultRenderGlobals.imageFormat

Previous attribute name (short name)	Current attribute name
vectorRenderGlobals.pixelAspectRatio (par)	defaultResolution.pixelAspectRatio
vectorRenderGlobals.filenameFormat (ff)	defaultRenderGlobals.animation defaultRenderGlobals.periodInExt defaultRenderGlobals.putFrameBeforeExt
vectorRenderGlobals.renderLayers (rl)	(None, flag is obsolete.)

Notes

Image Format

The numbering for image format (defaultRenderGlobals.imageFormat) has changed. To find the appropriate numbering, do the following:

1. Set the Image Format in the Render Settings window, Common tab.
2. Use the following command:

   ```
   getAttr defaultRenderGlobals.imageFormat
   ```

   The result is the correct numbering.

13 Maya nCloth

Release notes

General nCloth limitations

The following lists miscellaneous nCloth limitations and workarounds.

Missing nCloth menu set

If you've upgraded from Maya 8.5 Complete to Maya 8.5 Unlimited, the nCloth menu set may be missing from the Maya interface. This is due to saved Maya preferences.

Workaround

Do one of the following:

- In the Menu Set Editor, select Edit > Restore Default Menu Set.
- Delete your preferences from the following location:

  Windows: `<drive>:\Documents and Settings\<username>\My Documents\maya\<version>\prefs`

  Mac OS X: `~/Library/Preferences/Autodesk/maya/<version>/prefs`

  Linux: `~/maya/<version>/prefs`.

Topology changes during simulation

Topology changes (modifications to the mesh surface that change vertices) while simulating nCloth are not supported for Maya 8.5. Changing the topology of nCloth objects may result in collision failures.

Vertex maps and constraints

In Maya 8.5, you can only create painted vertex maps for constraints that connect vertices to vertices.

Creating nCloth from referenced files

When creating cloth objects using geometry from referenced files, if you unload the reference and then save the file, you may see erroneous geometry on the reference node.

Caching nCloth objects with changing topology

Caching produces useful results on objects whose topology does not change over time. Some animated modeling construction history operations result in topology changes over time. While you can create a cache for these objects, it may distort the object during playback since a constant topology is assumed.

Last Tool and painting nCloth

When painting nCloth property texture maps, painting cannot be reinvoked with the Last Tool (default hotkey “y”) function.

Component to Component constraints updating per frame

Setting the Connection Update attribute on the `dynamicConstraint` node to Per Frame, when using a component to component constraint has no effect.

Thickness map in shaded mode

When painting the collision thickness of an object with Face collisions in shaded mode, it may be difficult to see mapped variations in thickness.

Workaround

View your scene in Wireframe mode (Shading > Wireframe).

Collision Thickness display

When modifying an nCloth passive collision object with the Solver Display (nClothShape node) set to Collision Thickness, the scene view may not immediately update to match your adjustments.

Workaround

Advance a frame, or rewind to the start frame to update the scene view.

Wrinkle maps limitation

When applying a wrinkle map to an nCloth mesh, the wrinkle offset is to one side only, in the direction of the normals.

Workaround

To make positive and negative wrinkles, set the *Alpha Offset* value to -0.5 on the wrinkle map texture node.

Transference of downstream connections from nCloth input meshes to output meshes

Downstream connections from an nCloth’s input mesh are not, in general, transferred to the output mesh when the input mesh is turned into nCloth.

The only exceptions are connections between the input mesh’s World Space values (worldMesh on the poly `mesh` node) and a wrap node’s Wrap Attributes (driverPoints on the `wrap` node). These connections are transferred.

Workaround

Transfer the connections from the input mesh to the output mesh manually, or with a script.

Bouncy nCloth

In some cases, *Bounce* values (nClothShape node) greater than 1.0 result in unstable cloth simulation.

Workaround

While cloth is not normally bouncy, you can increase *Bend Resistance* to create more bouncy collisions, and use *Deform Resistance* or *Rigidity* to help the bouncing object keep its shape.

Negative Push Out values

Negative *Push Out* (nClothShape node) values are intended for objects with normals reversed. The current behavior only flips the sense of normal when the Push Out value is -1.0, or less. This makes it impossible to create subtle push outs on the reverse side of a surface.

Workaround

To get expected results, flip the normals on the surface, and use a positive Push Out value.

14 Maya Fur

Release notes

General Fur limitations

Fur stamp unexpectedly renders above paintFX stroke stamps

The camera renders fur stamps above paintFX stamps unexpectedly.

Workaround

To correct this, create a new camera and match the camera with the broken camera.

Fur attached to Classic Cloth

If Fur is attached to a Classic Cloth shape and the Solver Scale value is changed, the Equalizer map will be generated at the initial position of the Cloth shape even if you specify a different Use Frame.

PolySmooth node causes Fur to flicker

If pre-Maya 6.5 files have polygon objects with Poly Smooth applied after skinning, and the Smooth UVs option turned on, there will be flickering in the animation of rendered Fur, or the motion blur.

Workaround

To correct this, execute `setAttr smoothNode.ma 1;` in the Script Editor and turn off Smooth UVs in the smooth node.

This does not happen for scene files created in Maya 6.5, as long as Smooth UVs is turned off.

Using Chord Height Ratio can cause Fur to flip

Fur that is applied to a NURBS surface, for which Use Chord Height Ratio has been turned on, may flip and point in the opposite direction on some frames of a multi-frame render. The Chord Height Ratio attribute is located under Secondary Tessellation Attributes in the Advanced Tesselation section of the Attribute Editor. Confirm that Use Chord Height Ratio is not turned on before rendering.

Fur doesn't recognize volume light

Fur does not recognize volume lights - light emitted from a volume light will have no effect on the fur render.

Rendering high resolution

Fur runs out of memory when you render at 8K x 8K or higher resolution. There is no workaround.

Limitations when rendering Fur in the Maya Software renderer

Degree 1 NURBS surfaces tessellate extremely highly

Degree 1 NURBS surfaces produce extremely heavy geometry when tessellated for Fur, thus taking longer to process and producing large intermediate files.

Workaround

Convert the geometry to polygons.

Fur does not render correctly in orthographic views

Fur renders at an incorrect size in the orthographic views in the Maya software renderer.

Workaround

Render Fur in mental images® mental ray® .

Fur does not support Field Rendering

If Field Rendering is turned on in Maya, Fur will ignore it and render frames.

Workaround

Render with the By Frame value set to 0.5 and interlace in a compositing package.

Fur does not render at all if the camera is scaled negatively

Fur cannot be rendered with a negatively scaled camera.

Fur renders as a grid when a spotlight has a Penumbra Angle

Fur may render as a grid when a spotlight with a shadow map has a Penumbra Angle.

Workaround

Set the value for Penumbra Angle to zero. Alternatively, increase the size of the shadow map until the grid artifacts disappear.

Fur does not support any of the 16 bit image formats

Fur does not support any of the 16 bit image formats.

Workaround

Fur will be correctly composited when rendered to a 16 bit file format; however, the Fur pass itself will still be 8 bit. Set the rendered image format to a supported image format.

Or render in mental ray.

Using spotlight penumbras and drop-off with fur shadowing

Although fur shadow maps can be used with spotlight penumbras and drop-off, the fur shadows are not affected by these values, so there is no fall-off to the fur shadow. The fur shadows may look too sharp at the edges.

Fur does not support texture mapped lights

Fur does not support texture mapped lights.

Workaround

Render in mental ray.

Using Chord Height Ration can cause Fur to flip

Fur that is applied to a NURBS surface for which Use Chord Height Ratio has been turned on may flip and point in the opposite direction on some frames of a multi-frame render. The Chord Height Ratio attribute is located under Secondary Tessellation Attributes in the Advanced Tesselation section of the Attribute Editor.

Workaround

Confirm that Use Chord Height Ratio is not turned on before rendering.

Maya may run out of memory when rendering Fur with very large shadow maps

Rendering Fur with very large shadow maps can cause Maya to run out of memory.

Workaround

Reduce the size of the shadow map and/or the Hairs/Pixel value for Shadow Map Rendering in Fur Globals.

Limitations when rendering Fur in mental ray for Maya

Fur on instanced objects not rendering

Fur cannot be rendered in mental ray on instanced objects if *Group Under > New Group* was selected in Duplicate Options.

Motion blur not working

If the Segments attribute is keyframed, motion blur won't work in mental ray.

15 Maya Live

Release notes

General scene limitations

The following limitations and workarounds relate to general scene issues with Autodesk® Maya® Live™.

Forced to set distance value to zero

Values set as Distance Constraints in the Survey Panel sometimes get reset to zero.

Workaround

Enter the desired value in the Attribute Editor or by using MEL commands.

Errors if you open a file before loading Maya Live plug-in

If you open a Maya Live file before loading the Maya Live plug-in you get errors.

Workaround

Load Maya Live plug-in before starting work in Maya Live.

Resizing Live window

Some Maya Live functionality goes out of view when you resize the window to a smaller dimension.

Workaround

Use Maya Live in its full screen display for all options to be accessible.

Save changes prompt

Choosing Scene > New Matchmove sometimes prompts you to save changes—even if you have not made any changes in the scene.

Setup limitations

The following limitations and workarounds relate to setup issues with Maya Live.

Display of Softimage image files

If the Use Cache check box is turned off, Avid® Softimage® image files that lack the .pic extension will not display.

Workaround

Do one the following: rename images to include .pic extension, convert to another format, or turn on the Use Cache check box on the Setup Cache control panel.

Image plane streaks

Occasionally, images do not display correctly on the image plane and the pixels on the right side of the image appear as streaks.

Workaround

This problem occurs when there is not enough texture memory on the machine. Open the Setup Cache control panel and choose None in the Texture Method parameter.

Track limitations

The following limitations and workarounds relate to track issues with Maya Live.

Deleting track points

If you undo the deletion of a track point that was used in a solution, only the associated 3D locator reappears.

