

# **Release Notes**

Version 6.5



## Legal Notices

Maya®, Version 6.5

© Copyright 2005 Alias Systems Corp. ("Alias"). All rights reserved.

Graph Layout Toolkit

© Copyright 1992-1997 Tom Sawyer Software, Berkeley, California. All rights reserved.

All documentation ("Documentation") is copyrighted ©2005 Alias and contains proprietary and confidential information of Alias. The Documentation is protected by national and international intellectual property laws and treaties. All rights reserved. Use of the Documentation is subject to the terms of the license agreement that governs the use of the software product to which the documentation pertains (the "Software"). The authorized licensee of the Software is hereby authorized to print no more than one (1) hardcopy of any Documentation provided in digital format per valid license of the Software held by such licensee. Except for the foregoing, the Documentation may not be translated, copied or duplicated in any form (physically or electronically), in whole or in part, without the prior written consent of Alias.

Alias, the swirl logo and Maya are registered trademarks and the Maya logo, Conductors, Trax, IPR, Maya Shockwave 3D Exporter and MEL are trademarks of Alias in the United States and/or other countries worldwide. FBX is a registered trademark of Systèmes Alias Québec Inc. SGI, IRIX, Open GL and Silicon Graphics are registered trademarks of Silicon Graphics, Inc. in the United States and/or other countries worldwide. mental ray and mental images are registered trademarks of mental images GmbH & CO. KG. in the United States and/or other countries. Lingo, Macromedia, Director, Shockwave and Macromedia Flash are trademarks or registered trademarks of Macromedia, Inc. Wacom is a trademark of Wacom Co., Ltd. NVidia is a registered trademark and Gforce is a trademark of NVidia Corporation. Linux is a registered trademark of Linus Torvalds. Intel and Pentium are registered trademarks of Intel Corporation. Red Hat is a registered trademark of Red Hat, Inc. ActiveX, Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. Mac, Macintosh and QuickTime are trademarks of Apple Computer, Inc., registered in the United States and other countries. Adobe, Adobe Illustrator, Photoshop and Acrobat are either registered trademarks or trademarks of Adobe Systems Incorporated. UNIX is a registered trademark, licensed exclusively through X/Open Company, Ltd. AutoCAD, Discreet Logic, Inferno and Flame are either registered trademarks or trademarks of Autodesk, Inc. in the USA and/or other countries. OpenFlight is a registered trademark of MultiGen Inc. Java is a registered trademark of Sun Microsystems, Inc. RenderMan is a registered trademark of Pixar Corporation. Softimage is either a registered trademark or trademark of Avid Technology, Inc. in the United States and/or other countries.

All other trademarks mentioned herein are the property of their respective owners.

All images © Copyright Alias unless otherwise noted. All rights reserved.



**ALIAS ■ 210 KING STREET EAST ■ TORONTO, CANADA M5A 1J7**

# Table of Contents

<b>1</b>	<b>Introduction to release notes . . . . .</b>	<b>9</b>
	Maya 6.5 release notes . . . . .	9
<b>2</b>	<b>What's fixed in Maya 6.5 . . . . .</b>	<b>11</b>
	What is what's fixed? . . . . .	11
	What's fixed in general . . . . .	11
	What's fixed in animation . . . . .	12
	What's fixed in character setup and deformers . . . . .	13
	What's fixed in modeling . . . . .	13
	What's fixed in rendering . . . . .	14
	mental ray for Maya . . . . .	15
	Software rendering . . . . .	16
	Hardware rendering . . . . .	16
	What's fixed in the CGFx plug-in . . . . .	17
	What's fixed in Artisan . . . . .	17
	What's fixed in 3D Paint . . . . .	18
	What's fixed in Dynamics . . . . .	18
	What's fixed in Fluid Effects . . . . .	18
	What's fixed in Hair . . . . .	18
	What's fixed in the API and Developer's Tool Kit . . . . .	19
<b>3</b>	<b>Basic interface . . . . .</b>	<b>21</b>
	General UI limitations . . . . .	21
	Node limitations . . . . .	25
<b>4</b>	<b>Animation . . . . .</b>	<b>27</b>
	General animation limitations . . . . .	27
	Animation playblast limitations . . . . .	29
	Graph Editor limitations . . . . .	30
	Trax limitations . . . . .	30
	Path animation limitations . . . . .	31
	Motion Capture & Device Editor limitations . . . . .	32
<b>5</b>	<b>Character setup and deformers . . . . .</b>	<b>33</b>

## Table of Contents

	General character setup limitations . . . . .	33
	Skeletons and Inverse Kinematics limitations . . . . .	33
	Deformers limitations. . . . .	34
<b>6</b>	<b>NURBS modeling . . . . .</b>	<b>39</b>
	NURBS modeling limitations. . . . .	39
<b>7</b>	<b>Subdivision Surfaces . . . . .</b>	<b>41</b>
	Subdivision Surfaces limitations. . . . .	41
<b>8</b>	<b>Polygons and games . . . . .</b>	<b>43</b>
	General polygon and games limitations. . . . .	43
	Texturing and coloring limitations . . . . .	48
	NURBS To Polygons limitations . . . . .	49
	Level of Detail limitations . . . . .	49
	Blind Data limitations . . . . .	50
<b>9</b>	<b>Dynamics . . . . .</b>	<b>51</b>
	Dynamics limitations . . . . .	51
	Particles may not evaluate properly when using emit command to emit particles . . . . .	56
<b>10</b>	<b>Artisan, 3D Paint, and Paint Effects . . . . .</b>	<b>59</b>
	Artisan limitations. . . . .	59
	3D Paint Tool limitations . . . . .	60
	Paint Effects limitations . . . . .	61
<b>11</b>	<b>Rendering . . . . .</b>	<b>67</b>
	Maya Software rendering limitations . . . . .	67
	mental ray for Maya rendering limitations. . . . .	69
	Unsupported features . . . . .	69
	Known limitations. . . . .	69
	Tips . . . . .	76
	Hardware rendering limitations. . . . .	77
	Unsupported features . . . . .	77

## Table of Contents

Known limitations. . . . .	77
Vector rendering limitations . . . . .	80
IPR Rendering limitations. . . . .	80
Motion blur limitations. . . . .	82
Ray tracing limitations . . . . .	82
Rendering workflow issues . . . . .	83
Hardware shading limitations . . . . .	83
Hypershade/Visor limitations. . . . .	85
Cameras and views limitations . . . . .	85
Convert to File Texture limitations . . . . .	86
Render Layers/Passes limitations . . . . .	86
Photoshop. . . . .	87
<b>12 Maya Cloth . . . . .</b>	<b>89</b>
General Cloth limitations . . . . .	89
Cloth constraint limitations . . . . .	94
Cloth drag control limitations . . . . .	95
Cloth solver limitations . . . . .	95
<b>13 Maya Fur. . . . .</b>	<b>97</b>
General Fur limitations. . . . .	97
Limitations when rendering Fur in the Maya Software renderer . . . .	98
Limitations when rendering Fur in mental ray for Maya. . . . .	100
<b>14 Maya Live . . . . .</b>	<b>101</b>
General scene limitations. . . . .	101
Setup limitations. . . . .	101
Track limitations . . . . .	102
Solve limitations . . . . .	103
<b>15 Maya Fluid Effects . . . . .</b>	<b>105</b>
Fluid Effects limitations . . . . .	105

## Table of Contents

<b>16</b>	<b>Maya Hair</b>	<b>111</b>
	Hair limitations	111
<b>17</b>	<b>Miscellaneous and translators</b>	<b>115</b>
	General Maya limitations & workarounds	115
	<b>Translator limitations</b>	<b>119</b>
	MayaToAlias and StudioImport limitations	120
	Obj limitations	122
	DWG DXF limitations	123
	OpenFlight limitations	123
	IGES import and export	124
	Miscellaneous translators	124
	<b>Platform-specific limitations</b>	<b>124</b>
	Maya for Windows limitations	124
	Maya for Linux limitations	124
	Maya for Mac OS X limitations	128
<b>18</b>	<b>Maya commands</b>	<b>135</b>
	Maya commands limitations	135
<b>19</b>	<b>File formats</b>	<b>139</b>
	File formats limitations	139
	File referencing limitations	141
<b>20</b>	<b>Utilities and peripherals</b>	<b>149</b>
	RIB Export limitations	149
<b>21</b>	<b>API and Devkit</b>	<b>151</b>
	API and Devkit limitations	151
	MPXSurfaceShape related problems	161
<b>22</b>	<b>Documentation</b>	<b>163</b>
	Troubleshooting the Help server	163
	Was the help installed properly?	163

## Table of Contents

Starting the Help Server: Windows. . . . .	163
Starting the Help Server: Mac OS X, Linux, IRIX. . . . .	164
What if I can't start the help server service on Windows unless I'm an Administrator? . . . . .	164
What if my browser complains that "localhost" is not found? Or searches the Internet for "localhost"? What if the server seems to be running but I can't load any pages from it? . . . . .	164
(IRIX) What if I can't get the Maya Docs Server to work with my version of Java? . . . . .	165
What if I still can't view help from the help server? What if the Web server won't start? . . . . .	166
How do I shut down the help server? . . . . .	167
Viewing the online help without using the help server. . . . .	168
Netscape errors to the console . . . . .	169
Essential skills movies require QuickTime 6.5 . . . . .	169
Essential skills movies Japanese captions . . . . .	169
<b>Index . . . . .</b>	<b>171</b>

## **Table of Contents**



# 1

# Introduction to release notes

## Release notes

### Maya 6.5 release notes

The Maya 6.5 release notes contain all of Maya's known limitations and workarounds and is organized into chapters according to Maya's functionality.

To find out which limitations were fixed for this release, see Chapter 2, "What's fixed in Maya 6.5."

#### ATTENTION Users of the IRIX Operating System

Over the past few years, there has been a significant decrease in the number of Maya customers relying on the IRIX operating system for running Maya interactively. As a result, Maya 6.5 will be the last upgrade release for IRIX. Going forward, Alias will concentrate its development of Maya on the remaining platforms, namely Windows, Mac OS X and Linux. Alias will however continue to offer support for IRIX as a license-serving platform.

For further details, please contact your Alias authorized representative or go to [www.alias.com/irixnotice](http://www.alias.com/irixnotice).

## **1 | Introduction to release notes**

**Release notes** > Maya 6.5 release notes

# 2

## What's fixed in Maya 6.5

### Release notes

#### What is what's fixed?

In Maya 6.5, we've corrected some problems in the Maya software that have been reported by our customers. For new features and improvements, see *"What's new and improved in Maya 6.5"* in the *What's New in Maya* guide.

The following sections list the software limitations that were fixed for Maya 6.5.

#### What's fixed in general

The following lists general limitations that were fixed for Maya 6.5.

##### Web browser preference directory

On Windows, the Maya 6.0 Web browser incorrectly created its preference directory in `C:\Windows\MayaWebBrowser\`. This has been fixed; the directory is now created correctly in `C:\Documents and Settings\<username>\Application Data\MayaWebBrowser`. You can delete the incorrect directory. Because of this fix, you must re-set any non-default Web browser preferences if you're upgrading from Maya 6.0 to Maya 6.5.


##### Channel Box colors

Channel Box colors on all platforms are now the same. There is no differentiation per platform. For a list of colors, see *"Channel Box"* in the *Basics* guide.

##### Marking menus on multiple-monitors

On Windows, marking menus now display properly on a multiple-monitor setup. They now display on the monitor that the cursor is located on. This includes right-mouse button popup menus and Tooltips. Previously, marking menus only displayed correctly on a single monitor.

##### Unload References removed

File > Save Scene As >  no longer has an Unload References option. In previous versions of Maya, scenes containing file references would be stored with all file references unloaded, when this option was selected. The selective preload of scenes containing file references, when saved in this manner, was improved as a result. Recent improvements to file referencing's architecture and the selective preload feature make this option obsolete.

## 2 | What's fixed in Maya 6.5

### Release notes > What's fixed in animation

#### Remove Reference works on multiple file references

In the Reference Editor, you can now select and remove multiple file references using the Reference > Remove Reference command.

#### Component editor fixes

The following fixes have been made to the Component Editor in Maya 6.5:

- Hide Zero Columns in the Component Editor no longer hides boolean-valued attributes that have a value of false.
- Entering a value for multiple cells in the Component Editor was not working on Windows, IRIX, and Linux with disparate workflows. The common workflow now is to click on the column header (to select all cells in the column) and then Shift+click in any selected cell in this column to move the input field to that cell.
- The Component Editor limit of 1024 rows to display has been removed.

## What's fixed in animation

The following lists animation limitations that were fixed for Maya 6.5.

#### Bake redirected animation

You can now bake redirected animation. For more information on redirecting animation, see *"Redirecting character animation"* in the *Character Setup and Deformers* guide.

#### Scrubbing sound on Windows

Maya no longer crashes while scrubbing sound on Windows machines.

#### Pasting keys

When pasting keys in the Timeslider, the pasted keys no longer replace all other keys in the selected region.

#### audioWave Bonus Tools plug-in

The audioWave plug-in in the Maya Bonus Tools now outputs correct values for the amplitude of audio signals.

#### Set Driven Key channels in the Graph Editor

In Maya 4.5, when selecting a joint that has multiple Set Driven Key channels, the channels would show up with the correct name in the Graph Editor. In Maya 5.0, 6.0, and 6.0.1, these custom channels did not show up. This has been fixed.

## 2 | What's fixed in Maya 6.5

### Release notes > What's fixed in character setup and deformers

#### Playblasting to .avi format

When playblasting to .avi format, playblast files previously created during the same Maya session could be deleted. This would typically occur if one of the playblast attempts failed. This has been fixed.

## What's fixed in character setup and deformers

The following lists character setup limitations that were fixed for Maya 6.5.

#### User set vertex normals on skinned meshes

User set vertex normals now deform with skinned meshes when you add the normals to the meshes before skinning and/or you use Skin > Edit Smooth Skin > Delete Non-Skin History.

#### Skin clusters crash Maya

Maya no longer crashes while operating on skin clusters (most often in the Component Editor).

#### Multiple bind poses

Multiple bind poses can no longer exist for a joint.