Workaround

Choose Edit > Undo again to bring back the track point.

Manipulating track boxes

You may have difficulty selecting and resizing track boxes in the pointCenteredCamera view panel.

Message from positioning track boxes

When you position a track box, the following message appears in the Script Editor:

```
// Undo: dragTrackedPoint_doDrag //.
```

Workaround

Ignore the message.

Refresh of track point names

When you change the name of a track point or a survey constraint in the control panel, the label name does not change in the view panels.

Workaround

Wait for the next time the view panels refresh.

Deselected Track Box Tool

Saving your scene deselects the Track Box Tool.

Workaround

Re-select the Track Box tool if you want to drag a point.

Ready-to-Solve bar remains red

When you prepare to solve for object motion (using the As Object checkbox), the Ready-to-Solve indicators in the Track Summary may remain red. This occurs because the Ready-to-Solve indicators are based on *camera* solvability.

Workaround

Ignore the red indicators and continue with the Solve task.

Solve limitations

The following limitations and workarounds relate to solve issues with Maya Live.

Undo of Start, Continue, or Refine

Errors occur if you undo the Start, Continue, or Refine step.

Workaround

Delete the resulting solution instead of choosing Edit > Undo.

Root Frame solver failure

Occasionally, the Root Frame solver fails and the following message appears in the Script Editor:

```
// Error;  // Exception. //
// Error;  // Solve Failed. //
```

Workaround

Click Solve or Start again and the solver will work.

Playblast frame range

The Playblast button on the Solve control panel plays the entire frame range rather than the frames specified in the Solve control panel.

Workaround

Select the frame range in the Time Slider bar instead.

Survey constraint Variance fields

The solver performs poorly if you enter a value of zero in any of the survey constraint Variance fields.

Workaround

Avoid entering zero in the survey constraint Variance fields.

16 Maya Fluid Effects

Release notes

Fluid Effects limitations

Fluids with temperature turbulence backward compatibility

If you have old fluids from 7.0.1 or earlier that use temperature turbulence, their simulations will play back differently each time they are played due to the backward compatibility settings.

Workaround

If you don't want to keep this random behavior, run the following MEL script for each `fluidShape` that uses temperature turbulence:

```
setAttr fluidShape.usePre70Dynamics false;
```

Fluid Cache creation uses the current state as the starting point

When creating a cache for a fluid, the current state of the fluid will be used as the starting point for the cache.

If you do not wish to use the current state, but want to start again from the initial state of the fluid, rewind to the fluid start frame. If the start frame for the fluid is not the same as the cache start frame, run the fluid up to the start frame of the cache.

Like-named fluids cause cache problems

If you have a scene that contains 2 or more fluids, and their `fluidShape` nodes have the same name, then fluid caching will not work correctly for those fluids.

Workaround

Make sure that the fluid nodes in your scene have unique names if you intend to cache them.

MR render does not read fluid names properly

mental ray will render an animation incorrectly if fluid names are not unique.

Workaround

Ensure that each fluid shape in your scene has a unique name; when duplicating a fluid, make sure that Assign Unique Name is turned on.

Fluid texture not updating

A fluid texture does not update if not connected on outColor. When rendering in mental ray if the fluid is only connected on outAlpha, it does no t update.

Workaround

Insert a luminance node between your fluid texture and the shader.

Surface shaded 3D fluid with Opacity Texture looks different in software render

If the dropoff shape is off, or the edge dropoff is 0, and your 3D fluid has density (greater than the surface threshold) in the boundary voxels, you won't see an outside boundary in hardware draw.

Workaround

If you need to see the outside boundary in the hardware draw, set the dropoff shape to cube, and the edge dropoff to .01.

2D texture collision missing some areas

The fluid doesn't enter some regions around the collision object.

Workaround

Triangulate the poly mesh explicitly using Polygons >Triangulate.

Fluid object doesn't render in the exported file

If you exported a fluid with inputs off, you may end up losing the fluid shading connection to itself, and the fluid will not render.

Workaround

Open Hypershade, Assign the fluidShape to itself and it will render again.

Fluids cache nodes may be named incorrectly

If you create a cache or initial state for a referenced fluid or a fluid in a namespace, the cache nodes will be named incorrectly. For example, if you create a cache for fluffy:fluidShape1, the cache node may be named fluidShape1.

Workaround

Rename the cache node to initialState_fluidShape1 or cache_fluidShape1 as appropriate.

Referenced file initial state cache may be modifiable from parent file

If your referenced file has an initial state cache, you can modify it from the parent file.

Workaround

Don’t modify it—either by painting or save initial state (unless you really mean to).

Floating object animation limitation

Floating object animation only works correctly if units are in centimeters.

Workaround

Look at the extra attributes on the associated locator shape, and modify to compensate for the change of units. The scene scale is normally used to match the ocean shader scale, but it can also be used to compensate for the units relative to centimeters. Or you can modify gravity, or some of the other physical constants to get the desired motion in your units.

Alpha in image plane expands when used with volume fluids

Alpha in image plane expands when used with volume fluids.

Workaround

Make a second render.

1. Set the colorGain to zero and the color offset to 1 in the image plane.
2. On the fluid node set the Color ramp to all black and then set the Incandescence ramp to white.

Different blending cutoff in attribute presets for multis than strings, enums

If you apply an attribute preset with blending for a node that has ramp attributes and there isn't a one-for-one match between the entries on the corresponding ramps, you may get unexpected results. If these results are not satisfactory, you may have to adjust the results by hand. If you undo this kind of blend, you may end up with an extra index entry with a position and value 0. If so, delete the extra entry.

Ocean Shader: How do you create a tiling looping texture from it?

Here is a more detailed recipe for looping an ocean:
LOOP_FRAMES = number for frames after which animation repeats.

1. Create an ocean or ocean shader. Set the numFrequencies and waveHeight both to zero so that the ocean is totally flat and more optimal to render.
2. Map the oceanShader waveHeightOffset with an ocean texture..asProjection = ON and newTexturePlacement OFF. On the projection set the rotateX to 90.
3. Map the colorOffset of this texture with another ocean texture.. asProjection = OFF and newTexturePlacement = OFF
4. Animate the time values of the two ocean textures such that the start of one is the same as the end of the other.

   In the time field on oceanTexture1 type:

   = frame/30 (the time parameter generally expects seconds, not frames)

   In the time field on oceanTexture2 type:

   = (frame-LOOP_FRAMES)/30
5. Keyframe the waveHeight on the two textures to do a cross dissolve:

   oceanTexture1 frame 1 = desired height, frame LOOP_FRAMES = 0

oceanTexture2 frame 1 = 0, frame LOOP_FRAMES = desired height

The ocean animation should now loop across the number of frames specified by LOOP_FRAMES above. For it to work the two ocean textures must have identical values (apart from the wave height and time). With this method you cannot preview the displacement of the ocean using the heightfield node (convert displacement to poly will work). Also buoys and boats will not animate with wave height (texturing on the ocean shader is currently not taken into account for these effects).

Volume light Emit Ambient attribute not updating in IPR

When you select Emit Ambient with IPR running, you won't get an update.

Workaround

Reselect the area or change another attribute to update the render.

Multiple processors for fluid rendering may result in artifacts

When using four or more processors for fluid rendering, you may experience artifacts.

Workaround

Reduce the number of processors to four or less and try again.

Multiple processors for fluid rendering may result in system crash

When using a multi-processor/multi-core machine for fluid rendering, you may experience crashes.

Workaround

Reduce the number of processors used for rendering and try again.

Texture does not return to its original position

If your Texture Coordinate Method is set to grid and you are painting your fluid with autosave on, the texture does not return to its original position.

Workaround

Rewind, change coordinate method to fixed then back to grid again. Avoid saving unwanted grids, make sure that your saveInitialState options are set to indicate which grids should be saved.

Unexpected results when self shadowing on a surface rendered fluid

When self shadowing on a surface rendered fluid, you may get unexpected dark regions and artifacts.

Workaround

This only happens if the fluid has no transparency. Increase the quality until the artifacts disappear. Alternately, set the transparency to a non-zero value and it behaves as expected.

Hardware display issues with Node Caching

When Node Caching is turned on, you may get unexpected results in the hardware display.

Workaround

Don't turn on Node Caching for Fluid Effects. If you did, turn it off, save your file, and restart Autodesk® Maya® .

Depth buffer inaccurate for surface fluid

When rendering a fluid with depth output and a surface style fluid, you would expect the surface to appear correctly in the depth buffer, especially if the fluid surface transparency is zero. By default nothing will appear in the depth buffer. You must set the camera depthType to the closest visible depth to see the fluid in the depth output. However the depth value will be the near intersect with the fluid bounds, rather than the actual depth of the blobby surface. This could create problems for composites with objects (or paint effects) within the fluid bounds.

Workaround

You can get closer to the correct depth by enabling volumeSamplesOverride and increasing the volume samples on the fluidShape. Note this may create artifacts with surface type fluids and it will take longer to render.

Fluid wireframe draw (particles) does not work if voxels too small

If the voxel resolution is set low, nothing appears in the Fluid wireframe draw (particles).

Workaround

Use shaded mode or rectangles.

Can't create partial presets if node has multi attributes

You may want to edit the preset file so that it only contains a subset of the node's attributes, but when applying a preset to a node with multi attributes, it empties out all the multis first, and then adds entries to the multis from the preset. Do not alter these files, particularly the entries for any multi attribute, such as ramps.

Convert Fluid to polygon full of holes with smooth interpolation

When converting a Fluid to a polygon with smooth interpolation, you will most likely get holes in the mesh.

Workaround

Use linear interpolation and then average the vertices, or, with smooth interpolations, using fillHole will deal with these holes except when the boundary has non-manifold vertices. In this case we recommend increasing the threshold until the geometry is no longer non-manifold.

Surface rendered 2d fluid image is not consistent with Render As display

A surface render of a 2d fluid may not look like a fluid in Display As mode.