#### Painting smooth skin weights

When painting smooth skin weights, undo was unreliable. It now works reliably.

Paint Skin Weights now respects the Max Influences Smooth Bind option.

#### Delete Non-Skin History

Delete Non-Skin History would fail to remove influences (even though the extra influences had weights of zero). All influences are now properly removed.

Delete Non-Skin History would sometimes delete *all* history. This no longer occurs.

## What's fixed in modeling

The following list modeling limitations that were fixed for Maya 6.5.

#### UV Texture Editor: pivot

It is now possible to immediately edit the pivot location for a UV selection without first having to click-drag directly on the pivot point. Previously, when UVs were selected for rotation and you entered the pivot edit mode, it was necessary to click-drag directly on the pivot point before being able to move the pivot point.

## 2 | What's fixed in Maya 6.5

### Release notes > What's fixed in rendering

#### UVs in binary Maya files

UVs on meshes with multiple UV sets are no longer corrupted when saving binary Maya files as ASCII.

#### Polygons > Mirror Geometry

Mirror Geometry now works on multiple objects, rather than just on the last selected object.

#### Polygons > Smooth

- Smooth no longer generates NAN values for UVs when exporting to mental ray.
- When a polygonal object was skinned and then smoothed using Polygon > Smooth, the animation on the object's skeleton modified its UVs at every frame. In Maya 6.5, the polygonal object's UVs are modified only when the Smooth UVs option is on.

#### Edit Polygons > Merge Vertices

Merge Vertices no longer destroys user-defined normals.

## What's fixed in rendering

The following lists rendering limitations that were fixed for Maya 6.5.

#### Perspective view won't render unless selected

The perspective view is now rendered automatically (without being selected first) when no particular view is specified for rendering.

#### Command line rendering

- `-s` or `-e` flags and animation

When the `-s` or `-e` flags are set, animation is now automatically turned on.

- `-rd` flag

Issues with the `-rd` flag (including aborted renders) have been resolved.

#### FCheck -c

The FCheck `-c` command now returns 0 for success, and a non-zero value otherwise. This is useful in identifying corrupted images.

#### Normal mapping and double sided faces

Normal maps generated for double sided faces now correctly include the back face intersection.

#### Attaching a PSD file with uniform alpha to displacement

When attaching a PSD file with uniform alpha to Displacement, you now see the correct effect.

#### mental ray for Maya

##### Baking

- Baking with Final Gather

A number of issues with baking and final gathering have been resolved (including stepped shading, incorrect textures, and lightmap quality) with the introduction of the Final Gather Quality attribute. For more information, see *"Texture bake-set Final Gather Quality"* in the *What's New in Maya* guide.

- Incoming Illumination

Issues with Incoming Illumination have been resolved. For more information, see *"Improved Baking"* in the *What's New in Maya* guide.

- Inaccurate lightmaps when baking to texture

Issues with inaccurate lightmaps have been resolved by introducing the new Occlusion color mode. For more information, see *"Improved Baking"* in the *What's New in Maya* guide.

- Vertex baking with color only

Previously, when baking vertices with color only, Maya added an alpha value of -1 if the color-per-vertex node did not exist in the mesh, causing objects to become transparent.

In this case, Maya now adds an alpha value of 1 (an opaque value).

#### Motion blur delay with Fur rendered in mental ray for Maya

Previously, some motion blurred fur rendered in mental ray for Maya was rendered slower than the object, resulting in the fur being displaced from the object. Motion blurred fur renders correctly in Maya 6.5.

#### Render Active mode and mental ray for Maya

The Render Active mode for mental ray for Maya now behaves the same as other Maya renders. Specifically, this means that when you select a node in the hierarchy, mental ray for Maya is now able to render any objects under that node in the Render Active mode. For more information, see *"Render Global Settings: Common tab"* in the *Rendering* guide.

#### Bump mapping multiple UV sets

Bump mapping multiple UV sets is now supported by mental ray for Maya.

## 2 | What's fixed in Maya 6.5

### Release notes > What's fixed in rendering

#### Receive Shadows and Double-Sided/Opposite Attributes on geometry

These geometric attributes are now supported in mental ray for Maya.

#### Glow framebuffer with post effects

When post effects are turned off, the glow framebuffer is no longer allocated.

#### Image planes

The placement of the image plane now matches between the Maya Software renderer and mental ray.

#### Preview Final Gather Tiles and Global Illumination presets

In the mental ray Render Global Settings, when you turn on the Preview Final Gather Tiles option, Global Illumination is not turned on automatically.

Previously when the Preview Final Gather Tiles option was turned on, Global Illumination was automatically turned on as well.

## Software rendering

#### IBL (image-based lighting) causing rendering failures

To prevent IBL from causing rendering failures, the Maya Software renderer now ignores the IBL node, and creates a default light if no other light exists.

## Hardware rendering

#### Viewing mipmap filtering in the scene view without Hi Quality Render

You can now see the effects of mipmap filtering in the scene view without using Hi Quality rendering.

#### Normalized tangent vectors

The tangent vectors available through the hardware shader (MPxHwShaderNode) OpenMaya API are now passed as normalized vectors. These vectors were previously not normalized.

#### Rendering file textures with a dual monitor system

The Hardware Render Buffer now renders file textures on a dual monitor system.

#### 2D texture placement parameters

The following 2D texture placement parameters now render correctly, and match the results of Maya's software renderer:



## 2 | What's fixed in Maya 6.5

### Release notes > What's fixed in the CGFx plug-in

- offsetUV
- rotateUV
- translateFrame
- staggerFrame

## What's fixed in the CGFx plug-in

The following lists CGFx plug-in limitations that were fixed for Maya 6.5.

- CGFx plug-in requires all files to be in the same directory  
In Maya 6.5, CGFx plug-in files do not need to be in the same directory.
- Default texture nodes  
When you create a CGFx shader, a file texture node is now automatically created and connected for each default texture specified in the shader.
- Unused nodes  
When you change the effect used by a CGFx shader node, the plug-in now deletes the unused nodes (when it is the only node using that texture/placement node). Previously, the unused nodes were not deleted, resulting in extraneous file texture and placement nodes in the scene.
- Default CGFx effect  
When you create a new CGFx shader and no effects file is available, the plug-in now renders a basic shaded geometry.
- Default CGFx texture  
When you create a new CGFx shader and no texture is configured, the plug-in now renders a stand-in texture so that the effect is still visible in the scene. Previously, the plug-in rendered black when textures were not configured.

## What's fixed in Artisan

The following lists Artisan limitations that were fixed for Maya 6.5.

### Painting vertex colors

- When painting vertex colors on polygons that are backface culled, the culled part of the surface no longer receives paint. See *"About Maya performance improvements"* in the *What's New in Maya* guide.
- Painting vertex colors no longer uses a lot of memory.

## 2 | What's fixed in Maya 6.5

### Release notes > What's fixed in 3D Paint

#### Paint Scripts Tool and subdivision surfaces

The Paint Scripts Tool (formerly Script Paint Tool) in the new Artisan architecture (as of Maya 6.0) can now be used on subdivision surfaces.

### What's fixed in 3D Paint

The following list 3D Paint Tool limitations that were fixed for Maya 6.5.

You no longer need to leave the 3D Paint Tool before changing the texture name in the Attribute Editor.

### What's fixed in Dynamics

The following lists Dynamics limitations that were fixed for Maya 6.5.

#### Die on Emission

When creating particle emitters, Die on Emission was not working properly in Maya 6.0/6.0.1. It is now working properly.

#### Evaluation of dynamics

Evaluation of dynamics would sometimes produce different results when you first loaded a scene versus when you stepped forward and back through the simulation.

### What's fixed in Fluid Effects

The following lists Fluid Effects limitations that were fixed for Maya 6.5.

#### setFluidAttr command

The `setFluidAttr` command now behaves as expected when the `-addValue` flag is used.

#### Wake Texture

Wake Texture now behaves as expected when the Boundary attribute is set.

### What's fixed in Hair

The following lists Hair limitations that were fixed for Maya 6.5.

#### Hair constraints

On Linux, IRIX, and Mac OS X deleting a hair constraint may have resulted in a crash, but this has been fixed in Maya 6.5.

## 2 | What's fixed in Maya 6.5

### Release notes > What's fixed in the API and Developer's Tool Kit

#### Hair caching

Hair caching on hair systems now performs as expected after follicles have been deleted or passive follicles were used; however, the cache needs to be recreated.

#### Painting Hair attributes

If you were painting hair attributes such as Surface Inset and Inclination that actually end up modifying transforms of hair objects, and you hit a passive follicle where there was no start curve, it would end up transforming the last selected object instead, so that an object totally unrelated to the hair system could end up with the transform intended for the hair. This has been fixed.

#### Hair Smooth Curve

Previously, Smooth Curve worked by averaging CV positions, which often resulted in undesirable behavior. It now smoothes the curvature.

## What's fixed in the API and Developer's Tool Kit

The following lists API and Developer's Tool Kit limitations that were fixed for Maya 6.5.

- `MFnAttribute::create()` now allows long and short names to be the same. Passing in the same long and short names into `MFnAttribute::create()` no longer causes an error.
- `MFnDependencyNode::addAttribute()` no longer fails if `MAttrClass` type of the attribute added is `kGlobalDynamicAttr`.
- The Maya plug-in wizard for .NET 2003 no longer uses the `ABSOLUTE_PATH` parameter. When adding a compound attribute to `MFnNumericAttribute::create()`, Maya now checks to see if the compound attribute has the same name as any of the current children of `MFnNumericAttribute::create()`.

## **2 | What's fixed in Maya 6.5**

**Release notes** > What's fixed in the API and Developer's Tool Kit

# 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 124
- “Maya for Linux limitations” on page 124
- “Maya for Mac OS X limitations” on page 128

#### 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.

If you are using Windows XP, we suggest you increase the application memory limit of Maya; for instructions on how to do this, see xref.

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 a new 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 evidence 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](http://support.microsoft.com/default.aspx?kbid=842242&product=windowsxpsp2)

#### Alias DirectConnect does not auto-load

If you chose to copy preferences from a previous version of Maya the first time you run Maya 6.5, Alias DirectConnect (new in Maya 6.5) does not load automatically. To get the functionality of Alias DirectConnect, turn on DirectConnect in the Plug-in Manager.

### **3 | Basic interface**

#### **Release notes** > General UI limitations

##### **Node names with digits**

For comparison purposes, digits which are embedded in node names are evaluated as numbers as opposed to characters. Occasionally, if a node name contains a particularly long series of digits, this can result in a crash.

##### **Workaround**

To prevent these crashes try to limit the size of embedded numbers.

##### **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 UNIX machines**

On UNIX machines, you can speed up Maya's interactive performance by closing or hiding the Attribute Editor when you are not using it. Motif (the software supporting the windowing system on IRIX) can be very slow to rebuild the widgets.

##### **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”.

**Setting linear units**

If you open a file that is set to linear units that are different from your current Maya session, the next time you use Maya it will adopt the unit settings from that file.

### 3 | Basic interface

#### Release notes > General UI limitations

##### Workaround

1. Create an empty scene with the units and other preferences set as required. Save it. Use this as your Default Scene.
2. To ensure that a particular unit be used every time Maya launches, you can create a userSetup.mel file in your personal scripts directory containing the following lines:

```
global proc myLinearUnit() {
currentUnit -linear xxxxxx;
}
scriptJob -event NewSceneOpened myLinearUnit;
where xxxxxx is one of: millimeter, centimeter, meter, inch, foot, or
yard. The recommended default is centimeter.
```

##### 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.

## Node limitations

#### Node names with digits

For comparison purposes, digits which are embedded in node names are evaluated as numbers as opposed to characters. Occasionally, if a node name contains a particularly long series of digits, this can result in a crash.

##### Workaround

To prevent these crashes try to limit the size of embedded numbers.

### **3 | Basic interface**

**Release notes** > Node limitations

# 4 Animation

## Release notes

### General animation limitations

The following limitations and workarounds apply to general animation features.

#### Ghosting subdivision surfaces crashes Maya (Linux and Mac OS X)

Scenes that contain ghosted subdivision surfaces displayed in Wireframe mode crash Maya on Linux and Mac OS X.

##### Workaround

Avoid ghosting subdivision surfaces, or ghost them when in Shaded display mode.

#### When you merge character sets, clips are copied, but not blends between clips

##### Workaround

Restore the blend manually after merging.

#### 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.

#### Can't import audio file in Windows

Can't import Apple's format of .wav files on a Windows machine.

##### Workaround

Convert the audio file to Windows compatible IMA ADPCM or PCM wave file.

#### 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.

## 4 | Animation

### Release notes > General animation limitations

#### 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 framerate. You must scale the curves to fit between 0 and 1 in the time range.

#### Quaternion animation curves not correctly converted to Trax clip

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.

#### Audio files may not play in their entirety

Maya may not play the ending of the audio file based on the playback end time specified.

**Workaround**

Extend the playback time beyond the audio file's end time or append extra dead space at the end of the audio file to compensate for the clipping.

**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".

## Animation playblast limitations

**(Windows) Playblast and Windows XP**

Playblast may have problems on Windows XP. The playblast may hang or the animation may stop updating.

**Workaround**

Do the following:

- 1** Set Maya to run in Windows 2000 Compatibility mode.  
Right-click the Maya shortcut on the Desktop and select Properties from the pop-up menu. In the Maya Properties window, go to the Compatibility tab and turn on the *Run this program in compatibility mode for* checkbox and select Windows 2000 from the drop-down list. Then click OK.
- 2** Set your Windows style to *Classic*.  
Right-click the Desktop and select Properties from the pop-up menu. In the Display Properties window, go to the Appearance tab and select Windows Classic style from the Windows and buttons drop-down list.

**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.

## 4 | Animation

### Release notes > Graph Editor limitations

#### 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.

## Graph Editor limitations

The following limitations and workarounds relate to the Graph Editor.

### Key tangents may become difficult to select

Key tangents may become difficult to select and/or manipulate when the Graph Editor's displays a view with an extreme vertical-to-horizontal ratio.

#### Workaround

Using the Graph Editor's Curves > Spreadsheet menu item, enter a new value for the in- or out-tangent angle and invoke View >Frame Selected to resume interactively editing the tangent.

### 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 limitations

The following limitations and workarounds relate to Trax software.

### Poses not displayed in Visor for character

Poses created for a character that has no attributes will not be displayed in the Visor. This occurs when you create a pose for a character that has no attributes, but *does* possess animated subcharacters.

#### Workaround

To get Visor to display the pose, set your current character to a subcharacter that contains attributes. The pose will be applied to all subcharacters that have attributes.

### 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.

## Path animation limitations

The following limitations and workarounds relate to path animation.

**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.

## 4 | Animation

Release notes > Motion Capture & Device Editor limitations

### Motion Capture & Device Editor limitations

The following limitations and workarounds relate to motion capture and device editor software.

#### setInputDeviceMapping -view command doesn't work

The setInputDeviceMapping -view command doesn't work. Device coordinates are always aligned with the global axes.



# 5

# Character setup and deformers

## Release notes

### General character setup limitations

The following limitations and workarounds relate to general Character Setup software.

#### Set Driven Key cannot be performed on attributes in a character set

Set Driven Key cannot be performed on attributes that are in a character set.

##### Workaround

Take the attribute out of the character by selecting the attribute in the channel box and choosing Character > Remove From Character.

#### 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>;
```

### Skeletons and Inverse Kinematics limitations

The following limitations and workarounds relate to skeletons and inverse kinematics software.

#### 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.

#### mirrorJoint command may not work correctly

The mirrorJoint command may not work correctly if the joints being mirrored have child objects that are not joints or end-effectors.

## 5 | Character setup and deformers

### Release notes > Deformers limitations

#### Workaround

Reparent the child objects somewhere else, mirror the joint, duplicate the child objects, and reparent them back to the old and new joints.

#### Mirroring joints limitation

Mirroring joints with hand-rotated axis does not work correctly.

#### 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.

These IK handles would normally snap to the end-effector. When the scene is first loaded into Maya, the IK handle is then incorrectly flagged to be solved. If you are batch rendering, the handle gets moved to the end-effector position as defined at the current time in the file, for example, frame 1. The solver is then invoked at the frame being rendered; the limb tries to reach for the frame 1 position of the end-effector. If solverEnable is off or if the IK handle does not exist, this will not be a problem.

## Deformers limitations

The following limitations and workarounds relate to deformers software.

#### 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.

## 5 | Character setup and deformers

### Release notes > Deformers limitations

#### 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.

#### 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.

#### Snap mode affects transformed CVs

When in snap mode, translate, rotate, and scale of the CVs of a deformed object behave unpredictably.

##### Workaround

Use the Channel Box to set precise translation values for the CVs of deformed objects.

#### 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.

#### 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.

## 5 | Character setup and deformers

### Release notes > Deformers limitations

#### Reading files containing wrap deformers can be slow

The wrap deformer calculates a great deal of information for each deformed CV when the file is read in. This computation can be time consuming.

##### Workaround

Hide the surfaces that are deformed by the wrap. The wrap computation will not be done during file read if the deformed surfaces are hidden. However, the wrap computation will be done when the display of the surfaces is toggled on.

#### 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.

## 5 | Character setup and deformers

### Release notes > Deformers limitations

#### 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.

## **5 | Character setup and deformers**

**Release notes** > Deformers limitations

# 6

# NURBS modeling

## Release notes

### NURBS modeling limitations

#### Extend curve on surface may temporarily hang

Extend curve on surface may temporarily hang the system while editing the extension distance.

#### NURBS primitive cone or cylinder with caps and trimming

If a NURBS primitive cone or cylinder with cap(s) are involved in a trimming operation, they need to be created with the Extra Transformation option set to on, or the surface for trim will only be selectable in the outliner/hypergraph and not in the view.

#### Curve on surface using project curve or intersect surfaces with history

If a curve on surface has been created using project curve or intersect surfaces with construction history enabled, performing delete components on such curves before deleting construction history may create data loss when saving into a file.

##### Workaround

Delete construction history before deleting components.

#### Attaching surfaces with the same name not working

Edit NURBS > Attach Surfaces does not work if the surfaces have the same name.

##### Workaround

Rename surfaces to have unique names prior to using Attach Surfaces.

## **6 | NURBS modeling**

**Release notes** > NURBS modeling limitations



# 7

# 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.

**Skinning while in Polygon Proxy mode can lead to unexpected behavior**

When skinning subdivision surface characters, be sure your subdivision surfaces are in Standard mode before skinning. Skinning while in Polygon Proxy mode can lead to unexpected behavior.

**Converting NURBS sphere to subdivision surface creates incorrect normals at poles**

If you convert a NURBS sphere to a subdivision surface sphere and view it in shaded mode, the poles will appear as dark points (meaning the normals are being computed incorrectly).

## **7 | Subdivision Surfaces**

**Release notes** > Subdivision Surfaces limitations

### **Workaround**

Start with a polygonal sphere and convert it to a subdivision surface sphere.

# 8

# Polygons and games

## Release notes

### General polygon and games limitations

The following lists general polygon and games limitations and workarounds.

#### Flipped triangle edges may appear incorrect

When flipping polygon edges using Edit Polygons > Flip Triangle Edge, the smooth shaded display of your edges may look incorrect. The neighboring edges around the flipped edges may have incorrect smoothing.

##### Workaround

Use the command

```
dgdirty -a;
```

or tweak any vertex of the polygon object after flipping the edges.

#### UVs not normalized when creating primitives

The *Normalize the whole object* option in the polygon cube or cylinder creation windows (Create > Polygon Primitives > Cube /Cylinder) maps textures over each face of a primitive so that the texture covers the entire object. However, this option does not *normalize* the UVs of the primitives.

#### Texture Placement manipulator visibility

When using the Texture Placement manipulator, the manipulator may disappear.

##### Workaround

Middle-click anywhere in the empty space of the scene view to make the manipulator reappear.

#### 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) {
```

## 8 | Polygons and games

### Release notes > General polygon and games limitations

```
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;
```

### Material Blend Settings

The display of Color Per Vertex (CPV) Material Blend Settings varies depending on scene view Shading settings. In textured and shaded mode with Hardware Texturing enabled, Add, Subtract and Multiply blend modes will be displayed with slightly reduced quality, while Divide, Average and Modulate2X are not displayed correctly. The correct result of all blend modes will be displayed by switching to High Quality Rendering mode with Hardware Texturing enabled. If your graphics card does not support High Quality Rendering mode, you can test render using the Hardware Renderer to preview your result. In instances where your graphics card may not support High Quality Rendering or the Hardware Renderer, you can switch to Hardware Shaded mode to preview the blending without textures.

### 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

## 8 | Polygons and games

Release notes > General polygon and games limitations

- 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 Edge
- Extrude Face
- Move Component
- Smooth Proxy
- Duplicate Face
- Extract

### polyGeoSampler not working in -batch or -prompt mode

The command polyGeoSampler requires that there be a camera selected in your scene in order to work properly in -batch or -prompt mode.

#### Workaround

Run the command in interactive mode, or run it from a script that first selects a camera.

## 8 | Polygons and games

### Release notes > General polygon and games 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.

#### 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)
```

#### Subdivide and Move Components pick mask modes

Polygons > Subdivide and Polygons > Move Components are driven from the pick mask, not the current selection. For instance, if you select a face, but the pick mask is set to Edge, Subdivide and Move Components will not work and if you open the option window, the option window for Edges displays.

## 8 | Polygons and games

### Release notes > General polygon and games limitations

Also, if the pick mask is set to Vertex or UV, the Subdivide option window will not open, since only faces and edges can be subdivided.

#### Workaround

Make sure the pick mask corresponds to the selection.

#### Smart Command Settings hard to turn off

Smart Command Settings are difficult to turn off. In some cases if a tool has used Smart Command settings, the selection mask or selection constraints are not returned to normal when you exit the tool

#### Workaround

After turning off Polygons > Tool Options > Smart Command Settings, you must also select Uninstall Current Settings to delete any settings left on by the last tool that was invoked.

#### 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

Polygons > Boolean operations do not preserve color per vertex or component level blind data information.

#### Map UV Border may not find unique border with non-manifold geometry

Edit Polygons > Texture > Map UV Border may not be able to find a unique border with non-manifold geometry.

If you have a piece of non-manifold geometry, any particular UV may be in more than one border/shell, so it does not uniquely determine a flat piece of mesh to relax. Edit Polygons->Texture->Map UV Border will find a boundary and map it, but you can't control which one it will get.

#### Workaround

Cut the UVs along the non-manifold edges to make sure that they're "flat", or use Polygons->Cleanup to eliminate the non-manifold areas first.

#### Unexpected results with Cleanup when applied to objects and

## 8 | Polygons and games

### Release notes > Texturing and coloring limitations

#### instances simultaneously

Polygons > Cleanup behaves unexpectedly when applied to an object and its instances simultaneously. This usually occurs when Cleanup All Objects is enabled.

##### Workaround

Cleanup only the original object; the instance will be cleaned up as well as a result.

#### Selection: All Components sticks in vertex/face selection mode

Setting Selection: All Components on in the pick mask can get you stuck in vertex/face selection mode.

##### Workaround

Use the right mouse button to choose the selection type. (Vertex, edge and face selection are intended to be mutually exclusive, but there is no entry in the component selection menus for vertex face selection.)

#### 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

In Polygons > 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.

## Texturing and coloring limitations

The following lists texturing and coloring limitations and workarounds.



#### polyColorPerVertex -rem command incorrect when vertex/face component selected

The command “polyColorPerVertex -rem” does not work correctly when a vertex / face component is selected. You can only remove color per vertex for an entire vertex (for instance, for all faces that share the vertex).

#### Best Plane texturing selection limitation

Selection does not work correctly in the Best Plane texturing tool.

When you are prompted to select faces, the selection mask is not set correctly so that when you drag-select, vertices are selected.

If faces are selected from two or more polygonal shapes, only the faces from the first shape are actually textured.

##### Workaround

- Either select all faces before invoking the tool, or set the selection mask explicitly to Polygon.
- Use best plane fit on one shape at a time. You can still use vertices from a different shape to define the plane.

## NURBS To Polygons limitations

The following lists NURBS To Polygons limitations and workarounds.

#### Fix Texture Warp does not work with NURBS to Poly conversion

NURBS to polygon conversion does not take the Fix Texture Warp attribute (which adjusts a texture’s UV parameters so the texture does not rely on a NURBS object’s UV parameterization) into account.

## Level of Detail limitations

The following lists Level of Detail limitations and workarounds.

#### Threshold values change if children of a level are reordered in Hypergraph

If you reorder the children of a level of detail node from the Hypergraph, the threshold values change unexpectedly.

##### Workaround

Use the outliner to reorder the children.

## 8 | Polygons and games

### Release notes > Blind Data limitations

#### Duplicating a child of a Level Of Detail node fails

##### Workaround

Duplicate the object before creating the level of detail, or ungroup the object you want to duplicate, duplicate it, and then regroup the results.

## Blind Data limitations

The following lists Blind Data limitations and workarounds.

### Blind Data Editor coloring and querying limitations

The Blind Data Editor will not properly handle false coloring and querying of more than one blind data type with the Continuous type enabled. The Blind Data Editor also will not handle combinations of Discrete Value colors/queries (including unsigned color/query actions) and Discrete Range colors/queries - if a specific value is required in combination with a range, use that value for both the Min and Max in the discrete range section.

# 9

# Dynamics

## Release notes

### Dynamics limitations

#### 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.

#### (Windows only) Rigid Bodies may behave differently in Maya 6.5

As the result of a compiler change, rigid body simulations created in previous versions of Maya may behave differently when brought into Maya 6.5.

#### 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.

#### Shader glow on particles may flicker

#### Workaround

1. Increase the particle samples attribute on the render quality.
2. Increase the resolution parameter on the shader glow node.

#### 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.

#### Positions of emitted particles incorrect when parent particle

## 9 | Dynamics

### Release notes > Dynamics limitations

#### hidden

If Particle A is emitting Particle B and Particle A has any animation on it, either with fields or emission, the positions of the emitted Particle B particles will not be correct if Particle A is hidden.

##### Workaround

Keep Particle A visible, but give it an opacity attribute with a value of 0.

#### Point and multipoint types w/line smoothing render differently

A particle rendered “as transparent” shows up differently if line smoothing is on vs. when it is off, even with identical opacity values.

##### Workaround

Add an opacity attribute to the particle shape. (This doesn't hurt if you are turning geometry masking on, since all particles are transparent anyway.) Tune the opacity value to get the look you want.

#### 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.

#### Maya may fail to create rigid bodies on complex NURBS surfaces

Maya may fail to create active or passive rigid bodies with the default settings on complex NURBS surfaces (for example, long extruded surfaces).

##### Workaround

Increase the Tessellation Factor in the Performance Attributes section of the Active or Passive Rigid Bodies Options windows.

#### 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.

#### Limitation when passive rigid body parented to a hierarchy

Passive rigid body parented to a hierarchy may not interact correctly with active bodies and constraints

**Workaround**

Put the same animation on the passive body, separate from the hierarchy.

**Expression on “active” attribute may cause evaluation failure**

Expression on “active” attribute may cause evaluation failure in rigid solver

**Workaround**

Key the active attribute using the menu items provided for that purpose.

**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.

**Rigid bodies work only with default rotation order****Workaround**

Use default rotation order.

**Duplicate, Make Copy Soft option limitation**

Duplicate, Make Copy Soft option loses assignments of multiple materials on polygonal objects. You may not see the problem has occurred until you save and reload the file. This problem does not occur with only a single material on the polygonal object.

**Workaround**

You must re-assign those materials or use the “Duplicate, Make Original Soft” option.

**Transparent Blob is not transparent**

Transparent Blob is not transparent when its shader's RtRefractColor is on and ray tracer is off.

**Particles may collide on creation**

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

## 9 | Dynamics

### Release notes > Dynamics limitations

#### Workaround

Reverse the normal speed parameter of the surface emission.

#### Component Editor refresh limitation

The Component Editor may not refresh automatically after undo/redo or after external changes such as modifying vertices with a scale tool.

#### Workaround

Select Load Components. This was an intentional change to bring about a speed increase of several orders of magnitude in the editor.

#### Soft bodies and particles collide limitation

Soft bodies and particles may not collide well with objects modeled using large concave pieces of geometry (for example, the side of an outdoor stairway).

#### Workaround

Triangulate the geometry.

#### worldVelocity and aim direction

You cannot use the worldVelocity attribute as an aim direction for instances.

#### Workaround

Keep the particle transform as the identity and use the velocity attribute.

#### 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.

#### Rigid bodies with negative scales and non-zero pivot points

Rigid bodies with negative scales and non-zero pivot points do not work properly. Duplicating rigid bodies with negative scales can lead to this situation.

**Duplicate Input Graph limitation**

Duplicate Input Graph does not work with rigid bodies.

**Workaround**

Duplicate Input Graph also duplicates the rigid solver. Most likely this is not what you really want to do. If you just want a duplicate rigid body running off the same solver, turn off input connections and upstream graph checked then duplicate.

Use the Dynamic Relationship Editor to hook the rigid body up to any fields (you can also duplicate fields, if that is what you want to do.) If you really do want a second solver, you can make one at that point using the standard workflow for that operation (see the *Dynamics* guide for details).

**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.

**Revolve limitation when converting to rigid bodies**

Revolve can create an inside-out object when the surface is converted to a rigid body.

**Workaround**

Digitize the curve in clockwise direction, then select the curve and select Surfaces > Revolve. Or select Edit Surfaces > Reverse Surfaces, then reverse the U direction of the surface/generating curve.

To visually verify if the surface is inside-out, use single-sided lighting. Toggle off Lighting > Two Sided Lighting and toggle on Shading > Smooth Shading. The surface will appear dark if it is inside-out.

**Particle point render type not hardware rendering correct size on**

## 9 | Dynamics

### Release notes > Dynamics limitations

#### some machines

When render type is set to Points or Multipoint and Line Smoothing is turned on, the point size is limited by the graphics card on your system. Please see the hardware specifications of for your graphics card.

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

##### Workaround

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

#### 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)`.

#### 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.

#### 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:



## 9 | Dynamics

Release notes > Dynamics limitations

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

## 9 | Dynamics

Release notes > Dynamics limitations

# 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.
- Color feedback does not work correctly for Degree 1 NURBS surfaces.

#### Using Artisan .tif format texture files in other applications

Using .tif format texture files created in Artisan in other applications may produce messages. These messages are harmless and can be ignored.

#### 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.

#### Error message makePaintable: Missing proper attribute type

Users may encounter the following error when you run Maya 6.5 using an old userPrefs.mel file.