- The drop off shape for the cone (and double cone) isn't capped, so you still end up with the ends open. This is intentional.
- In a 2D fluid, not enough triangles are generated along the depth, so in a deep 2D fluid, the sphere will look like a cylinder and the cone will look like 2 cylinders.
- You will get ribboning if your drop off shape is off, or the edge dropoff is 0, whatever the shape.

Noise and volumetric objects

When using 2D textures on volumetric objects, they must be used as projections.

Older presets are not removed when Maya uninstalled

Uninstalling Maya does not remove the presets folder (in case you have added your own presets to it). So if you have previously installed an older version of Maya (for example, if you are a beta site), some old presets which no longer work correctly may remain in your new install.

Workaround

Manually remove the presets folder or just the unwanted presets from your install location before re-installing Maya.

17 Maya Hair

Release notes

Hair limitations

Hair width incorrect when rendered with mental ray

When rendering hair in mental ray, hair width is defined relative to clump width, while the Maya interactive and Software Renderer use the hair width directly in world space.

Workaround

Change hair width before rendering in mental ray. If you are modifying the clump width per follicle with the Clump Width Mult, you may need to put different sized clumps into separate hair systems, or use an alternate method such as the Baldness Map for controlling hair placement

IK solver may crash Hair render

If your mode has dynamic curves that affect an IK solver, it may crash when rendering in mental images® mental ray® on Linux® .

Workaround

Bake the IK before rendering and make sure that the IK solver is not enabled.

3D motion blur on Hair

The thinline brush type used by the internal default brush for hair does not support 3D motion blur.

Workaround

You can assign a Paint Effects brush to the hair system and use the *Paint* Brush Type (Brush Type = Paint). Keep in mind rendering will be slower with the *Paint* Brush Type and also the hairs may appear too thick when viewed from a distance.

Note	2D motion blur works with hair and the *ThinLine* Brush Type.

Simulation rate problems due to over and undersampling

Simulation rate does not affect hair solver oversampling, and undersampling dramatically changes the speed of the motion.

Workaround

Do not over or undersample when caching hair and do not change the playback rate. If you change your time units, you may need to change the dynamic properties of your hair system to compensate.

Lock Length not working with clusters

Lock curve length does not work with cluster or other deformers.

Undo not working when using Lock Length

With Lock Length, undo does not return curve to original position.

Note	Lock Length is intended for use while transforming CVs. It is not currently supported in conjunction with other animation techniques. You may wish to save before editing your curve with Lock Length turned on.

Setting Rest or Start curves from Current on referenced hair system doesn't work

Setting Rest or Start curves from Current on referenced hair system doesn't work.

Workaround

Modify Rest or Start curves in the referenced file instead.

Problems with non unique hair curve names and namespaces

If you import multiple hair systems with the same curve names using namespaces, set Rest Position and set Start Position will be unable to distinguish the curves.

Workaround

Although we generally encourage the use of namespaces, in this case it may be better to import hair with prefixes to resolve clashing names.

Gravity not working with Hair

Gravity doesn't work well with Hair in Z-up system.

Workaround

Use a gravity field instead of the built in gravity

A default dynamic curve behaves differently at each end

The tip point lock locks to the end CV position, but not to end segment direction.

Workaround

Apply a transform constraint at the end of the hair.

Hair jittering with collision constraint

If your collide sphere constraint is non-proportionately scaled so that one dimension is much thinner than another, stiff hair will jitter when touching the constraint.

Workaround

Reduce the stiffness until the hair stops jittering or make the constraint more uniform in scale.

18 Maya Toon

Release notes

Toon limitations

Lighting Based Width does not work with Offset Mesh

Lighting Based Width for toon lines is not supported for Offset Mesh profile lines.

Workaround

Use Paint Effects profile lines if you need lighting based width.

pfxStrokes command does not support pfxToon node completely

The pfxstroke command does not output the profile curves for a pfxToon object.

Workaround

Use ConvertPaintEffectsToCurves to extract the NURBS curves for the toon outline.

Reverse surfaces only work for polygons

When using Toon Lines with Offset Mesh for the profile lines, Reverse Surface is only supported for Polygons.

Workaround

For NURBS surfaces and Subdiv surfaces, if you need to reverse the surface, convert the surface to polygons and create the offset mesh on the poly surface. For NURBS surfaces, you can also Reverse Surface Direction on the NURBS surface itself.

19 Miscellaneous and translators

Release notes

General Maya limitations & workarounds

The following limitations and workarounds relate to general Maya issues.

Wait cursor may display after loading files

After loading a file, a wait cursor may come up and Maya will use all available CPU cycles for a long time (several minutes at least). This problem seems to occur in files that have IK and dependency loops.

Workaround

The ideal workaround is to find and remove the dependency loop. These loops may be difficult to find. For example, A may be translated by a pointConstraint B that uses target C that has a parent D that is rotated by an expression E that has an input from F that is constrained to G which is a child of A. One hint is to look for expressions that have outputs to attributes on many different nodes.

That is, some complex scenes take a long time to evaluate, and you could encounter this when loading a file.

Script editor slows down batch rendering

You may experience significant slowdowns in batch rendering if you have the Script Editor of Maya open at the same time you're rendering.

Workaround:

Close the Script Editor while batch rendering.

Audio files may cause Maya to hang

When using imported audio files in Maya it is inadvisable to have background applications running that use audio capabilities.

Opening Maya Unlimited scenes using Maya Complete license

If you run Maya using a license for Maya Complete then open a scene that contains nodes that are restricted by licensing to Maya Unlimited, you may see warnings of the form:

```
// Warning: file: …/30Sectest.ma line 63: Unrecognized node
type 'something'; preserving node information during this
session. //
```

These warnings can be safely ignored. All information in the Maya Unlimited nodes will be properly imported into Maya Complete and written out again correctly when the scene is saved.

If these licensed nodes came from an Unlimited plug-in (for instance, Maya Fur) when the scene is written out again by Maya Complete the scene file forgets that it needs Maya Fur to load properly.

Workaround

Load the Maya Fur plug-in manually in Maya Unlimited before loading the scene file.

Duplicated objects not assigned to a duplicate layer

When duplicating objects with the upstream option set, the options in the layer creation option box (right-click layer bar New Layer, or Options in layer editor) are respected.

If the Assign to Current Layer option is specified, the duplicated objects will not be assigned to a duplicate layer, but will instead be assigned to whatever layer is current. The layer itself will still be duplicated in this case but will remain empty.

Script filters don't invoke filterChanged callback

Script filters don't invoke *filterChanged* callbacks when script changes, for example, if you create an item filter like this:

```
itemFilter -byScript userScript filter1;
```

If you modify the script, you will not be informed that the filter has changed.

Workaround

Reassign the same script to the filter to trigger the workaround.

```
itemFilter -edit -byScript userScript filter1
```

Maya leaves UNIX shell key repeat turned off

Occasionally, Maya will leave your UNIX shell key repeat turned off.

Workaround

Use the *xset* UNIX command to turn it back on:

```
xset r on
```

Marquee component selection in shaded mode

In shaded mode, a marquee selection will select all components inside the selection rectangle, even if they happen to be hidden by the shaded surface. In other words, shaded selection behaves the same as wireframe selection for components.

Editing shading group connections manually

It is not recommended that you manually try and edit the shading group connections.

Workaround

Instead, always use the higher level interfaces like Hypershade and shading groups editor to ensure the connections do not become inconsistent which will result in the surface not appearing when rendered.

NURBS surface does not appear when rendering

If a NURBS surface is disconnected from its shading group it will continue to be drawn in shaded mode but will not appear when rendering. This is different from polygon objects which will not appear in shaded mode in this situation.

Double transformation when objects parented with history

When an object is parented with its construction history the output surface may get a double transformation when the group is moved.

Workaround

To fix this toggle the *inhertsTransform* flag (on the surface) to off. This stops the surface from inheriting the group's transformation and fixes the problem. Note: the group command automatically detects and toggles this flag in these situations but the parent command does not.

Revolved surface limitation

If a revolved surface is grouped with its input curve then transforming the resulting group will change the shape of the revolved surface since the revolve node's pivot will not be transformed.

Workaround

This can be avoided by not grouping the curve with the surface or by creating a locator under the group and connecting its position to the revolve node's pivot.

Transform with multiple surfaces

If a transform has multiple surfaces under it the shape node may have to be selected in the outliner for commands like *makeLive* to work properly.

Cycle checking may miss a cycle

The cycle checking that happens during attribute evaluation may miss a cycle in which incoming connections on a DAG node form a cycle that includes any of the worldspace attributes on its child nodes.

Workaround

cycleCheck NODE can be used to detect these cycles if you suspect this to be the case.

Loss of shader assignment for polygonal objects

While dealing with polygonal objects, deleting dag nodes that are part of the history of the polygon could lead to the loss of shader assignment. This happens only when materials have been assigned to faces (as opposed to the whole object). The result would be that all the faces of the polygon will end up in the default shading group and material assignment will have to be redone.

Edit > Duplicate does not work on isoparms

Workaround

Use Edit Curves > Duplicate Surface Curves instead.

Maya does not read previous version's windowPrefs.mel

Maya will not read the previous version's windowPrefs.mel file as the window sizes have changed for some of the windows. If Maya recognized the old preferences, it could hide new functionality.

Referencing or importing a file from the command line whose name is not a legal identifier

You cannot reference or import a file from the command line whose name is not a legal identifier unless you explicitly use the -rpr or -ns flags. This includes files whose file name begins with a number.

Workaround

- Use the -rpr or -ns flags to explicitly specify a valid renaming prefix.
- Rename the file to something starting with a letter (for example, a107953.sph.ma).

Grid -style warning from uiConfiguration script

It is safe to ignore the warning message when the -style flag is used for loading old Maya scene files. The warning message is a result of improving the functionality of the grid command. As a result the -st/style flag is obsolete. Saving and loading Maya 4.0 or later files will not generate this warning message.

UV values with no history may not be retrieved properly when file referencing

Tweaked UV values on polygonal geometry with no history may not retrieve properly in cases where that geometry comes from a referenced file.

Workaround

Introduce some minimal and benign construction history on the object in its referenced file. For example, open the referenced file in Maya and perform a Move Component with construction history enabled on a vertex, without actually moving the vertex.

Windows 2000 problem with mapping project directories

On Windows 2000, there are problems if you create a mapped drive that you want to use as a project directory, and the destination of the mapped drive is the root of another. For example, your "scenes" directory of a project hierarchy is in X:\scenes or \\machineName\Share\scene and you map it to a local drive later, you will get errors when trying to open files from this mapped drive.

Workaround

Move the all the files in the “project” (that is all the files and directories at the same levels as the scenes directory) down one level. For example, make a directory called “project” and move all the files into it.

Dynamic compound attribute

If you add a dynamic compound attribute to a node with other dynamic attributes, and then delete the compound attribute, you will not be able to recreate another dynamic attribute with the same name.

Workaround

Do one of the following:

- Save your scene and reload it.
- Duplicate the object, delete the original, and rename the duplicate to match the original.

Translator limitations

The following limitations and workarounds relate to translator capabilities of Maya.

MayaToAlias and StudioImport limitations

(MayaToAlias) Triangulate faces with holes

If you want to export a Maya mesh to a wire file and this mesh contains a face which has hole(s) in it, you need to triangulate this face first.

(StudioImport) DOF camera settings are different in Maya after translation

DOF camera settings are different in Maya after translation.

(studioImport) Light with colored texture textures fog within Maya

When Maya renders (or raytraces) light fog on a light with a colored texture channel, the fog receives that texture, whereas in Studio it does not. Importing Studio files with lights that have colored texture channels can cause confusing results because the default sampling rate is 1. Try using 20 to 30 samples.

(StudioImport) Ortho cameras not translating correctly

Ortho Cameras are not fully supported in StudioImport.

Workaround

Change Include cameras to false for import. Or adjust the translation of ortho cameras manually after import.

(StudioImport) No refraction jitter with StudioImport

No refraction jitter in Maya renders after import from StudioImport.

(StudioImport) Studio linear and volume lights translating incorrectly to Maya

Area and Linear lights are not transferred correctly.

(StudioImport) Environment fog translated incorrectly

Only the simplest forms of Environment fog are translated correctly.

(StudioImport) Stitched nurbs imported into Maya lose light linking

Working with shells from Studio can cause problems with light linking and rendering.

Workaround

Unstitch in Studio before importing wire file into Maya.

(StudioImport) StudioTools aim constraints have different axes

In StudioTools, if the aim constraints on one object have different axes, when they come into Maya, they will share the same axis—the one used by the first aim constraint on your object.

(StudioImport) StudioTools faces become trimmed surfaces

StudioTools faces become trimmed surfaces when brought into Maya. Sometimes, the trimmed surface may look different than the original face.

(StudioImport) srand (seed) replaced by rand (seed) when translated into Maya

If you use function srand(seed) in your expression, it will be replaced by rand(seed) when the expression is translated to Maya.

Workaround

Please replace “rand(seed)” with “rand(1)” if you want a random number from 0 to 1. If you do want to change the seed of the random number in the expression, please use the “seed” function which is available in Maya.

(StudioImport) Texture mapped onto color in StudioTools becomes image planes on all renderable cameras

The texture mapped onto the color of the StudioTools environment becomes image planes on all the renderable cameras. The size of this image plane is not necessarily correct.

Workaround

Adjust its size to get the desired result.

(StudioImport) Light glow transfer not perfect between StudioTools and Maya

The transfer of light glow is not perfect between StudioTools and Maya. The two main components are the light intensity and light decay. If your StudioTools light intensity is 1.0 and light decay is 0, then you do not need to be concerned.

Workaround

To get a perfect match between StudioTools and Maya light glows, just adjust your Maya glow intensity to:

```
glow_intensity = original_glow_intensity * light_intensity /
decay
```

where decay is:

- `1` if no decay
- `light_decay` if decay is 1
- `light_decay**2` if decay is 2
- `light_decay**3` if decay is 3

(StudioImport) Layered shader created in Maya for layered StudioTools shaders

If several shaders in StudioTools are layered on an object, a layered shader is created explicitly in Maya for these shaders.

(StudioImport) StudioTools image plane placement

For StudioTools image plane placement to correctly convert, set the Persp window in StudioTools to the same resolution as the default render resolution, and also choose Screen as the image space type.

(StudioImport) Backdrop image and texture on background color in StudioTools conversion limitation

Both the backdrop image and the texture on the background color in the StudioTools environment are converted to image planes on the renderable cameras. The depth of the image plane for the backdrop image is set to 90% of the far clipping plane. The depth of the image plane for the background color texture is set to 95% of the far clipping plane.

(StudioImport) Losing animation sequence number during conversion

The animation sequence number appended to the end of the image filename in StudioTools could be lost in Maya during the translation.

(StudioImport) StudioTools start/end mode in render settings conversion limitation

The start/end mode in the render settings does not translate properly into Maya, as Maya has no such mode. In this mode, the start and end frames, when transferred to Maya, may end up very different from the range in StudioTools.

Obj limitations

The following limitations and workarounds relate to Obj.

.obj suffix on obj filename necessary

You need a ".obj" suffix on the filename for Maya to recognize it as an obj file.

Workaround

Append .obj to the end of the filename.

MTL textures

MTL textures only work with file textures.

OpenFlight limitations

The following known issues relate to OpenFlight:

- OpenFlight geometry will only accept textures assigned to the color channel.
- Light Sources cannot be exported. Currently a single ambient light is always exported.
- An attempt is made to map Eye Points to Cameras in Maya; however, the mapping appears incorrect in some cases. Eye points are not exported from Maya.
- Track Planes are not supported.
- The only way to freeze a DOFs co-ordinates from within Maya is to export the scene as an OpenFlight file and then read it back in.
- Articulations on group nodes are not supported.
- Maya's LODs need to be extended to better handle the flexibility of the OpenFlight LODs.
- If you perform a Freeze Transformations on a translated Light Point, Maya versions older than 4.0.3 will crash. This can be fixed by updating to Maya 4.0.3 or higher.
- File textures may only be applied to the color attribute of a Maya shader. Textures applied to other attributes are ignored.
- Normals on faces are ignored on import. Maya regenerates the normals based on the vertex ordering. However edge settings are preserved.

IGES import and export

Level Mapping is not working on export

When using IGES export, level mapping (layers) is not supported.

Additional transform nodes are created for trimmed surfaces

When using IGES export, trimmed surfaces can be exported with extra transform nodes.

Non-planar planes not imported

Some systems, namely CATIA V5, write out non-planar plane entities. This is not currently supported by our IGES import.

Miscellaneous translators

Compression not working using VRML2, OpenInventor export

To use compress in Export Vrml2 and Export OpenInventor please ensure that a zip utility such as gzip is installed and in the path on your machine.

Platform-specific limitations

Maya for Windows limitations

The following limitations and workarounds relate to Maya for Windows issues.

(Windows) Deleting menu items from tear-off menu on Maya

Deleting a menu item from a menu that has been torn off will cause Maya (for Windows) to crash.

Maya for Linux limitations

The following limitations and workarounds relate to Maya for Linux issues.

(Linux) getModifiers command doesn't seem to work on Linux

Maya for Linux may not recognize the Ctrl+click key/mouse sequence.

(Linux) Linux and GNOME and mouse pointer as black "X"

Sometimes when you right-click and the mouse pointer becomes a black "X" it remains so for the Maya session and even after restarting Maya.

Workaround

Set the environment variable `MAYA_MMSET_DEFAULT_XCURSOR`; the value does not matter. If this variable is set, Maya will set the cursor to the left pointing arrow Cursor on exiting the Marking Menu/Hotbox.

When exiting the hotbox with the workaround already in place, the cursor may remain as the right-pointing red arrow. To remedy this, right-click the scene after exiting the hotbox. The cursor becomes the default left-pointing black arrow. However, the red arrow won't show up again when you enter the hotbox until you log out and log in again.

(Linux) Linux and GNOME and Marking Menu/Hotbox

When using GNOME window manager on Linux, on exiting from the Marking Menu/Hotbox the cursor may be reset to the default desktop "X" cursor.

Workaround

Set the environment variable `MAYA_MMSET_DEFAULT_XCURSOR`; the value does not matter. If this variable is set, Maya will set the cursor to the left pointing arrow Cursor on exiting the Marking Menu/Hotbox.

When exiting the hotbox with the workaround already in place, the cursor may remain as the right-pointing red arrow. To remedy this, right-click the scene after exiting the hotbox. The cursor becomes the default left-pointing black arrow. However, the red arrow won't show up again when you enter the hotbox until you log out and log in again.

(Linux) Display differences—with/without hardware overlays

What is displayed as red with hardware overlays is displayed as gray and black on cards without hardware overlays.

If there are no hardware overlays, plug-ins written assuming overlays will probably not work as expected.

(Linux) Dragging and dropping

Dragging and dropping from the desktop to Maya may not work.

(Linux) Window sizes

Some windows may have no height or width initially. Also, a window's default size may prevent option menus from being visible and readable.

Workaround

This usually occurs the first time the window is opened when its size has not been previously set. Resize the window manually.

(Linux) Interface Preferences settings for Show Title Bar in Main Window and In Script Editor

(Window > Settings/Preferences > Preferences > Interface) The states of these window's title bars are not affected by the settings in the Interface: General Interface Preferences window.

(Linux) Changing system font display settings

You cannot edit the font display in Maya Linux using the system font settings.