```
makePaintable: Missing proper attribute type
***** Error: Execution of userPrefs.mel failed.
```

The makePaintable commands get saved in the userPrefs.mel file on every run of Maya. The commands include internal calls made for clusterWeights, skinWeights, etc. as well as commands you might have entered in the Script Editor.

We've removed the support for the `multiDblArray` value from the attribute type flag of the makePaintable command so this error is displayed.

## 10 | Artisan, 3D Paint, and Paint Effects

### Release notes > 3D Paint Tool limitations

#### Workaround

You can either delete all the lines and restart Maya or you can edit these lines. When entering your own commands you need to use `multiFloat` instead of `multiDblArray`.

## 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 Maya in order for these settings to take effect.

### Painted file texture assigned to multiple surfaces

If you assign a file texture to a shader, assign that shader to more than one surface after the texture had already been painted, then enter the 3D Paint Tool again, the same texture will be assigned to all surfaces. No new texture will be created by 3D Paint.

#### Workaround

To ensure that unique textures are assigned to the surface, assign different shaders to each surface, or make sure you assign all of the surfaces to the shader before you begin painting.

### Painting on non-manifold geometry

The 3D Paint Tool does not deal with non-manifold geometry correctly.

### Larger textures

On textures larger than 512 (which have to be scaled down to appear in the hardware render), sometimes darker pixels appear where there are seams in the UV mesh. These do *not* show in the software render.

## 10 | Artisan, 3D Paint, and Paint Effects

Release notes > Paint Effects limitations

### 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.

### Changing shader assignment

Changing shader assignment while in 3D Paint Tool will cause inconsistent display.

#### Workaround

Exit the 3D Paint Tool before reassigning shaders to the selected surface.

### 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.

### Switching UV sets

Switching UV sets while in the 3D Paint tool gives unexpected results.

#### Workaround

Exit the tool before switching UV sets.

## Paint Effects limitations

The following lists Paint Effects limitations and workarounds.

### 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.

## 10 | Artisan, 3D Paint, and Paint Effects

### Release notes > Paint Effects limitations

#### Workaround

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

#### (Linux) Wacom stylus and tablet

When you paint strokes in Paint Effects on Linux, your Wacom stylus and tablet may have no pressure sensitivity. Select an Artisan tool (for example, the Paint Selection Tool) and open the Tool Settings editor. Expand the Stylus Pressure section. If the Stylus Pressure options are disabled, Maya cannot find your Wacom tablet. Your tablet may be installed under the generic name "tablet."

#### Workaround

To fix this, go to the Wacom web site ([www.wacom.com](http://www.wacom.com)) and read the product support information for Linux.

#### 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 on the render globals. 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.

## 10 | Artisan, 3D Paint, and Paint Effects

Release notes > Paint Effects limitations

### 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.

### Paint Effects multi-processor rendering uses a maximum of 3 processors

If more than 3 processors are present, only 3 will be used.

### Painting in orthogonal views

Painting in orthogonal views gives unexpected results.

#### Workaround

Paint in the Perspective view instead.

### Painting on the view plane

Painting on the view plane while in the scene view gives unexpected results.

#### Workaround

Use the Paint Effects panel to paint on the view plane instead.

### Camera depth output setting and artifacts

When rendering Paint Effects, artifacts may occur if the camera depth output setting is not set to Furthest Visible Depth. This now the default.

### 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 Windows if your MAYA\_LOCATION environment variable has backslashes as path delimiters.

## 10 | Artisan, 3D Paint, and Paint Effects

### Release notes > Paint Effects limitations

#### 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.



## 10 | Artisan, 3D Paint, and Paint Effects

Release notes > Paint Effects limitations

### Casting shadows

Paint Effects strokes will not cast shadows if there is no geometry within view of the shadow casting light.

#### Workaround

Place some geometry in the scene, out of view of the camera, but in the view of the light.

### 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.

## **10 | Artisan, 3D Paint, and Paint Effects**

**Release notes** > Paint Effects limitations

# 11

# Rendering

## Release notes

### Maya Software rendering limitations

The following lists miscellaneous software rendering limitations and workarounds.

#### Changing polygonal topology affects 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.

#### Default drawing of transparent objects

By default transparent objects are drawn in sorted order by the distance from the camera to the bounds of each object.

##### Workaround

You can change this behavior by issuing the following MEL command:

```
modelEditor -st 0 <panelName>;
```

where <panelName> is the name of the panel containing the 3d modeling view. By default the -st value is 1. When -st is set to 0, the drawing order for transparent objects is determined by the traversal of the dag object hierarchy (which is a depth first traversal). The user can rearrange the traversal order by reparenting objects. One way to do this is via the Outliner window.

#### Checking artifacts on Anisotropic shaders

Anisotropic shaders may produce checkering artifacts on a subdivision surface in software rendering.

##### Workaround

Increase the tessellation parameters values to correct the problem.

#### Seams noticeable during texture baking

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

## 11 | Rendering

### Release notes > Maya Software rendering limitations

#### Workaround

If the Maya viewport is not correctly displaying the baked result; you will need to render the scene to view the actual baked result.

#### Render View Fails to Update

When zoomed in or out, the Render View will occasionally fail to completely display a rendered image.

#### Workaround

Press the 1:1 button to force a refresh of the Render View.

#### 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.

#### (Mac OS X) Alpha channel display

Alpha channel display in image planes do not display properly.

#### 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

**Release notes > mental ray for Maya rendering limitations****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.

**shadingGroupDialogDaemon removed**

The command shadingGroupDialogDaemon has been removed. `scriptJob` can be used instead.

## 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

Rapid scanline rendering does not support the following features:

- Ambient lights
- Volume effects, Particles, or Fluid effects
- Final Gather
- Raytraced shadows and reflections with motion blur
- Detail shadow maps

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

- network rendering: mental ray for Maya's network rendering does not correctly render scenes with contour shaders.
- postprocessing effects: Paint Effects, light glow, optical effects, and 2d motion blur
- Field Rendering

### Known limitations

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

## 11 | Rendering

### Release notes > mental ray for Maya rendering limitations

#### 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 from Maya 5.0 to Maya 6.x

Imported or referenced Maya 5.0 files containing mental ray shaders, with color, scalar, or texture parameters, do not correctly convert in Maya 6.x. 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 Maya 6.x.

#### Using Maya Batch Renderer

When using the Maya Batch Renderer on a remote machine the User Account information (i.e. username) must be consistent between the machines to ensure that User Authentication will function correctly.

#### 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.

#### 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.

#### mental ray in Maya 6.5 won't render subdivision surfaces with

**Release notes > mental ray for Maya rendering limitations****non-quads in base mesh**

Only base meshes made of quads are supported.

**Workaround**

To convert to quads, select Subdiv Surfaces > Collapse Hierarchy >  and set the number of levels to 1.

**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.

**Bump mapping and custom mental ray shaders**

Bump nodes are not directly supported by mental ray custom shaders.

For an example of how to work with bump modes with mental ray for Maya, see [devkit/mentalray/docs/gettingStarted/textureShaders\\_bump.html](http://devkit/mentalray/docs/gettingStarted/textureShaders_bump.html).

**Workaround**

Bump effects are still achievable and involves setting up your network to force bump nodes to evaluate during the render.

To get bump to evaluate, you need to map your bump nodes to one of the spare attributes on your custom mental ray material shader (that is currently not mapped).

However, if you want to use all of your material's attributes, then you need to pass the texture you really want showing up for that attribute and the bump nodes via a `mib_color_interpolate` node (which behaves similar to Maya's ramp texture).

First, assign your texture to the `Color_0` attribute of the `mib_color_interpolate` node and then assign a `mib_passthrough_bump_map` to `Color_1` attribute of the `mib_color_interpolate` node.

Next assign the `mib_color_interpolate` to any of your material's attributes (example: diffuse color) and set the input value of the `mib_color_interpoloate` node to a low value like 0.001 which will force the bump to evaluate while allowing you to also use the other texture for diffuse color.

**Depth map shadows and particle rendering**

Depth map shadows and particles are not supported.

**Workaround**

Use raytrace shadows.

**mental ray for Maya ignores the keyframe animation for the**

## 11 | Rendering

Release notes > mental ray for Maya rendering limitations

### visibility attribute

#### Workaround

"Optimize Non-animated Display Visibility" needs to be turned off in the Render Global Setting window when visibility is animated.

### Directional light does not work well with Photons

#### Workaround

Use a point or spot light instead. **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".

### mental ray for Maya doesn't export the necessary include and link statements in the mi file

When exporting scenes containing custom shaders to .mi format, the appropriate link and include statements are not automatically written to the exported .mi file. As a result, this file will fail to render with the mental ray standalone renderer.

#### Workaround

In the "Custom Globals" subsection of the "Custom Entities" section of the mental ray Render Globals, you can manually enter the link and include statements for the exported file. For example, if your scene used custom shaders from the standard contour and physics shader libraries, you would specify the includes as

```
base.mi contour.mi physics.mi
```

and the links as

```
base.so contour.so physics.so
```

With these custom link/include settings, the resulting .mi file will then be renderable.



**Release notes > mental ray for Maya rendering limitations****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.

**Old scenes using mental ray shaders can render differently**

mental ray for Maya 6.x provides reasonable default values for mental ray shaders. In previous versions, all the mental ray shader parameters defaulted to zero. The default values are specified in the shader declaration files (base.mi, contour.mi, physics.mi) using extended .mi syntax.

As a side effect, old scenes (scenes created with Maya prior to 6.x) using mental ray shaders can render differently if a parameter value is set to 0 and its default value has been changed in 6.x.

**Workaround**

Run `mentalrayShaderDefaultCompat.mel` (in `maya6.x/scripts/unsupported`) in Maya 5.0. For example, open Maya 5.0, and type the following in the Script Editor:

```
mentalrayShaderDefaultCompat ("myOldScene.ma",  
"myOldSceneFix.mel")
```

then open the scene `myOldScene.ma` in Maya 6.x and run the generated MEL script `myOldSceneFix`. This reverts the mental ray shader parameter values back to the original settings.

**Missing Motion Blur**

When rendering with motion blur, sometimes parts of deforming geometry will fail to blur.

## 11 | Rendering

### Release notes > mental ray for Maya rendering limitations

#### Errors Caused by Certain Shading Network Connections

Connections from Input Color Components (advanced shading network connection) may cause errors when rendering with mental ray for Maya.

##### Limitation

Connections from Input Color Components: If a connection is made between single components (R, G, or B) of input color attributes on two shaders or textures, then mental ray for Maya renders will abort with error messages similar to:

```
API 0.0 error 301040: "maya_checker" has no member "color1"
```

```
API 0.0 warn 302018: type conflict: "color" is type color, "maya_checker" returns type struct
```

The example message was triggered by connecting the color1R attribute of one checker texture to the color1R attribute of another checker texture.

##### Workaround

Where possible, replace the connection between individual color components by a connection between the entire color attributes. This type of connection is supported.

#### Custom Text Does Not Work for Interactive Renders

The Custom Text feature is intended for use only with the mental ray 3.2 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:

- Maya BOT files
- certain variants of the TIFF format (including those generated by the Maya renderer, and those with LZW compression)
- Cineon CIN files
- GIF files

**Release notes > mental ray for Maya rendering limitations****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.

**NURBS surface texture warp fix not supported**

The fix texture warp attribute on Maya NURBS surfaces is not supported in mental ray at this time. It changes the way textures get mapped on freeform surfaces to achieve a more realistic look on highly deformed surfaces.

**Workaround**

Triangulate the surface in Maya and use the comprehensive polygon texture mapping tools to adapt the uv mapping.

**Missing bump/displacement maps when using File Texture nodes with mental ray**

File textures that are used for bump/displacement mapping are usually connected via their outAlpha attribute. If the corresponding texture image file does not provide an alpha channel, then the bump or displacement effect may be missing when using certain image formats.

**Workaround**

Enable the Alpha is Luminance property in the Color Balance section of the File Texture node.

## 11 | Rendering

Release notes > mental ray for Maya rendering limitations

### Layered Shader not Supported for Global Illumination/Caustics

When using photon mapping effects such as Caustics and Global Illumination, any object with a Layered Shader assigned to it will behave as if it were a simple grey diffuse object. All of the shader's layers will be ignored. Layered shaders do work properly for Final Gather effects, but may cause increased render times.

#### Workaround

Wherever possible, use Layered Textures instead of Layered Shaders.

### Limited Support for Certain Shading Network Connections

Shading network connections involving dynamic attributes on shading nodes, and connections sourced from shading node input attributes are supported by mental ray for Maya so long as the values passing through those connections are constant for each rendered frame. Thus, these connections properly support constant and animated values, but not textures. Attempting to pass a texture through an input or dynamic attribute on a shading node will result in a warning message similar to the following:

```
// Warning: (Mayatomr.Nodes) : Unsupported type of
connection: checker1, current plug value used
instead //
```

#### Workaround

Where possible, connect textures directly to the desired destination, rather than passing them through one or more dynamic or input attributes.

## Tips

### Rendering Color and Z-depth

The following is true when rendering to a format other than Maya IFF. If rendering to Maya IFF all channels RGBAZ are written to one file. When the Depth Channel option is enabled in the mental ray Render Globals, 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.

### Unsupported features

Hardware rendering does not support the following features:

- The `-echo` flag is not supported for hardware rendering through the command line.

### Known limitations

#### Hi Quality Render and Isolate Select

Isolate Select is not supported with Hi Quality Render.

##### Workaround

To remove objects from the view, you must hide them explicitly.

#### Surfaces shadowed and lit by directional lights

Scenes with surfaces that receive cast shadows, and which are lit by directional lights, appear inadequately lit when rendered by Maya's Hardware renderer.

##### Workaround

To produce a correctly lit surface, use a graphics driver which supports OpenGL fragment programs (arbfp1), along with a graphics card with one of the following:

- ATI X3 and later chipsets
- 3DLabs P20 and later chipsets
- Nvidia NV30/NV40 and later chipsets

#### UV texture coordinates missing—display problem

Polygonal objects or portions of polygonal objects with no UV texture coordinates appear "stippled" when viewed in hardware texture shading mode (hotkey 6). (Stippling does not appear, however, in High Quality Rendering Mode.)

## 11 | Rendering

### Release notes > Hardware rendering limitations

#### Workaround

Create new UV coordinates by selecting the faces of the object and using any of the following tools in the Edit Polygons > Texture menu - Planar Mapping, Cylindrical Mapping, Spherical Mapping, Create UVs Based on Camera, Normalize UVs, Unitize UVs, and Best Plane Texturing. If you do not want to create new uvs you can view the object properly by viewing it in shaded mode.

#### Layered texture file texture resolution display limitation

If you have a file texture as a layer in a layered texture, and a layer which is just a color, toggling on or off the color layer results in a change in the resolution used to display the file texture.

#### Lighting on non-proportionally scaled object is incorrect

Bump mapping and specular highlights on non-proportionally scaled geometry will not render correctly compared to software rendering.

#### Workaround

Freeze transforms on the surface to bake the transformation into the geometry.

#### Animation of bump specular highlights pop when zoomed out

Specular highlights on bump mapped surfaces may pop or shimmer as the geometry is animated.

#### Workaround

Enable the anti-aliasing options in the hardware Render Globals or run a low pass filter (blur) on the bump map texture.

#### 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 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 Globals:

- 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.

#### **Light image quality on polygons is dependent on UV space mapping**

Specular highlight quality on polygons will depend on the UV space mapping. Care should be taken to give the polygon full UV coverage and avoid triangles that are skinny or have little area. One way to fix this problem is to select the polygon and then assign an automatic UV map by selecting Edit Polygons > Texture > Automatic Mapping. Some types of graphics hardware will be more susceptible to these problems than others.

#### **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 Globals. 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**

## 11 | Rendering

### Release notes > Vector rendering limitations

#### 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.

## Vector rendering limitations

The following lists the Vector rendering limitations and workarounds.

#### Resolution settings and Vector rendering

Due to some limitations in Flash technology, (upon which the vector renderer is based), increasing the resolution in the Render Global Settings does not necessarily produce better results.

#### 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).

#### Vector renderer batch renders blank image when Renderable Objects is Render Active

When Render Using is Maya Vector, and Renderable Objects is Render Active, Render > Batch Render produces a blank image.

##### Workaround

Set Renderable Objects to Render All and hide all objects you do not want to render.

#### By Frame ignored in Vector rendered filenames

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

## IPR Rendering limitations

The following lists IPR limitations and workarounds.

#### General IPR limitations

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



**IPR and group nodes**

IPR does not support transformation on group nodes within an IPR session when rendering with mental ray for Maya.

**Workaround**

Start a new IPR session.

**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 image plane in the background though the image plane is set to none.

**Workaround**

Delete the image plane.

**Displaying menu items for IPR in Render View on IRIX vs. Windows**

When selecting items from the menu in the Render View to shift the Attribute Editor's focus, on IRIX, you shift-click with the left mouse button and hold the Shift key to display and choose from the menu. On Windows, you shift-click with the left mouse button, but you do not have to hold the Shift key to choose from the menu.

**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.

### Motion blur limitations

The following lists motion blur limitations and workarounds.

#### General motion blur 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.
- When you have a moving spot light that illuminates a surface, the spot light's beam moving across the surface does not blur.
- Motion blur is not rendered in raytraced reflections and refractions.

### Ray tracing limitations

The following lists ray tracing limitations and workarounds.

#### Raytracing and background color—if ray hits nothing or is terminated

During raytracing, if a ray hits nothing, or a ray is terminated due to the reflection or refraction limits, the default behavior is to return the camera's background color.

##### Workaround

If this is not the desired behavior, the camera's background color can be ignored under such circumstances by setting the following environment variable:

```
MAYA_RENDERER_RT_BACKGROUND_COLOR = 0
```

##### Note

mental ray for Maya does not respect this environment variable.

#### Raytracing and background color—if reflection (or refraction) off

Related to the above release note, when an object's reflection (or refraction) flag is not turned on but the object is set to be reflective in the material, the object's reflection will not be the background color (it will be black).

##### Workaround

Turn on the object's reflection/refraction.

### 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

The following lists 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 Globals 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.

## Hardware shading limitations

The following lists hardware shading limitations and workarounds.

## 11 | Rendering

### Release notes > Hardware shading limitations

#### 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.

#### General plug-in 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.
- An ambient light will be used to compute the lighting for a shader plug-in when you use Hardware Texturing.
- If a surface does not have an associated shading group or materialInfo node, it will appear dark green in color when you use Smooth Shade All mode.

#### 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.

## Hypershade/Visor limitations

The following lists Hypershade/Visor limitations and workarounds.

### 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.

## Cameras and views limitations

The following lists camera and views rendering limitations and workarounds.

### 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.

### View fit problems with joints

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

## 11 | Rendering

### Release notes > Convert to File Texture limitations

#### 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.

#### 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.

## Convert to File Texture limitations

The following lists the Convert to File Texture 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.

## Render Layers/Passes limitations

The following lists the Render Layers/Passes limitations and workarounds.

#### Cannot change the color of objects in a Render Layer

You cannot change the color of objects in a Render Layer. Changing the color swatch in the Render Layer Bar will have no effect.

#### 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 its transform.

##### Workaround

Use the Render Layer Bar to assign objects to layers.

#### Scenes with Fur give unexpected results when using Render

## Layers

When using Render Layers, scenes with Fur will give unexpected results.

### Workaround

Turn off Enable Fur and render the Fur as a separate pass.

## 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.

## (Mac OS X) Can't change the color of objects in a Render Layer

You cannot change the color of objects in a Render Layer. Changing the color swatch in the Render Layer Bar has no effect.

## Photoshop

The following lists the Photoshop limitations and workarounds.

### Converted PSD files do not open in Maya

Some 16 bit PSD files may not open in Maya, specifically those which are converted from 8 bit PSD files.

## **11 | Rendering**

**Release notes** > Render Layers/Passes limitations



# 12

# Maya Cloth

## Release notes

### General Cloth limitations

#### Texture projections and Cloth

Texture projections cannot be stopped from swimming on Cloth. When a projection is used the texture is not locked to the Cloth and changes every frame.

##### Workaround

Create a poly object, assign the texture and then create a “Cloth Object” instead of “Create Garment”.

#### Cloth files

Cloth files created on one platform (e.g. Mac OS X/Linux) may not work properly on another platform (e.g. Mac OS X).

##### Workaround

Re-create the cloth by changing stitcher resolution once after opening the file on another platform.

#### Changing resolution of cloth affects texture or modeling edits

If a garment has texture or modeling nodes added downstream as a result of tweaks or edits made to the mesh, they may have to be reapplied if the resolution of the garment is changed.

##### Workaround

Use the default texture coordinates on the garment or reapply the edits after the resolution is changed.

#### Pressing ESC key during Cloth simulation may not work

If you invoke the Cloth simulation by selecting Simulation > Start Local Simulation, then pressing the ESC key to terminate the simulation may not work.

##### Workaround

Select Simulation > Stop Local Simulation.

#### Simulation stops when screen saver starts

If cloth is simulated interactively, the simulation will stop when the screensaver triggers.

##### Workaround

Disable the screensaver when simulating interactively. Alternatively, set the screensaver timeout to a time longer than the anticipated simulation time.

## 12 | Maya Cloth

### Release notes > General Cloth limitations

#### Cloth initial state may be lost when using referenced files

When using referenced files, the cloth initial state may be lost.

##### Workaround

In the file you want to reference, save the initial state into a cache file. After you load the referenced file, load its associated cache file.

#### Skin penetrating cloth

Collision object (skin) can interpenetrate the cloth.

##### Workaround

Interpenetration occurs when the triangle size of the cloth mesh is large compared to the collision object mesh size. Using finer resolution on the cloth mesh corrects the problem in most cases. You can also increase the collision object Offset attribute to avoid interpenetration. In cases where intersection occurs when the collision object has a thin cross-section, reduce the collision object Depth attribute.

#### Incorrect normals cause solving problems

Tessellated geometry needs correctly oriented normals. If the normals are not all consistently pointing outward, the cloth simulation will not solve correctly and parts of the collision object may be ignored.

##### Workaround

Orient the normals correctly. If the object has already been selected as a collision object, you must disconnect it from the solver using Cloth > Modeling > Remove Collision Object, reverse the normals, and select it as a collision object using Cloth > Create Collision Object.

#### Panels must have closed curves

If you open the closed set of curves that define a panel, the panel does not tessellate anymore. This can happen if you accidentally move only one of the control vertices at the end of the curve.

##### Workaround

Close the curves again by moving the control vertex back to where it was. You can undo the vertex move, or you can use curve snap to align it with the last control vertex of the next curve. Then select the stitcher node connected to the broken panel and enter a new resolution value. It does not need to be a different value; this simply causes the panel to be rebuilt.

#### Dynamics fields require greater magnitude

Using dynamics fields with cloth requires much greater magnitudes than you would use with particles.

**Workaround**

Try setting magnitude to a value between 100 and 5000. Cloth has strong spring forces that hold the cloth together. Any force must match that strength in order to have any visible affect.

**Need two curves to make panel**

Panels require more than one curve.

**Workaround**

Do not make panels from one single closed loop curve. Use at least two curves.

**Extreme edits**

If you modify the panel curves or resolution an extreme amount with Fit to Surface turned on, you can cause Maya to crash.

**Workaround**

If you need to make an extreme edit, make it in a few successive steps.

**Disabling cache affects playback**

After disabling the cache, the scene may not play back more than once.

**Workaround**

Turn on Enable Cache. Save the file and reload it.

**Changing solver scale resets initial state**

Changing the solver scale may cause the initial state of the cloth to be reset. It may also cause the placement of mesh constraints to be invalid.

**Workaround**

Save a Maya ASCII file. Edit the file as follows:

After the line:

```
createNode cpClothSolver -n "cpSolver1"
```

Add the line:

```
setAttr ".ss" 2;
```

Where 2 is the value of the solver scale.

**Positioning curves for texture placement**

When positioning curves to get correct texture placement on cloth garments, if any of the curves are duplicated with translational, rotational, or scale offset, the texture map assignment gives unexpected results.

## 12 | Maya Cloth

### Release notes > General Cloth limitations

#### Workaround

After duplicating curves, select the topmost transform and select **Modify > Freeze Transformations**. This sets the translation, rotation, and scale to default and corrects the texture map assignment.

#### cpSolver command requires selection list

The cpSolver command does not look at command-line object names when using most of its options. It looks only at what is in the selection list.

#### Workaround

First select the objects you want the cpSolver command to operate on. Then execute the cpSolver command.

#### Thickness affected by Solver Scale

The property's Thickness attribute is affected by the Solver Scale attribute. If the Solver Scale is set to 2, then the Thickness will be half as large.

#### Workaround

Increase the Thickness attribute as needed. However, use caution because values larger than 3 or 4 do not give good results.

#### Saving with current frame not at solver start frame

When saving a cloth scene with the current frame at some time other than the solver start frame, the current positions of cloth objects will not be saved to disk. When you load this scene again, the cloth objects will return to their initial positions.

#### Workaround

Save a cache file with your scene. When this scene is loaded into Maya, the solver will use the cache file to restore the cloth objects to their positions for the current frame.

#### Undoing with Fit to Surface

If you remove a panel from a garment that has the cpStitcher attribute **Fit To Surface** turned on, undoing that operation does not restore the cloth positions if those cloth positions were the result of a previous sub-assembly seaming.

#### Workaround

Do not undo.

#### Garment's initial position not restored

If you delete a cloth object or make edits to the stitched garment that cause it to be regenerated such as editing a panel curve or changing a resolution, undoing that operation does not restore the garment's

initial positions or cache data. Deleting a cloth with cache data, and undoing the delete operation, cloth does not remember the cached data position, instead the cloth appears at the origin.

**Workaround**

Do not undo those operations.

**Using same curves in several panels**

Cannot use all of the same curves in more than one panel.

**Workaround**

Copy or instance these curves first before making separate panels.

**Cannot transfer garments in batch mode**

You cannot use the transfer garment command in batch mode (*cpSolver -e -t*). This may give unexpected results or cause Maya to crash.

**Workaround**

Run this command using the Maya user interface.

**Concave faces may cause simulation problems**

If your collision object is a mesh object that is not already triangulated, any concave faces may cause problems with the simulation.

**Workaround**

Triangulate your polygonal surface before making it a cloth collision object.

**Interactive simulation requires visible window**

Interactive simulation requires Maya window to be visible.

**Delete Cache may not work**

If a cloth mesh that has nodes between the solver and the mesh is selected, Delete Cache may not work.

**Workaround**

If there is only one solver in the scene, select Simulation > Delete Cache with nothing selected. If there is more than one solver in the scene, select the desired solver, and select Simulation > Delete Cache.

**Cache info not saved out during batch rendering (Windows only)**

On Windows, if you save a Maya file with cloth simulations and cache, Maya saves both the scene file and the cache file in the current project's "Scenes" directory. However, if you first solve the scene, and then render the scene from the interface (Render > Batch Render),

## 12 | Maya Cloth

### Release notes > Cloth constraint limitations

Maya will save a copy of the scene file in the current project's "Render" directory, (this is correct) but will not save a copy of the cache in the "Render" directory (this is not correct).

#### Ghosting is not reliable on cloth simulations

##### Workaround

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

## Cloth constraint limitations

#### Create mesh constraints at solver start frame

If mesh constraints are not created when time is at the solver start frame, bad simulations can result.

##### Workaround

Either make the mesh constraint at the solver start frame, or make sure that you set the current time to the solver start frame when you delete cache.

#### Cache not deleted when adding/deleting constraints

When you add or delete constraints, the cache is not automatically deleted.

##### Workaround

Delete the cache manually using Cloth > Simulation > Delete Cache.

#### Cloth stops solving or hot keys and marking menus lost

After simulating cloth with mesh constraints, if you change the collision offset or depth on the collision object that the mesh constraint is attached to, cloth stops solving. On Windows, you may lose your hot key capability and marking menus.

##### Workaround

Open the file with mesh constraints and do not simulate. Change the collision offset or depth. Save the file and reopen it. If you lose your hot keys or marking menus, save your file and restart Maya.

#### Improper mesh constraint changes halt Solver

If the collision object is removed and added again when the collision offset or depth is changed, the mesh constraints that tie a garment to the collision object are not properly updated. As a result, the Solver halts.

**Transferring garment between solvers loses mesh constraint**

If you transfer a garment from one solver to another, you lose your mesh constraints.

**Workaround**

Transferring garments does not transfer the cloth collision objects, which the mesh constraints need to connect to. You must recreate the mesh constraints again. Select the cloth vertices (or curves) and the new collision objects, and select Constraints > Mesh.

**Cloth and button constraints don't work in cloth objects**

Cloth constraints and button constraints do not work in cloth objects (cloth created from mesh objects).

**Workaround**

For these types of constraints, use cloth garments created from panels.

**Cloth drag control limitations****No command to delete drag control**

There is no command to delete a drag control.

**Workaround**

To delete the drag control, select the shuttle. Use the up arrow to select the parent transform and press the Backspace key.

**Drag control may spin on axis**

When moving or rotating the end locator on the drag control, the shuttle may spin on its axis in an unpredictable manner.

**Workaround**

In these cases, select only one cloth vertex. This prevents the cloth from becoming twisted.

**(Linux) Drag control not solving correctly**

The Cloth drag manipulator may not solve correctly on some systems.

**Cloth solver limitations****Changing solver's start frame**

When changing the solver's start frame, the solver may not start simulating at the correct frame.

## 12 | Maya Cloth

### Release notes > Cloth solver limitations

#### Workaround

After changing the solver's start frame, rewind to the start frame and delete the cache (even if you don't have one). This resets the solver so it starts simulating at the correct frame.

#### Setting the .doSimulation attribute on solver causes problems

Do not set the internal attribute ".doSimulation" to start/stop the solver.

#### Workaround

To start a local simulation from a MEL script, use the command:

```
performCloth startSimulation
```

For simulation during playback, simply playback the animation with the correct simulation start frame set on the solver.

#### Cascading Solvers

If solvers are cascaded (the cloth output of one solver is used as a collision object for another solver) and the downstream solver has frame samples set to a value greater than one, then the computation of the cloth collisions may not be correct.

#### Workaround

If frame samples on the downstream solver is greater than one, make sure the upstream solver solves first or the data from the first solver is cached.

#### Unable to access cpSolver node through geometry

Certain Cloth operations such as delete cache and set initial state may give the error message:

```
Error, must select a cloth object to operate on
```

if more than one cloth solver exists in the scene, and the cloth geometry has non-cloth construction history, such as an extrude node.

#### Workaround

Explicitly select the cpSolver of interest through the command line or Outliner and then perform the operation.



# 13 Maya Fur

## Release notes

### General Fur limitations

#### Fur attached to Cloth

If Fur is attached to a 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 Maya6.5, as long as the smoothUVs is turned off.

#### Fur and render layers

Fur cannot be assigned to a different render layer than the surface to which it is attached. If this attempted, Fur will render on the layer to which the surface is assigned, and not on the layer to which the fur is assigned.

#### 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 Tessellation 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.

#### Referencing scenes with linked rotation fur attractors

Scenes with fur attractors with linked rotations will not work properly with file referencing.

#### Trimmed surfaces don't tessellate consistently in Fur

Animated trimmed surfaces can tessellate differently from frame to frame, causing Fur to appear to crawl over the surface.

## 13 | Maya Fur

**Release notes** > Limitations when rendering Fur in the Maya Software renderer

### Workaround

Avoid the use of animated trimmed surfaces with Fur. Convert to polygons if possible.

### Rendering high resolution

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

### Increasing the intensity of lighting has no effect on diffuse component of fur

In a scene in which the intensity of the lights exceeded 1.0, rendered fur would never be brighter than the diffuse and specular colour values defined for the fur. One would expect the rendered fur to become increasingly brighter as the lighting increased. This is not only logical, but also consistent with how other renderers, including the Maya Renderer, behave with identical lighting and material assignments. In order to make this fix, a change in the shading calculations for rendering fur was implemented. The effect is that fur rendered with the Maya 6.0 and higher may look different compared with previous versions. If you want to maintain compatability, define the environment variable MAYA\_FUR\_LIGHT\_CLAMPING.

## Limitations when rendering Fur in the Maya Software renderer

### Fur shadows and Dmap Auto Focus

Fur Shadows can be incorrectly placed when Dmap Auto Focus is turned on. We suggest you turn off Dmap Auto Focus for all spotlights that have Fur Shadow Maps enabled, and instead set the Dmap Focus value to Cone Angle + (Penumbra \* 2).

### 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 ray.

**Release notes > Limitations when rendering Fur in the Maya Software renderer****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 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 Tessellation section of the Attribute Editor.

## 13 | Maya Fur

### Release notes > Limitations when rendering Fur in mental ray for Maya

#### 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.

# 14 Maya Live

## Release notes

### General scene limitations

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

#### 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.

#### Unexpected results when solving for a camera without tracking data

Trying to solve for a camera without any tracking data may cause unexpected results on IRIX.

##### Workaround

Make sure you have valid track data first.

#### 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, 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.

## 14 | Maya Live

### Release notes > Track limitations

#### 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.

**(IRIX only) Track point appears offset**

For O2 systems, the track point appears offset in the shotCamera view.

**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.

## **14 | Maya Live**

**Release notes** > Solve limitations



# 15

# Maya Fluid Effects

## Release notes

### Fluid Effects limitations

#### 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 not 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.

## 15 | Maya Fluid Effects

### Release notes > Fluid Effects limitations

#### 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.

#### Fluid reaction speed not normalized against time step

Fluid reaction speed is not normalized against time step so if you change the frame rate or the sampling, the reaction rate will change.

##### Workaround

Scale the reaction speed by the corresponding change. For example if it was 30 frames/sec and is changed to 15 frames/sec, multiply the reaction speed by 2. If doing a 2 times oversample cache of the fluid, multiply the reaction speed by 0.5. For a 2 times undersample multiply the reaction speed by 2.

#### 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.

## 15 | Maya Fluid Effects

### Release notes > Fluid Effects limitations

#### 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.

#### 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 Maya.

#### Fluid texture placement mapped to spotlight

When a Fluid texture placement is mapped to a spotlight it may be upside down.

##### Workaround

Set the rotation on the texture placement node to turn it the right way around.

#### 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.

## 15 | Maya Fluid Effects

### Release notes > Fluid Effects limitations

- 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 4.5 (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.

# 16

# Maya Hair

## Release notes

### Hair limitations

#### IK solver may crash Hair render

If your mode has dynamic curves that affect an IK solver, it may crash when rendering in 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 brushtype 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.

<b>Note</b>	2D motion blur works with hair and the <i>ThinLine</i> 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 deformer.

#### Undo not working when using Lock Length

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

<b>Note</b>	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.





## **16 | Maya Hair**

**Release notes** > Hair limitations

# 17 Miscellaneous and translators

## Release notes

### General Maya limitations & workarounds

The following limitations and workarounds relate to general Maya issues.

#### 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.)

#### Odyssey graphics cards and depth buffer visual

The Odyssey graphics cards can be set up such that they may not provide a RGBA double buffered with depth buffer visual. This is usually the case when the Display settings are incorrect, for example, 8-bit frame depth, or not enough memory on the card to support the higher resolutions.

The Shaded display may appear incorrect as there is no depth buffer. All the surfaces are displayed in the order they are drawn.

#### Workaround

Set up the display parameters (setmon/xsetmon) so that there is an RGBA 8888 double buffered 24-depth visual as shown by `glxinfo`. Set frame depth to 16 to get more visual choices.

It is also possible to configure Maya by using environment variables to change the default parameters used to ask for the visual.

```
setenv MAYA_ASK_DEPTHBUFFER yes
```

```
setenv MAYA_ODYSSEY_8888 no
```

The values used don't matter, just the fact that they are set to something. Use `unsetenv` to undo the effects of these variables

#### 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.

## 17 | Miscellaneous and translators

### Release notes > General Maya limitations & workarounds

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

#### Workaround

Load the Maya Cloth or Maya Fur plug-ins 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 *inheritsTransform* 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.

## **17 | Miscellaneous and translators**

### **Release notes > General Maya limitations & workarounds**

#### **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.

#### **IRIX: Problems on the Web page when reporting a bug**

If you are using Netscape 4.x on IRIX (the default browser), you may encounter a problem on the reporting a bug Web page.

Workaround: we suggest you use a more recent browser for IRIX (such as Mozilla or Firefox); you can copy and paste the URL from your copy of Netscape to another browser.

#### **IRIX Netscape limitation**

IRIX: Maya will attempt to execute another copy of Netscape if you are running a version of that is not found in your Unix \$PATH environment variable. Use the Unix shell command “which netscape” to determine if the Netscape you are running is in your \$PATH. See your Unix System Administrator for more information on Unix shells, commands and environment variables.

#### **IRIX: Maya causes the Xsgi process to use a lot of memory**

IRIX: Maya causes the Xsgi process to use large amounts of memory. This is not an indication of leaking memory but rather a reflection of the amount of user interface components created in the application. This is most noticeable when numerous Maya windows are opened or if you continuously create and destroy custom windows.

#### **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.

## 17 | Miscellaneous and translators

### Release notes > General Maya limitations & workarounds

#### 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 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.

## Translator limitations

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

## 17 | Miscellaneous and translators

Release notes > MayaToAlias and StudioImport limitations

### 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.



## 17 | Miscellaneous and translators

### Release notes > MayaToAlias and StudioImport limitations

#### (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

## 17 | Miscellaneous and translators

### Release notes > Obj limitations

- `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 globals conversion limitation

The start/end mode in the render globals 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.

## DWG DXF limitations

The following limitations and workarounds relate to DWG DXF issues.

#### DXF / DWG can't export subdivision surfaces

DXF/DWG will not export subdivision surfaces.

##### Workaround

Convert to polygons prior to export. (Modify > Convert > Subdiv to Polygon)

## 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.

## **17 | Miscellaneous and translators**

**Release notes** > IGES import and export

### **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 Vrm2 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.

## 17 | Miscellaneous and translators

### Release notes > Maya for Linux limitations

#### Workaround

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

#### (Linux) Setting color resources

You have to set color resources manually since the SGI color schemes are not available to help set colors.

#### Workaround

You can use the file `MayaScheme` to customize the resources used. Copy the file from `/usr/aw/maya/app-defaults` to `$HOME/app-defaults`.

#### (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/aw/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/Metacity, 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.

## 17 | Miscellaneous and translators

### Release notes > Maya for Mac OS X limitations

#### (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) Dynamic unloading of plug-ins disabled

We have disabled the unloading of plug-ins during a Maya session. Our current implementation of plug-ins on Mac OS X uses dylibs. This type of library has issues with releasing library data correctly during unload. As a result, the load/unload/reload sequence can cause Maya to crash if old data is left around. A warning appears in the Script editor if you attempt to unload a plug-in.

To run Maya without a particular plug-in loaded, open the Plug-in Manager window, turn off Auto load, and restart 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) Performance limitations

Maya for the Mac OS X may become slower or less stable after a period of time.



## 17 | Miscellaneous and translators

### Release notes > Maya for Mac OS X limitations

#### Workaround

For best performance, we recommend you save your work and restart Maya every few hours.

#### (Mac OS X) Mac OS X file fails to open on Windows XP when transferred the wrong way

The only 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) Maya starts up with library errors or stops at the Script Editor

The solution is to rename your hard drive on which Maya is installed. There is a problem with double byte characters being passed to Maya and therefore the name of your hard drive must not contain any special characters. Also, try and stick to the Roman alphabet. Spaces do not seem to be a problem, but it is best to avoid them. Simply use an underscore in place of a space.

#### (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/Alias/maya/6.5/
```

See also “*Load or unload plug-ins*” in the *Basics* guide.

#### (Mac OS X) Feature differences between Mac OS X and Windows

The following features differ between Mac OS X and Windows versions of Maya.

##### Features for Windows not available for Mac OS X

- Ability to read in pre-Maya 3.0 files

##### Features for Mac OS X not available for Windows

- 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 “*Communicating between Maya and Mac OS X*” in the Release Notes and “*Calling MEL from AppleScript and vice-versa*” in the *MEL and Expressions* guide.)

## 17 | Miscellaneous and translators

### Release notes > Maya for Mac OS X limitations

3rd party programs not available for Mac OS X

- Invigorator Maya plug-in (the standalone program is available).
- Motion capture drivers

#### (Mac OS X) Device Editor removed from Maya

Window > Animation Editors > Device Editor has been removed from the Maya user interface. Maya only supports the mouse and tablet.

#### (Mac OS X) Command Shell removed from Maya

Window > General Editors > Command Shell has been removed from the Maya user interface. No alternative to the Command Shell exists in Maya for Mac OS X.

#### (Mac OS X) FCheck limitations

The following options are not available for this release: **offset**, **bump**, **color**, **negate**, **tocin**, **fromcin**.

The FCheck info window numbers the frames using 1 for the start frame you indicate, which may not be the same as the numeric part of the filename. For example, if you choose frame 4 of an animation to be the start frame in the FCheck window, the FCheck info window identifies it as frame 1 of 7.

#### (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	<i>Put</i> 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.)

## 17 | Miscellaneous and translators

Release notes > Maya for Mac OS X limitations

From	To	Requires
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
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: <code>tounix scene_file.ma</code>
Maya mayaAscii or mel files	Maya 3.0 on UNIX or Windows	a) From the Terminal window, use the tounix utility: <code>tounix scene_file.ma</code> then ftp as an ascii file.  <i>or</i> b) Use the interactive Macintosh application Fetch, in ascii transfer mode.
mayaAscii or mel files that have been run through <i>tounix</i> utility	Mac OS X applications that read text files	Use the tomac utility. From the Terminal window, enter: <code>tomac scene_file.ma</code>
mayaAscii or mel files that have been run through <i>tomac</i> utility	Maya	No special handling
mayaAscii or mel files that have been run through <i>tounix</i> utility	Maya	No special handling

(Mac OS X) Maya can't read files with special characters in

## 17 | Miscellaneous and translators

### Release notes > Maya for Mac OS X limitations

#### pathnames

Maya cannot read files from folders whose name includes a trademark symbol.

##### Workaround

Move the file out of the folder or delete the symbol from the folder name.

#### (Mac OS X) Special characters in pathname kill Maya on startup

Maya fails to launch if there are special characters in the full pathname that points to your Home folder. (Spaces and colons do work.)

##### Workaround

Starting from the diskname, make sure the path to your Home folder does not include special characters.

#### (Mac OS X) Problem with floating license servers

As of OS 10.2, Maya licenses require a hostname other than "localhost".

##### Workaround

If you have floating license servers, you may need to modify the "<Hostname>" field of the "SERVER" line(s) in both Server and Client License Files to reflect this change:

```
SERVER <Hostname> <HostID> <Port#>
```

The value for "<Hostname>" can be determined by opening a Terminal window and typing "hostname -s" on the command line.

#### (Mac OS X) AW\_JPEG\_Q\_FACTOR env variable does not function as expected

You can not change the value of the AW\_JPEG\_Q\_FACTOR environment variable. Maya always renders at the default value (75).

#### (Mac OS X) High resolution display limitation

Large size images (typically greater than 1280x1024) do not get displayed properly in the scene views and editors when these are used as image planes or textures. They will render correctly.

#### (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).

## 17 | Miscellaneous and translators

### Release notes > Maya for Mac OS X limitations

#### (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) Cannot render interactively with resolution of 4K or higher

You cannot render interactively in the Render View if the resolution is set to 4K or higher.

Also, if you render an image successfully and then render it again with a lower resolution, the rendered image does not reduce in size.

#### (Mac OS X) Fonts are the same for all attributes in Hypershade connection menu

When you middle-drag a node in Hypershade to connect it to another node, the connection menu displays all the attributes in the same font so you do not know which ones are already connected. Connected attributes should be in italics.

#### (Mac OS X) Hardware Render Panel does not open

The Hardware Render Buffer does not open in a panel. If you add the Hardware Render panel to the Panels menu (in the Panel Editor, click the Edit Layouts tab, click the Contents tab, and select Hardware Render Panel from the Select Panel by Type menu), the panel is blank when you select it.

## 17 | Miscellaneous and translators

### Release notes > Maya for Mac OS X limitations

#### Workaround

Use the Hardware Render Buffer in a separate window, instead of using it in a panel. (Select Window > Rendering Editors > Hardware Render Buffer to open the Hardware Render Buffer in a separate window.)

#### (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.

# 18

# Maya commands

## Release notes

### Maya commands limitations

#### 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.

#### 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.

## 18 | Maya commands

### Release notes > Maya commands limitations

#### Locally scoped procedure definitions cannot be forwarded

MEL does not allow you to forward reference locally scoped procedures.

##### Workaround

Locally scoped procedure definitions must appear before they are called. For example, in a file called noForwardRef.mel, define the local procedures before they are referenced.

```
proc myLocalProc() {
    print "In myLocalProc()\n" ;
}
proc anotherLocalProc() {
    print "In anotherLocalProc()\n" ;
    myLocalProc;
}
global proc noForwardRef() {
    print "Calling anotherLocalProc()\n" ;
    anotherLocalProc;
}
```

#### Scripts with infinite loops

If you write a script that has an infinite loop in it (usually within a while statement), there is no way to interrupt it without stopping Maya from the Task Manager on Windows or from the UNIX shell on IRIX (kill -2).

##### Workaround

Before writing scripts make sure you save any data you were working on.

#### Assigning string attributes to strings limitation

MEL does not support assigning string attributes to strings in statements like:

```
string $str = foo.str
```

##### Workaround

Use this instead:

```
string $str = `getAttr foo.str`;
```

#### Splitting strings tip

In MEL scripts, do not split strings across lines without using a line continuation character '\'.

For example:

```
button -label "Make
    a sphere";
```



is incorrect. However,

```
button -label "Make \  
    a sphere";  
is correct.
```

### Sourcing MEL scripts with unterminated C-style comment

Sourcing a MEL script that has an unterminated C-style comment (/\* comment \*/) will cause Maya to go into an infinite loop and must be killed by the operating system.

#### Workaround

Use C++-style comments (// comment) instead of C-style comments or ensure that all of your C-style comments are properly terminated by the closing "\*/".

## **18 | Maya commands**

**Release notes** > Maya commands limitations

# 19 File formats

## Release notes

### File formats limitations

#### (Mac OS X) Supported file formats

In Maya, you can render to all QuickTime file formats. This does not include GIF, which is supported on IRIX and Windows.

You can import the following file types:

Maya MEL (.mel)	OBJ (*.obj)
Maya ASCII (*.ma)	audio (*.wav, *.aiff, *.mp3, *.snd2, *.au)
Maya binary (*.mb)	EPS (*.*)
image (all QuickTime formats)	ILL (*.*)
	MOV (*.*)

#### Note

Many other file types are now available by using translators with Maya (DWG, IGES, Studio wire files, etc.). Please see the Maya Help for full details.

#### mayaAscii and mayaBinary file formats preserve information

The mayaAscii and mayaBinary file formats are the only ones that preserve all the information contained within your scene. Setting the output format for an export using the Export Options box will change your default export format for the current and subsequent export operations. If you set the output format to something other than mayaAscii or mayaBinary and export using that format and then quit without saving the entire file then you can lose data.

#### Workaround

Always check the export type in the export file browser to ensure you are writing the file using the expected file format.

#### 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

## 19 | File formats

### Release notes > File formats limitations

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.

#### 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.

#### Export selection and sets limitation

When using export selection, any sets that contain the selected objects will not be exported.

##### Workaround

To preserve any sets that contain the selected objects, you must also manually add the corresponding set nodes to the selection list.

For example, to export two spheres (named nurbsSphere1 and nurbsSphere2) contained in a set named set1, use the "select -ne" command to add set1 to the selection list before exporting:

```
select nurbsSphere1 nurbsSphere2;  
select -tgl -ne set1;
```

#### Error when saving and exporting files

If a file is saved and then a file with the same name is exported using a different type, attempting to open the exported file will result in an error.

##### Workaround

Manually set the type of the file to be read in or do a File > New Scene first.

#### Changing project options using the workspace command

When you change any project options using the workspace command, you must use the -s flag before the changes will be saved. Background processes, such as the Batch Renderer, use the saved values when searching for or saving files. If you do not use the -s flag, Maya will display the following error message when you render:

```
//Warning: Image file cannot be output.Check the file  
permissions//
```

**Maya can crash when unloading plug-ins**

Maya can crash if a plug-in is unloaded and a script that calls that plug-in is executed.

**Workaround**

Do not unload plug-ins unless you are sure that they are not longer used by Maya.

**File commands saved from the menu bar**

File commands saved from the menu bar to the shelf do not save all of their settings from the option windows.

**Workaround**

Type the complete command in the script window and drag it to the shelf.

**File names with quotation marks cause problems**

Maya will generally have problems with file names that have quotation mark characters in their names. For example:  
TheQuoted"Word".ma.

**Workaround**

Rename the file with single quotes or some other character in place of the double quotes. For example: TheQuoted'Word'.ma.

**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**

Due to architectural changes that were made to file referencing in Maya 6.5 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 containing references in Maya 6.5. If any issues are still encountered, the following workaround may assist in resolving backwards compatibility issues.

## 19 | File formats

### Release notes > File referencing limitations

#### Workaround

Open the file in Maya 6.0, unload all the file references, save, and then re-open the file in Maya 6.5.

#### Proxy references do not support renaming prefixes in Maya 6.5

Renaming prefixes do not work with proxy references for name clash resolution.

#### Workaround

Use the namespace option when working with proxy references.

#### Users must manually check for unique names when renaming proxy tags in Maya 6.5

Additional work is required to rename proxy tags within Maya.

#### Workaround

Each proxy in a proxy set must have a unique tag in order for the proxy to work properly. While the Attribute Editor allows you to change the tag, it doesn't check that the new name is unique. The following steps describe how to find and assign a unique name for a proxy tag.

- 1 Identify your proxy manager's name from the Reference Editor. For example, *myPM*.

- 2 Get a list of the reference nodes in the proxy set:

```
string $refNodes[] = `listConnections -type reference  
myPM.proxyList`;
```

- 3 Create an array of all the tags in those reference nodes

```
int $refIndex = size($refNodes);  
string $tags[];  
while( $refIndex-- > 0 ){  
    $tags[$refIndex] = `getAttr ($refNodes[$refIndex] +  
    ".proxyTag")`; }  
}
```

- 4 Manually rename the desired tag making sure that the new name is not one of the elements of \$tags. You can do this in the Attribute Editor or by typing the following:

```
setAttr -type "string" myRN.proxyTag "myNewUniqueTag";
```

#### 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 global settings.

Maya does not correctly distinguish between the shared nodes that exist for mental ray Render Global 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 Global Settings that result will depend on the last reference that gets loaded.

#### Workaround

- In Maya, set the same Render Global 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 Global Settings prior to rendering.

#### Instancing referenced objects or referencing instanced objects may cause shading network disconnection on subsequent loading of the reference

Shading network connections may become broken when loading and unloading instanced references or when saving reference edits from an object when the object has been instanced.

#### Workaround

Reference the scene multiple times or copy the reference instead of instancing it. You can also create a script that reassigns your materials automatically. .

#### Optimize Scene Size limitation with file referencing

If you optimize a parent scene file containing file references that are unloaded, data loss may result, especially if nodes from the referenced files have been parented or grouped individually, or had shaders and materials that were only used for referenced objects

#### Workaround

If you want to optimize a scene containing file references, optimize the individual referenced files first, then optimize the parent file with the references loaded.

When a reference is locked, animation on compound attributes,

## 19 | File formats

### Release notes > File referencing limitations

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 accidental selection.

### 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..

### Scenes where an existing file reference contains animation and deformers and additional animation gets added to the reference in the parent scene may not evaluate completely when a reference is first loaded

In some situations when referencing a file with deformers and additional animation, the scene may not evaluate completely when the reference is loaded. As a result objects may not animate or appear in an incorrect position.

#### Workaround

Using the `dgdirty` MEL command will force Maya to recalculate the dependency graph for the scene. Doing a `dgdirty -a` will set all plugs to be dirty.

### 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 cases 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.
- Using namespaces and you apply an edit to a node with a unique name and then you add more nodes with the same name to the referenced file.

**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**

## 19 | File formats

### Release notes > File referencing limitations

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.

#### Saving reference edits with instances limitation

Saving reference edits on file references that have been instanced within the parent scene may result in the objects not being parented correctly.

**Workaround**

Save any reference edits to the referenced file prior to instancing. Alternatively, you can remove any existing instances prior to saving reference edits and then re-instance the objects. You can also create a temporary reference to the file that you want to modify, save the edits on that reference, and then reload the instanced reference.

**Saving reference edits with multiple parenting operations limitation**

Saving reference edits on scenes that contain multiple parenting in or parenting out connections when the parent scene nodes are parented into the same file reference or a different file reference may result in the DAG hierarchy no longer being correct.

**Workaround**

Save reference edits prior to doing any complex parenting operations or temporarily unparent the nodes. Alternatively, you can create a new temporary reference to the file you want to modify, save the edits on that reference, and then reload the reference that contains the multiple parenting operations.

## **19 | File formats**

**Release notes** > File referencing limitations

# 20

## 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.

## **20 | Utilities and peripherals**

**Release notes** > RIB Export limitations

# 21

# API and Devkit

## Release notes

### API and Devkit limitations

The following lists limitations and workarounds for the API and Devkit for Maya 6.5. We also recommend that you read the *API guide* documentation before attempting a major project using your Maya.

#### (Windows only) Maya plug-in wizard for Windows can sometimes create bad projects

It's possible for the Maya plug-in wizard to successfully get a bad vendor string from the registry. When this happens, the bad string will be inserted into the generated code and can make the .cpp look like binary instead of text.