Workaround

You can edit the MayaScheme file in `/usr/autodesk/maya/app-defaults/` to modify the additional X resources used by Maya to change the system font display settings. This file is searched in the following location order:

```
$HOME/app-defaults/MayaScheme
/usr/lib/X11/app-defaults/MayaScheme
$MAYA_LOCATION/app-defaults/MayaScheme
```

To list available fonts, use the *xlsfonts* command. Alternatively, you can use the *xfontsel* command to generate a font string.

See also "Using the MayaScheme file to set fonts, font sizes, and colors" in the Linux chapter of the *Installation and Licensing* guide.

Note You must have root permission to edit the MayaScheme file when it is located in the `/usr/lib/X11` or `$MAYA_LOCATION` directory.

(Linux) Maya windows disappear

Depending on the window behavior defined in the Window Manager control panel, windows may automatically raise (come to the front) on focus or when clicking in them. This may result in Maya child windows to disappear. They have been pushed down, and the new window is brought forward.

Workaround

Change the default settings for the following:

- For KDE, and Gnome, see "Additional Linux Notes" in the *Installation and Licensing* guide.

(Linux) Putting menu items or option windows on the shelf

When you post a menu in Maya, then press Shift+Ctrl+Alt and click a menu item or option window to put it on the shelf, nothing happens.

Workaround

Use the Shift+Alt-right mouse button instead.

(Linux) Maya for Linux does not support creation of movie files

Maya Linux does not support creation of movie files. This prevents certain other functions, such as Playblast, from working. This also means that Maya Live pointblasts cannot output in movie format.

Playblast can still output a series of images and play it back using FCheck.

(Linux) Menu items do not seem to be selected

If you click an extended tab panel to show the pop-up menu on a tab panel (as in the Attribute Editor), the cursor appears just inside the left edge of the menu but no menu items are highlighted. The item beneath the cursor is actually selected, but it is not highlighted.

Workaround

Move the cursor slightly to the left to deselect the menu, then go back to the menu and select a menu item.

(Linux) Option sub-menus not always visible

Sometimes file placement dialog boxes do not display option sub-menus in a readable or visible form.

Workaround

Try manually resizing the dialog boxes so the option sub-menu is completely visible.

(Linux) Blank Getting Root Frames progress window

When you solve in Maya Live with the Gnome window manager, the first Getting Root Frames progress window goes blank and stays in the screen as long as Maya is running. This blank window is present in all applications.

Workaround

After the solve is complete, save the scene and restart Maya to remove the blanked out portion of the screen. Alternatively, you could use a different window manager than Gnome.

(Linux) Input connections do not appear in Hypershade

In Hypershade, when you connect a node1 output to a node2 input, the full menu list of input connections does not appear when you click the node2 input arrow.

Workaround

Click the node2 image itself instead of the input arrow. The full selection is then listed.

Maya for Mac OS X limitations

The following limitations and workarounds relate to Maya for Mac OS X issues.

(Mac OS X) Snapping gets stuck

When holding down any key to enable snapping (for example, v, c, or x) snapping may remain active after the hotkey is released.

Workaround

Click the middle-mouse button again without the hotkey held down.

(Mac OS X) G4/Hardware rendering support

In our efforts to take advantage of recent improvements in the graphics cards available on the Mac, it was necessary to make changes that prevent the use of hardware rendering on machines with G4 processors.

All other Maya functionality available on Mac OS X functions properly on a G4-based machine; however, if you attempt to use hardware rendering, you'll get a warning message that hardware rendering is not supported.

(Mac OS X) Blank screens in the scene view

Selecting the four view pane layout may result in the scene views not refreshing properly and the view appearing blank.

Workaround

Select the four view layout a second time, or click in one of the panes to refresh the view.

(Mac OS X) Symlinks have been removed from /usr/sbin

In previous versions of Maya, symlinks to licensing software and Maya command-line software were installed in `/usr/sbin` so that users could just type the name of the command at the Terminal (`/usr/sbin/` is included in the default path).

These symlinks have been removed, as they caused problems when multiple versions of Maya were installed or when uninstallation took place.

To get access to these command-line functions, either give the fully-qualified path within Terminal, or use the custom Terminal (.term) provided with Maya.

(Mac OS X) Hotkeys conflict with Exposé

Exposé hotkeys (F9, F10, F11) may conflict with preset Maya hotkeys. If you experience this problem, you can change the Maya hotkeys, or change the Exposé hotkeys in the System Preferences panel of the computer running Mac OS X.

(Mac OS X) Default location to install plug-ins

Maya for Mac on OS X provides a default location where you can install plug-ins:

`/Users/Shared/Autodesk/maya/8.5/`

See also “Load or unload plug-ins” in the *Basics* guide.

(Mac OS X) Features for Mac OS X not available for Windows or Linux

The following features are available in Mac OS X but not Windows or Linux versions of Maya.

- Tear-off menus in Hot Box
- Posting menus in Hot Box
- QuickTime integration
- Threaded sound playback in time line during scrubbing

- AppleScript executes Maya MEL commands with results returned. (See also "Calling MEL from AppleScript and vice-versa" on page 89 of the *MEL and Expressions* guide.)

3rd party programs not available for Mac OS X

- Motion capture drivers

Limitations of Maya for Mac OS X

- Ability to read in pre-Maya 3.0 files

(Mac OS X) Transferring files between platforms

Mac OS X files use different line endings than UNIX or Windows files. Mac OS X programs accommodate this by accepting any line ending, but Windows and UNIX programs require only their own form of line ending—including the UNIX-like programs run from the Mac OS X Terminal window.

Two UNIX utilities, which you run from the Terminal window, are included in the Maya bin folder to help you easily transfer files from one platform to another: *tounix* and *tomac*.

The following table describes what you need to do to transfer files between specific platforms.

From	To	Requires
mayaBinary on OS X	Any platform	*Put* as a binary file using ftp from the Terminal window, the Fetch application in binary mode, or any other Mac OS binary mechanism; or Use AppleShare IP on the non-Macintosh platform to transfer as a binary file from the Mac OS. (Using ftp from the non-Macintosh platform corrupts the file.)
mayaBinary on UNIX or Windows	Maya	*Get* as a binary file using ftp from the Terminal window, the Fetch application in binary mode, or any other binary mechanism; or Use AppleShare IP on the nonMacintosh platform to transfer as a binary file from the Mac OS. (Using ftp from the nonMacintosh platform corrupts the file.)
mayaAscii or mel files on UNIX or Windows	Maya	No special handling
Maya mayaAscii or mel files	Maya 5.0+ on UNIX or Windows	No special handling

From	To	Requires
Maya mayaAscii or mel files	Mac OS X applications that read text files	No special handling
Maya mayaAscii or mel files	Mac OS X UNIX applications (for example, vi or grep)	Use the tounix utility. From the Terminal window, enter: `tounix scene_file.ma`
Maya mayaAscii or mel files	Maya 3.0 on UNIX or Windows	a) From the Terminal window, use the tounix utility: `tounix scene_file.ma` then ftp as an ascii file. *or* b) Use the interactive Macintosh application Fetch, in ascii transfer mode.
mayaAscii or mel files that have been run through *tounix* utility	Mac OS X applications that read text files	Use the tomac utility. From the Terminal window, enter: `tomac scene_file.ma`
mayaAscii or mel files that have been run through *tomac* utility	Maya	No special handling
mayaAscii or mel files that have been run through *tounix* utility	Maya	No special handling

(Mac OS X) Mac OS X file fails to open on Windows XP

A reliable way to transfer Maya ASCII files between Macintosh computers and other platforms running Maya is to use ftp in ASCII mode.

(Mac OS X) Can't use a back slash code in MEL (Korean and Japanese systems only)

Workaround

Type the string on the same line (do not use a back slash to carry the string to the next line).

(Mac OS X) Texture placement manipulator disappears

The Texture Placement manipulator disappears when you make placement changes.

Workaround

Click with the middle mouse button anywhere in the empty space of the scene view to get back the manipulator

(Mac OS X) Interacting with Speed buttons in Fcheck has no effect

In Fcheck, when Every Frame is on, interacting with the Speed buttons (-, +) has no effect on the playback speed.

(Mac OS X) Folders in the project folder beginning with a bullet character cause Maya not to start

If you have a folder in your `/Users/username/Documents/maya/projects` folder that has a bullet character (option 8) in its name, Maya will not retain the project as it is set. It will return to the default the next time Maya is run.

Workaround

Remove the problem folder or rename it and restart Maya.

(Mac OS X) Display problem when selecting isoparm of NURBS surface

A strange pattern may display when you select an isoparm of a NURBS surface.

Workaround

Select the isoparm again to remove the pattern.

(Mac OS X) Tabbing doesn't always work as expected in Add Attribute window

Tabbing in the Add Attribute window (in the Attribute Editor, select Attributes > Add Attributes), does not always work as expected.

(Mac OS X) 2D textures on volumetric objects

When using 2D textures on volumetric objects, they must be used as projections.

(Mac OS X) Turning on Emit Ambient volume light attribute does not update the IPR render

Turning on Emit Ambient in the volume light Attribute Editor does not update the IPR render.

Workaround

If you change the status of Emit Ambient, you have to modify another attribute of the volume light to get the ambient light to update correctly in IPR. From that point on, the ambient component of the volume light will display correctly in IPR.

(Mac OS X) You must press the set focus hotkey (Alt ‘) twice to change the focus

If "Alt `" is used as the hotkey to set focus to the numeric input field, then it must be pressed twice to set the focus to the numeric input field. However, if another hotkey is used (instead of "Alt `") to accomplish the same functionality, then pressing the hotkey combination once is sufficient.

(Mac OS X) Maya may not find the shader library

The name of the Shader Library changed in Maya 7 and subsequent versions of Maya. See “Installing the Maya Shader Library” in the *Installation and Licensing Guide* for details.

There are a couple of circumstances where you may find a mismatch between the location of the Shader Library and the shader library location environment variable that is set for you. This may result in an error when you open Hypershade.

If you installed the Shader Library before Maya 7 and did not migrate your old preferences to Maya 7 or Autodesk Maya 8, Maya is looking for `shaderLibrary` when the old name is `Maya Shader Library`.

If you installed the Shader Library in Maya 7 or Autodesk Maya 8, and did migrate your old preferences (pre-Maya 7), Maya is looking for `Maya Shader Library` when the new name is `shaderLibrary`.

Workaround

Rename the Shader Library to `shaderLibrary` or `Maya Shader Library` as needed. The shader library is located in:

```
/Users/Shared/Autodesk/maya/
```

20 Maya commands

Release notes

Maya commands limitations

General

Menu bar layouts

Menu bar layouts are not visible until a child control is added.

Workaround

Create the menu bar layout and children and then show the window.

MEL

Using a string as an integer may crash Maya

Maya may crash if you source a MEL script that tries to operate on a string as an integer.

MEL array limitation

When a MEL array is specified using the {} notation then the type of the array is inferred from the first argument in the array. Therefore, an array declared with an integer as its first argument will generate a warning if a float value is specified later. These values will be converted to integers. Here is an example:

```
float $arr[] = { 1, 2.5 };

// Warning: Casting from float to int may result in a loss of
precision. //

print($arr[0] + " " + $arr[1] + "\n");

1 2
```

The value of the second element in $arr is 2, not 2.5 as expected.

Workaround

Make sure you declare the first element of the array as the type that you want the array to have. In the case above, this would mean declaring the array as:

```
float $arr[] = { 1.0, 2.5 };

By declaring the "1" as "1.0", the type of the array is
indicated to be float.
```

Polygon create command texture flag is no longer supported

The `-texture` flag (`-tx`) for the polygon create commands is no longer supported as of Maya 8.0. The `-createUVs` flag (`-cuv`) should be used instead.

Using a dash in MEL strings

If the first character of a string begins with a dash, the MEL interpreter assumes it is a command flag.

However, this is now a specific case where you can use strings that begin with dashes in MEL commands: the `setAttr` command can now set an attribute of type string with a value string that begins with a dash.

We strongly recommend against using strings in MEL that begin with dashes because they will not work in any other command. If you try to use these strings as attributes in any other command, you will get incorrect results.

stringArrayIntersector

In batch mode, the MEL funtion stringArrayIntersector does not work.

Python

Script editor cannot source .py file

Attempting to source a `.py` (Python) script in the Script Editor (File > Source Script) returns errors, as it is being read as MEL.

Workaround

Use the import directive. The script must be in your PYTHONPATH or sys.path.

The script node does not accept Python

You cannot use Python in script nodes.

Workaround

Write your Python script in a `.py` file and save it in your scripts directory. Use the MEL command below in a script Node.

```
python("\
\
import myPythonScript;\
myPythonScript.pyCommand();\
\
");
```

21 File formats

Release notes

File formats limitations

Sets on .obj files imported into Maya considered shading groups

All sets on .obj files imported into Maya are considered shading groups. This means that adjustment of an object's rendering groups within Maya causes simultaneous modification of the membership of the sets that were imported from the .obj file.

Workaround

In Maya, for each .obj file set whose membership you wish to preserve, select the contents of the set and create a new set.

Importing Adobe Illustrator 9.0 eps files into Maya

Importing an Adobe illustrator 9.0 eps file into Maya results in a transform node, but there is nothing in the view.

Workaround

In Adobe illustrator 9.0, save as an eps file and specify that it be in Adobe Illustrator 8.0 format.

File referencing limitations

File referencing architecture updates for Maya 6.5 and subsequent versions

Due to architectural changes that were made to file referencing in Maya 6.5 and subsequent versions, the file format used to represent the referencing information has changed drastically. We have gone to great lengths to ensure that there will be no backwards compatibility issues when opening an older Maya file (pre-Maya 6.5) containing references in Maya 6.5 and subsequent versions. If any issues are still encountered, the following workaround may assist in resolving backwards compatibility issues.

Workaround

Open the file in Maya 6.0, unload all the file references, save, and then re-open the file in Maya 6.5 or a later version.

Proxy references do not support renaming prefixes

Renaming prefixes do not work with proxy references for name clash resolution.

Workaround

Use the namespace option when working with proxy references.

Nodes and namespaces cannot share the same name

If a node and a namespace have the same name, an error is generated. Maya will attempt to fix this error by adding a suffix to a node whose name is the same as the namespace.

Workaround

Rename either the node or the namespace to ensure they are unique.

Namespaces and loading of referenced nodes

Maya always loads referenced nodes into a temporary namespace, then moves them into their permanent namespace. Therefore, the name returned by the node added callback is different than the name returned by the node removed callback.

Workaround

In order to track nodes consistently, you must use the nameChanged callback to find the name of the object after it has been put in its permanent namespace.

Referencing multiple scenes that contain mental ray data produces unexpected results

Referencing multiple scenes that contain mental ray for Maya data may cause the following issues:

- The Script Editor displays multiple warning messages regarding already connected nodes when the referenced files are loaded.
- Rendering the scene produces an image based on unexpected render settings.

Maya does not correctly distinguish between the shared nodes that exist for mental ray Render Settings. Each time a reference within one of these nodes is loaded, it applies the setAttrs and connectAttrs from that file to the shared node. The mental ray for Maya Render Settings that result will depend on the last reference that gets loaded.

Workaround

- In Maya, set the same Render Settings for each file you intend to reference for your scene.
- Reference the files into your parent scene, ignoring the warning messages.
- Confirm the mental ray for Maya Render Settings prior to rendering.

When a reference is locked, animation on compound attributes,

such as translate and rotate, may not play back.

Workaround

If you need the animation for feedback, but want to make sure that the reference is not accidentally modified, you can customize your locking by adding the parent compound attributes to the Excluded attributes script. Alternatively, instead of locking the reference, you can put it in a display layer with the appropriate settings to avoid accidentally selecting it.

Export As Reference not working with file references containing multiple layers

It is not possible to Export As Reference multiple objects from a scene where multiple layers exist.

Workaround

Remove the multiple layers and export the objects as references and reassign the layers afterwards.

Poly mesh geometry must have construction history to be modified within the parent scene

If you reference a scene containing a poly mesh and perform modifications to that mesh from within the parent scene, those modifications will not be respected unless the poly mesh had an existing construction history before it was referenced.

Workaround

Ensure that any referenced poly mesh geometry has at least one history node in the referenced file prior to referencing.

Reference edits may be lost when using identical node names

In order to apply an edit to a node from a reference it must be able to uniquely identify the node. In the following case this is not possible:

- Using renaming prefixes and you add a node to the parent file that has the same name as the renaming prefix and the reference node name.

Workaround

Make sure the names of your nodes are unique before you start applying edits in the parent scene.

Hypergraph layouts of objects from referenced files ignored

The Hypergraph layouts of objects from referenced files are ignored when the file is referenced.

Workaround

Make any adjustments to the layout of the objects in the referencing file. Keep your Hypergraph closed when importing/referencing, and then clean up afterwards.

Expressions and back-quoted commands limitation

If a referenced or imported file contains expressions and the expressions contain back-quoted commands, then the part in back-quotes will not have any node names prefixed properly.

Workaround

Use namespaces when referencing or importing files. Alternatively, you can modify your expressions to not use MEL commands or back-quoted expressions. C style expressions such as “foo.x = 0.5” are treated correctly in references and the nodes will be correctly renamed. However, MEL style commands such as “setAttr foo.x 0.5” will not work correctly.

Limitations with using prefixes for name clash resolution

When referencing a file using a renaming prefix that in turn references a file using a namespace, the outer renaming prefix will be turned into a namespace instead.

Referencing a file into the same scene multiple times using the default renaming prefix will result in ambiguous references to the objects contained within that file. Note that referencing a file multiple times into the same scene can happen indirectly if a file being referenced or imported references that scene.

Workaround

Use namespaces for all your file references. For import though, once you use namespaces, everything gets put in a namespace, whether it's clashing or not (even if it already has a namespace, it gets another one added on). But if you use prefixes, it will strip out existing namespaces, and then resolve clashes with prefixes. So you may wish to choose your method of clash resolution depending on what's in your file already. Alternatively, you can ensure that you assign unique rename prefixes to files that will be imported multiple times. You can do this by going to the File > Import options box or by using the -renamingPrefix flag on the file command in the Script Editor.

Problems importing and referencing the same file with the same prefix

There are problems with importing and referencing the same file with the same prefix. If the file is referenced and then imported then all is well. However, if the file is imported and then referenced, there are ambiguities in object names. Also, if the same renaming prefix is used with multilevel references, the resulting file may contain errors.

Workaround

Use namespaces when importing or referencing files. Alternatively, you can either reference the file before importing it or change the renaming prefix between importing and referencing.

Namespace or name-clash mechanisms limitation

When creating a reference in the current scene, and this reference in turn contains a referenced MEL script, the namespace or name-clash mechanisms will not be applied to any node names referred to in the script. This can cause problems if the MEL script relies on explicit names that are contained in the referenced file.

Workaround

Try to create MEL scripts that are not dependent on the actual naming of nodes contained in the scene.

Can't replace nested reference

Replacing a nested reference file (i.e., a reference which is not a child of the main scene) is a temporary action. The reference to the new file will not be saved with the main scene.

Workaround

Open the parent file of the reference and replace it there.

Can’t save reference edits with Shared Shading Networks or Shared Display Layers on

If a reference is created with the Shared Shading Networks or Shared Display Layers options, you will not be able to Save Reference Edits to it. The menu item in the UI is not available, and an error will be returned when using the `file -saveReference` command.

Changing the structure of shading networks prevents sharing

When creating references with the Shared Shading Networks option you should avoid changing the structure of any resulting shared shading networks. If nodes are added or removed from the shading network in the parent scene (for example, by creating a node in the parent scene and connecting it to one of the referenced shading network nodes), the network may not be correctly shared the next time a reference is reloaded.

This limitation does not apply to the modification of attributes or attribute values: attributes can be added or deleted, and attribute values changed.

Problems with nodes when exporting animation

The export animation flags of the `file` command only write out animation nodes. When you have animation nodes parented under other nodes which are not exported, Maya writes out `connectAttr` commands that reference these missing nodes. A relative path is used for these connectAttrs because the most common scenario is when these missing nodes actually belong to some other referenced file.

In cases where there are non-unique node names involved, the relative paths for non-exported nodes can be the same if the exported nodes are parented under different nodes with the same name. This creates incorrect results when the exported animation is re-imported to Maya.

Workaround

Make sure that parent (non-animation) nodes, such as locators, are uniquely named, or choose a way of exporting (such as export selected) that also exports the parented non-animation nodes.

Deleting shared reference nodes problems

In cases where there are shared reference nodes in a file, removing references and re-saving may result in instability and Maya closing unexpectedly.

Workaround

Opening the scene via the Preload Reference editor (File > Open Scene > ❒ and select Selective Preload) allows you to open the file without loading the references. You can then delete these references.

22 Utilities and peripherals

Release notes

RIB Export limitations

The following limitations and workarounds relate to Rib Export.

Not all Maya objects are converted by RIB plug-in

Not all Maya objects are converted by the RIB plug-in. Most notably, textures and particles are not converted. However, cameras, lights, geometry and their animation are translated correctly. A very simple algorithm maps Maya's lambert, phong, and blinn shaders to their RenderMan equivalents and copies the color attribute. If a texture is mapped to the shader in Maya, then the resulting RenderMan color will be indeterminate. Also note that this version of the plug-in does not support per-face shading groups, thus shaders assigned to specific faces will not be converted, and those faces will be white when rendered by RenderMan.

Maya light decays and RenderMan default settings

RenderMan's lights all have a decay of 2, which may cause illumination mismatches in lighting if you have your light's decay set to anything other than 2 in Maya.

Workaround

Set all Maya light decays to 2.

Maya's ambient lights are not well represented in RenderMan

Maya's ambient lights are not well represented in RenderMan and will tend to wash out the RenderMan rendered scene once translated.

Workaround

Reduce the intensity of your ambient lights before translation, remove them altogether, or set the ambient shade parameter to 0 in Maya to better match the RenderMan look.

Warnings for scene written to RIB with disabled motion blur

If a scene is written to RIB with motion blur disabled, when that file is rendered by RenderMan it will generate warnings of the form: "R07005 Premature RiMotionEnd".

Workaround

These can be safely ignored. This problem will be corrected in a future Maya release.

23 API and Devkit

Release notes

API and Devkit limitations

The following lists limitations and workarounds for the API and Devkit for Maya 8.5. We also recommend that you read the *API guide* documentation before attempting a major project using Maya.

It is not possible to distinguish between the color black and an unassigned color in an MPxHwShaderNode plug-in

There currently is no way of setting what value to use for an unassigned color of an `MPxHwShaderNode` plug-in. Currently, the color black or 0,0,0,1 is used as the unassigned color.

Unable to unload an MPxNode plug-in if MPxData is specified

If a MPxNode plug-in creates an MPxData in its `initialize()` method, you will receive a warning that the plug-in is in use when trying to unload it even if you have not created a node. This is because the proxy MPxData type is in use.

Workaround

Do not create the `MPxData` until it is required in the `compute()` method.

MItMeshPolygon::getColors(colorArray) does not provide access to all colors

There is a second parameter to the `MItMeshPolygon::getColors()` method. This parameter specifies the list of color sets that should be considered in the method. If not specified, this method will operate on the current color set.

Workaround

Specify the list of color sets that should be considered by the `MItMeshPolygon::getColors()` method.

Plugs are deleted upon deleting or disconnecting nodes

When deleting or disconnecting nodes that are connected to other nodes, the plugs that are connected to the deleted or disconnected nodes gets deleted as well.

Workaround

Create a new plug for every attribute.

Attribute changed callbacks limitation

Attribute changed callbacks are not invoked if the modification to the attribute is made by a tool such as Move.

MFnDependencyNode flags limitation

MFnDependencyNode flags are not reset when they are deallocated. Resetting these flags requires an entire DG traversal.

For best performance, it is better for you to control this operation since you may only be interested in a subset of the depend nodes in the scene.

MFnMesh::assignUVs() does not support history

The method `MFnMesh::assignUVs()` does not support history. As a result, modifications made to UVs with this method may be overwritten as the dependency graph updates.

Long names of attributes can be incorrectly re-used

It is possible to create new attributes on a node that have the same long name as an already existing attribute but differs by the short name. This will cause updating problems for the Channel Box and Attribute Editor.

API plugs and dependencies hierarchy limitation

The API does not support hierarchies of plugs and their dependencies in a single dependency node. Dirty propagation works correctly across connections between nodes, but not between internal attributes on a user-defined node made with `MPxNode`.

Workaround

Use the method `attributeAffects()` to “flatten hierarchies” when declaring their affects behavior between all inputs and outputs on your node.

OBJ files need “.obj” extension

Wavefront OBJ files need the .obj extension to be recognized automatically when the File > Open Scene Import option is set to Best Guess.

Workaround

Set the Import option to OBJ to import a file without the .obj extension.

Batch rendering scenes with plug-ins

If you have a Maya scene that uses two (or more) plug-ins, both of which fail in their “initializePlugin” method (due to a missing license for example), and both plug-ins require one of the libraries `OpenMayaUI`, `OpenMayaAnim` or `OpenMayaFX`, when attempting to batch render the scene Maya may produce a fatal error.

Workaround

Manually add the following lines at the end of your userPrefs.mel file.

```
dynamicLoad OpenMayaUI
dynamicLoad OpenMayaAnim
dynamicLoad OpenMayaFX
```

Unloading and reloading plug-in

If a plug-in command is called from an expression or a MEL procedure, and after the expression or procedure has been parsed, the plug-in is unloaded (or unloaded and then reloaded), Maya may produce a fatal error if the expression is triggered or the procedure is re-executed. When MEL parses the expression or procedure, it saves a pointer to the *doIt* method of the plug-in command. The value of this pointer is not normally recalculated, so if the plug-in is unloaded or reloaded at a different location, the pointer is no longer valid.

Similar issues will occur if `MFnPlugin::registerUI()` is used to register a command defined by a plug-in.

Workaround

Enclose the call to the plug-in command in a MEL *eval* statement. This forces MEL to compile the statement each time the expression is evaluated or the procedure is run. If the plug-in has been unloaded this is detected and an error results. If the plug-in has been reloaded, the new location of the *doIt* method is computed during the recompile.

Custom material shader plug-in with a glow intensity attribute

If a custom material shader plug-in is implemented with a glow intensity attribute, this attribute will be ignored by the software renderer unless an internal Maya material shader in the scene (e.g. lambert, blinn, phong) has a glowIntensity value greater than zero. Currently the software renderer only queries material shader nodes that match the internal types for a `glowIntensity` value that is greater than zero. There is no way to directly override this limitation.

Workaround

In order to assure the rendering of a custom shader's `glowIntensity` attribute an `MSceneMessage::kBeforeSoftwareRender` callback and an `MSceneMessge::kAfterSoftwareRender` callback must be registered. The first callback must create an internal material shader node via "`shadingNode -asShader lambert;`" and it must retrieve the node name returned. Then it must set that node's glowIntensity attribute to a value greater than zero. The second callback will simply remove this "dummy" node.

Connecting the plugs of two nodes and breaking the connection

There may be situations in which it is desirable to connect the plugs of two nodes and then soon after break this connection. If `MDGModifier::connect()` is used to connect geometry data between two nodes and if this connection is broken before the screen is refreshed the data will not be cached on the downstream node.

Workaround

A call to

```
M3dView::active3dView().refresh();
```

before disconnecting the plugs will force the dependency graph to evaluate. This will cause the downstream geometry node to read the input data, and after this evaluation the data is available for caching to the node if the connection is subsequently broken.

Incomplete MPlugs

The plug passed to the user defined method that is registered with `MNodeMessage::addAttributeAddedOrRemovedCallback()` is an incomplete `MPlug`. Complex data type values will not be accessible via MPlug::getValue(MObject value).

Workaround

This problem can be circumvented by using code similar to the following.

```
MFnDependencyNode fnDn(plug.node());
/*where "plug" is the name of the plug passed in as a parameter */
MString newPlugName(plug.name());
/* MPlug::name() will actually return a string containing the
"nodeName.attributeName"  so it may need to be parsed for the
following call. */
MPlug realPlug = fnDn.findPlug(newPlugName);
```

In the above example, “realPlug” is a fully functional and accessible MPlug.

Custom nodes with store-able internal attributes that are arrays

Custom nodes with store-able internal attributes that are arrays may display incorrect array indices when they are read into Maya from a scene file containing the node. This will be apparent in the `MPxNode::setInternalValue()` method if the number of array elements is compared to the plug's logical index and they are found to be equal in value. It is important to note that this will occur only with internal attributes.

Type of MObject that Maya passes

The type of `MObject` that Maya passes to the following methods will always be `MFn::kInvalid`.

```
virtual MPxGeometryIterator * iterator (MObjectArray &
componentList, MObject & component, bool useComponents)
virtual MPxGeometryIterator * iterator (MObjectArray &
componentList, MObject & component, bool useComponents, bool
world) const
```

These routines are used in classes derived from MPxGeometryData. There is currently no workaround for this problem.

No hooks for creating light shader nodes

There are currently no hooks from within the API for creating light shader nodes with properties similar to Maya's area light node.

Creating a blendShape

If a blendShape is created from within the API using `MFnBlendShapeDeformer::create()`, the method `MFnBlendShapeDeformer::addBaseObject()` will fail if used with the `MObject` of a curve that was newly created using `MFnNurbsCurve::create()`.

Workaround

A simple workaround is to locate the `MDagPath` of the newly created NURBS curve and obtain the `MObject` from that class. This object can be used successfully with `addBaseObject()`.

Tools performing “add pick”

Tools made with MPxSelectionContext perform an “add pick” by default as opposed to the built in Maya selection tools which perform a “replace pick” by default. An “add pick” adds a selection to the active selection list while a “replace pick” replaces the current selection list with the selected object or objects.

Workaround

Use `MGlobal::displayInfo()` to instruct the user to left click the mouse in an empty part of the scene in order to begin a new selection.

Method setCursor()

When the method `setCursor()` is called with an instance of an `MPxSelectionContext` class the method will fail. The same method called with an instance of `MPxContext` will function as documented.

Method MDrawRequestQueue::isEmpty()

Using the method *MDrawRequestQueue::isEmpty()* on an instance of MDrawRequestQueue to which no `MDrawRequests` have been added will cause Maya to crash.

Workaround

The method operates as documented if called on a queue to which one or more `MDrawRequests` have been added. Incorporate state checking code to assure that an MDrawRequest has been appended before make a call to `isEmpty()`.

Assigning a texture shader as an input to a built-in Maya material shader

When a user assigns a texture shader as an input to a built-in Maya material shader (for example, lambert) a connection is automatically made between the texture node's message attribute and the downstream materialInfo node's texture[0] attribute. This is necessary for accurate hardware rendering. This does not happen automatically with custom material shaders and procedures will have to be implemented to make the connection.

Unfortunately when the scene is saved and re-opened the texture will no longer be connected to the materialInfo node's texture[0] attribute. Instead the material shader's message attribute will have this connection.

Workaround

Procedures will have to be implemented to break this connection and reconnect the texture node's message attribute with the texture[0] attribute. Possible solutions may include: the registering of a callback in the plug-in's initialize method to check for this connection and alter it if necessary, or the modification of the AE template script to make such connections when necessary.

Monitoring the desired hardware resolution of a Texture2d node

To monitor the desired hardware resolution of a Texture2d node the renderer queries its resolution attribute. This attribute is added dynamically to a texture when the user sets the Hardware Texturing >Texture Quality of a built in material shader node (e.g. lambert.). This is not the case with custom material shader plug-ins.

Workaround

A procedure must be implemented that will dynamically add the resolution attribute (type kLong) to an input texture. The resolution attribute can have the values: 32, 64, 128, or 256.

MPxContext::doHold() method

The `MPxContext::doHold()` method is called on a context tool even if the Alt key is pressed. Ordinarily the use of the Alt key should override the context tool and allow exclusive use of the tumble mechanism. Instead, both happen simultaneously.

Shader plug-ins and using float2 compound attributes

Shader plug-ins that make use of `float2` compound attributes may occasionally receive incorrect data from the data block.

Workaround

It is best to extract the data as a compound attribute, and retrieve the contents individually. In other words, the first example is preferred over the second equivalent example.

```
float2& uv = block.inputValue( aUVCoord ).asFloat2();
float u = uv[0];
float v = uv[1];
vs.
float& u = block.inputValue( aUCoord ).asFloat();
float& v = block.inputValue( aVCoord ).asFloat();
```

Coding it the second way may result in the u and v values being the same in certain cases.

Calling MFnMesh::deleteFace()

A call to `MFnMesh::deleteFace()` will insert a deleteComponent node as construction history upstream from the affected mesh, however a call to `MFnMesh::addPolygon()` does not insert a corresponding construction history node.

Workaround

`MFnMesh::addPolygon()` should only be used from within the compute method of a node that is placed upstream from the affected mesh object. Within the compute method the `MFnMesh` instance will act upon the `kMeshData` that is passed through as input and output data.

Querying the active view port within the API

There is no way within the API to query the active view port to find out if textures are currently displayed, nor is it possible to set this option.

MPxCommand and complex data types

When writing an `MPxCommand` that is intended to receive arguments from the MEL command line, please be aware that there is no way to hand a command plug-in a complex data type by pointer value.

Workaround

The class MArgList contains several methods that permit the passing of complex data types from the MEL command line to a plug-in command. These are:

```
MStatus get( unsigned& indexReadAndUpdate, MVector&, unsigned
numElements=3 ) const
MStatus get( unsigned& indexReadAndUpdate, MPoint&, unsigned
numElements=3 ) const
MStatus get( unsigned& indexReadAndUpdate, MMatrix&) const
MStatus get( unsigned& indexReadAndUpdate, MIntArray& ) const
MStatus get( unsigned& indexReadAndUpdate, MDoubleArray& ) const
MStatus get( unsigned& indexReadAndUpdate, MStringArray& ) const
```

MFnPluginData::create() will fail to maintain a reference to an MObject

`MFnPluginData::create()` will fail to maintain a reference to an `MObject` if the assignment is not done at the time of creation. For example this will fail:

```
fnPluginDat.create(id, &stat);
MObject obj = fnPluginDat.object();
```

Workaround

Always assign the `MObject` at the time of creation so that a reference will be maintained internally. For example:

```
MObject obj  = fnPluginDat.create(id, &stat);
```

MFnFreePointTriadManipulator::setSnapMode(false)

If `MFnFreePointTriadManipulator::setSnapMode(false)` is set to false, it will remain in snapMode if a single axis handle is manipulated. If the central handle is used the manipulator will move freely.

Global selection list does not preserve selection order of mesh object components

The global selection list does not preserve selection order of mesh object components. For example, a tool designed to operate selected mesh vertices should not depend on the selection order.

MItDependencyGraph only traverses connections that affect the specified starting plug or node

`MItDependencyGraph` only traverses connections that affect the specified starting plug or node. Therefore, it may not traverse some connected nodes, such as connections to message attributes or dynamic attributes. Also, connections to a transform node's translate, rotate, scale attributes will not be found if traversing upstream through the worldMatrix output. Additionally, since `AnimUtil::isAnimated()` relies on `MItDependencyGraph` for its functionality, it will not find animCurves connected to the translate, rotate or scale if getting there requires traversing the transform node's worldMatrix attribute.

Workaround

When using `MItDependencyGraph`, when a transform node or message plug is reached, prune the current iteration and start another `MItDependencyGraph`. When using `MAnimUtil::isAnimated()`, when a transform node or message plug is reached, call `MAnimUtil::isAnimated()` again.

Invoking the objExists MEL command limitation

Invoking the objExists MEL command with MGlobal::executeCommand() during the retrieval of a scene file can produce incorrect results.

MArgDatabase::getFlagArgument() and MArgParser::getFlagArgument() usage limitation

The methods MArgDatabase::getFlagArgument() and MArgParser::getFlagArgument() require that numbers larger than 2^31 be enclosed in quotes.

MPxSurfaceShape related problems

The following lists MPXSurfaceShape related problems.

User defined shapes created with MPxSurfaceShape

User defined shapes created with `MPxSurfaceShape` cannot support per-components texturing or shading.

24 Documentation

Release notes

Maya Help limitations

Microsoft Internet Explorer blocks help content (Windows)

The Maya Help for Autodesk Maya uses JavaScript, which Microsoft Internet Explorer blocks by default for HTML pages on My Computer.

By default, each time the help is accessed from My Computer, you see a security warning message asking you if you want to show active content. Clicking on the message and selecting Allow Blocked Content allows the page to load.

To turn off this message permanently:

Within Internet Explorer, go to Tools > Internet Options, click the Advanced tab, and scroll down to the Security section. Turn on “Allow active content to run in files on My Computer.”

Microsoft Internet Explorer shows a warning about an ActiveX control (Windows)

When you have registered the browser plug-in COM object on Windows (see ”Install the Maya Web browser plug-in” on page 31 in the *Basics* guide) loading the Maya Help system from My Computer may show the following warning:

“An ActiveX control on this page might be unsafe to interact with other parts of this page. Do you want to allow this interaction?”

Click Yes to continue loading the help page.

Maya Help index loads slowly on Internet Explorer

The Maya Help index loads very slowly in Internet Explorer. This is a known issue when dealing with very large help systems, and is under investigation from the online help vendor.

Essential skills movies require QuickTime 7.1 or later

Please upgrade your version of QuickTime if you experience any problems viewing the movies.

Essential skills movies do not playback normally across network with QuickTime 7 for Windows

The Essential skills movies may not playback consistently if Maya is accessed across a network when using QuickTime 7 for Windows. The movies will playback normally if Maya is installed on your computer’s hard drive. This was a known issue with Apple QuickTime 7 for Windows when Maya 7 was shipped.

Essential Skills Movies caption text may not appear at the beginning of a movie when played on Windows

The caption text that normally appears at the bottom of the Essential Skills Movies may not appear at the beginning of the movie on Windows computers when the movie is first launched if the QuickTime Player options are set to automatically play the movie when opened. This issue appears to only occur on Windows.

Workaround

On Windows computers, do the following in your QuickTime Player:

Select Edit > Preferences > Player preferences, and turn off *Automatically play movies when opened*.

Select Edit > Preferences > QuickTime Preferences, select the Browser tab, and turn off *Play Movies Automatically*.

Essential Skills Movies caption text may appear incorrect on Windows when the codepage setting and language setting for the movie are mismatched

The text captions for the Essential Skills movies may appear incorrectly when played back on Windows computers when the codepage setting and language setting for the movie are mismatched. For example, when playing back a movie with the movie's language set to Chinese, on a computer whose codepage setting is Japanese, the Chinese caption text may appear incorrectly. The audio works correctly in all cases. This was a known limitation with Apple QuickTime 7 when Maya 8.5 was shipped.

Workaround

Play back movies in the language for which your computer is currently set.

Installing to a path with Japanese or other multibyte characters may prevent the Maya Help from loading

If you install to Maya and the Maya docs to a path that contains Japanese or other multibyte characters, you may encounter problems loading the Maya Help, depending on your browser.

Workaround

Install the documentation to a path with no multibyte characters and use the Window > Settings/Preferences > Preferences > Help > Help Location to point Maya to the new help location using the Remote help option.

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