##### Workaround

To solve this problem, enter a proper string for the vendor when prompted by the plug-in wizard.

#### 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.

#### MArgDatabase::getFlagArgument() does not work correctly

The method MArgDatabase::getFlagArgument() does not work correctly other than with an index of 0. Use the getFlagArgumentList() method instead.

#### 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.

## 21 | API and Devkit

### Release notes > API and Devkit limitations

#### MFnNurbsSurface::isFlipNorm() limitation

The method MFnNurbsSurface::isFlipNorm() can be used only on trimmed surfaces.

##### Workaround

Use the method MFnNurbsSurface::isTrimmedSurface() in your code to detect if the surface is trimmed before using the method.

#### 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.

#### MltMeshPolygon limitation

MltMeshPolygon::getArea does not work in World Space. The Object Space area is always returned.

##### Workaround

Use MltMeshPolygon::getTriangles to get the triangles in World Space; then calculate the areas of the triangles and sum them

#### 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.

#### MSyntax::makeFlagMultiUse() limitation

The method MSyntax::makeFlagMultiUse() currently has no effect.

##### Workaround

In a future release of Maya, related methods will be exposed on MSyntax which will make it possible to use the method.



**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
```

**MltSurfaceCV limitation**

The NURBS surface CV iterator, MltSurfaceCV, will ignore the useURows argument if a non-null component argument is passed into either the constructor or reset methods. In this case the iteration will occur in the order that the CVs occur in the component.

**Workaround**

The useURows flag will only be used if the iteration is to occur over the entire surface and hence no components or a NULL component are specified.

**MPxGeometryData.h on IRIX**

When compiling with the file MPxGeometryData.h on IRIX you will see the following warnings:

```
"MPxGeometryData &MPxGeometryData::operator=(const
MPxGeometryData&)" does not match "MPxData::operator="
-- virtual function override intended?
virtual MPxGeometryData& operator =( const MPxGeometryData& )
= 0;
```

**Workaround**

You can safely ignore these harmless warnings.

**MFnMesh::getConnectedSetsAndMembers limitations**

The method MFnMesh::getConnectedSetsAndMembers will fail if the function set is initialized with an MObject of type kMeshData. This means it cannot be used in the compute function of a user-defined node on a input mesh attribute.

**Workaround**

Initialize MFnMesh with either a DAG path or the mesh shape node of type kMesh.

## 21 | API and Devkit

### Release notes > API and Devkit limitations

#### Cannot add or remove menu items from a torn off menu

Menu items cannot be added to or removed from a menu that has been torn off (Maya may produce a fatal error).

##### Workaround

Do not add/remove items from a menu that has been torn off, or make sure that if menu items need to be added or removed dynamically, the menu cannot be torn off. To do this, set the *tearoff* flag for the menu to false.

#### Linking plug-ins on IRIX

When linking plug-ins, use the compiler flag `-no_transitive_link`. If you do not, the linker will display warning messages, such as:

```
ld32: WARNING 85: definition of symbolName in libOpenMaya.so  
preempts that definition in libShared.so.
```

In addition, using `-no_transitive_link` greatly decreases the amount of time it takes to complete the link. The Makefile in the example plug-in directory demonstrates a method for doing this.

#### loadPlugin command restriction

Do not include the *loadPlugin* command in the same script that uses the contents of a user-defined command plug-in. This is because the MEL parser parses the entire script before executing any of it. When the script is parsed, the *loadPlugin* command will not yet have registered the command, therefore MEL will not be able to parse it.

##### Workaround

Use one script to load the plug-in and another to use the command it registers. Alternatively, you can use MEL's *eval* statement to wrap the call to the new command. This will delay MEL's parsing of the command until runtime and allow the script to be parsed correctly.

#### 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 *dolt* method is computed during the recompile.

### Auto-loading plug-ins with Maya Live

If you have two or more Maya Unlimited plug-ins marked for autoloading and one of these is Maya Live, Maya may encounter a fatal error on startup if you attempt to render or launch Maya on a system that only has a Maya Complete license.

### Workaround

Edit your prefs file `.../maya/2.5/userPrefs.mel` and delete the three lines that look like:

```
if ( !catch('loadPlugin "mayalive"') ) {
    pluginInfo -edit -autoload true "mayalive";
}
```

### 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 `MSceneMessage::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.

## 21 | API and Devkit

### Release notes > API and Devkit limitations

#### 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.

## 21 | API and Devkit

### Release notes > API and Devkit limitations

#### 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 (e.g. 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.

#### Method MFnAmbientLight::create(MObject Parent)

The method MFnAmbientLight::create(MObject Parent) should return an MObject representing the light shape and set Parent as the lightShape's parent node. This does not happen; instead, a new transform is created and the ambient lightShape is made a child of that node.

**Workaround**

Locate the current parent transform of the returned MObject; delete it; create an instance of MFnDagNode that is set to Parent, and use MFnDagNode::addChild(lightObject) to create the correct DAG hierarchy.

**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.

## 21 | API and Devkit

### Release notes > API and Devkit limitations

#### 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
MStatusget( unsigned& indexReadAndUpdate, MPoint&, unsigned
numElements=3 ) const
MStatusget( unsigned& indexReadAndUpdate, MMatrix&) const
MStatusget( unsigned& indexReadAndUpdate, MIntArray& ) const
MStatusget( 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.

#### MltDependencyGraph 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.

**Using MFileIO::open() and MFileIO::newFile()**

When using MFileIO::open() and MFileIO::newFile() on file open/file new, light linker nodes are not deleted, and these can accrue after repeated uses of these methods.

**Workaround**

To avoid this problem use the equivalent MEL file open and close commands.

**MPXSurfaceShape related problems**

The following lists MPXSurfaceShape related problems for Maya 6.5.

**apiMeshShape example does not support texturing**

The apiMeshShape example does not support texturing. The addition of a texture to a material shader associated with this shape will cause a fatal exception and Maya will exit without saving the file.

**User defined shapes created with MPxSurfaceShape**

User defined shapes created with MPxSurfaceShape cannot support per-components texturing or shading.

## **21 | API and Devkit**

**Release notes** > API and Devkit limitations

# 22

# Documentation

## Release notes

### Troubleshooting the Help server

The Help Server should start automatically after installation of Maya, and is available whether or not you are using Maya. However, if you get a File Not Found error or Can't Find the Server error when trying to view the Maya help, please read this document for troubleshooting tips.

### Was the help installed properly?

Please check in the Maya documentation directory to see if the Maya Help was installed. If there is no content in the following folder, make sure that your installation process happened correctly: you may need to do a custom installation of just the Maya Help. See the printed *Installation and Licensing* guide for details.

- Windows: <Maya install directory>/docs/ ; by default, this is C:\Program Files\Alias\Maya6.5/docs\
- Mac OS X: <Maya install directory>/docs/ ; by default, this is /Applications/Alias/maya6.5/docs/
- Linux and IRIX: /usr/alias/maya6.5/docs

### Starting the Help Server: Windows

If the Maya Help was installed (that is, there is content in the docs directory of your Maya installation, as you determined in the previous step), but the Help Server is not started, do one of the following:

- Go to the Program Group for Maya (Start > Programs > Alias > Maya 6.5) and choose Start Maya Doc Server.
- Go to the Services Control Panel on your computer (Start > Settings > Control Panel > Administrative Tools > Services), and start the Alias Documentation Server, if necessary.
- At the Command Prompt, navigate to the Maya directory (usually, this is C:\Program Files\Alias\Maya 6.5\ ) and then to the docs folder. Type startService.bat.

Please note that you may need to be a PowerUser/Admin Privileged account on your Windows machine in order to start the Alias documentation server service.

## 22 | Documentation

Release notes > Troubleshooting the Help server

### Starting the Help Server: Mac OS X, Linux, IRIX

If the Maya Help was installed (that is, there is content in the docs directory of your Maya installation, as you determined in the previous step), but the Help Server is not started, do the following:

- 1 Open a shell or Terminal window and cd to the location where the Help Server is installed.
  - On Mac OS X, this is `/Applications/Alias/maya6.5/docs`
  - On Linux and IRIX, this is `/usr/alias/maya6.5/docs`
- 2 Start the doc server by typing: `./startdocserver.sh`

### What if I can't start the help server service on Windows unless I'm an Administrator?

This is a known issue with Windows. Refer to the following Microsoft knowledge base articles for information on how to fix this.

[support.microsoft.com/?kbid=256299](http://support.microsoft.com/?kbid=256299)

[support.microsoft.com/default.aspx?scid=kb;EN-US;256345](http://support.microsoft.com/default.aspx?scid=kb;EN-US;256345)

### What if my browser complains that "localhost" is not found? Or searches the Internet for "localhost"? What if the server seems to be running but I can't load any pages from it?

This can happen if your computer is behind a proxy server.

Make sure the proxy configuration for your browser knows that you shouldn't be going through the proxy to access "localhost".

- On Mac OS X, open the System Preferences and click Network, click the Proxy tab and enter `localhost` in the Bypass proxy settings box.
- On Windows, you may need to configure one of the following:
  - In Netscape, choose Edit > Preferences and click Advanced and then Proxies. If you click View next to Manual Proxy Configuration, you can add localhost to the list of Exceptions.
  - In Internet Explorer, choose Tools > Internet Options, click Connections and then LAN Settings. If you click Advanced, you can add localhost to the list of Exceptions.

You can also try using your computer's DNS name or IP address instead of localhost. In Maya, choose Window > Settings/Preferences > Preferences and click Help. Set Help Location to Remote and enter `http://<your computer's name or IP address>:4448/Maya6.5/en_US/`.

## (IRIX) What if I can't get the Maya Docs Server to work with my version of Java?

If you have problems getting the Maya Docs Server to work with your version of Java (IRIX), then you can modify `startDocServer.sh` and enter the full path to your Java executable. See detailed instructions below.

### To avoid updating the version of Java:

- 1 Open `swmgr` with the Maya 6.5 IRIX CD-ROM as the dist source.
- 2 Click the Custom Installation button, then select and deselect the software components you require. For example, deselect the Java component if you already have a version of Java on your system that you want to use.

After installing the Maya Documentation Server and Maya 6.5 (English) Documentation, you need to configure it to use your copy of Java.

### To configure Maya to use your copy of Java:

- 1 In a text editor, open the file:  
`/usr/aw/maya6.5/docs/startDocServer.sh`
- 2 Find the PLATFORM case structure, and under "IRIX\*"), remove the if-then-else structure, and replace it with a definition with the path to your Java installation, for example:

```
JAVACMD=<path-to-your-java>
```

Alternately, you can add another "elif" branch to the existing if-then-else structure containing your definition, rather than replacing all of the structure.

\* If you have trouble with this, make sure you have the correct, full path to your installed Java executable.

### To help in debugging problems:

Run the script as:

```
sh -x /usr/aw/maya6.5/docs/startDocServer.sh
```

where `-x` invokes the shell program in verbose mode.

Also see the files:

- `/tmp/MayaDocServer.err`
- `/tmp/MayaDocServer.log`
- `/tmp/MayaDocServer.pid`

The latter two files may not exist if the server did not start.

### What if I still can't view help from the help server? What if the Web server won't start?

There are a few other conditions that may prevent the help server from starting:

#### Port issues

The Help Server may not start if another network service on your machine has already claimed port 4448. You can make the Maya help server use a different port number by editing docs/port.txt under the main Maya folder.

The Help Server may not start if another copy of the Help Server is still running on the same port. Try opening a page from the server in a browser (for example `http://localhost:4448/Maya6.5/en_US/`) to see if this is the case.

Certain Internet security and anti-virus software (such as ZoneAlarm and Norton Internet Security) may block software from using http ports on your system. The software may pop up a query window, asking you to allow the Help Server to use port 4448, or it may block the use of the help server without giving you a status message. You can configure your security software to allow access through port 4448. See your security software documentation for details.

#### Windows Misconfiguration

On Windows, the Maya help server runs as a network service, and Maya uses the net start and net stop commands to control it. It is possible for Windows to be misconfigured to the point where these commands are not available on the command line. To test this, open a command window and type `net start aliasdocserver`. If the computer responds that the net command is not a command, you need to fix your system paths to include the directory with the net command.

#### No Mac TCP/IP settings

If your Macintosh is not yet set up to use a TCP/IP network, the Help Server will not run. You can get around this limitation by manually configuring a loopback network with the following values:

IP Address: 192.0.0.100

Subnet Mask: 255.255.255.0

Router: 192.0.0.1

### Old help servers

On Mac OS X, IRIX, or Linux, you may get a condition, especially after uninstalling and reinstalling, where an old help server is still running and unable to serve content. Find the server process in the process list (grep for java and/or lucene) and kill it, then restart Maya.

### How do I shut down the help server?

On Mac OS X, Linux, or IRIX, do the following:

- 1** Open a shell or terminal window and cd to the location where the Help Server is installed.
  - On Mac OS X, this is /Applications/Alias/maya6.5/docs
  - On Linux and IRIX, this is /usr/alias/maya6.5/docs
- 2** Stop the doc server by typing: `./stopdocserver.sh`

On Windows, do one of the following:

- Go to the Control Panel, double-click Administrative Tools, then open Services. Right-click the Alias Documentation Server line and choose Stop.
- Open a command window and type `net stop aliasdocserver`.
- At the Command Prompt, navigate to the Maya directory (usually, this is C:\Program Files\Alias\Maya 6.5\ ) and then to the \docs folder. Type `stopService.bat`.

To view the Maya Help again, you must restart the help server. See "Starting the Help Server: Windows" on page 163 or "Starting the Help Server: Mac OS X, Linux, IRIX" on page 164.

### Shutting down the help server when you quit Maya

By default, the help server stays active whether you are working in Maya or not. You can choose to shut down the service when you quit Maya by setting the `shutDownDocServer` option variable. If the value is set to 1, the help server stops when Maya quits. If the value is set to 0, the help server runs whether or not Maya is running.

Do one of the following:

- Edit the value for `shutDownDocServer` variable in your `userPrefs.mel`, then start Maya.
- Execute one of the following MEL commands in Maya:

```
optionVar -iv "shutDownDocServer" 1;
optionVar -iv "shutDownDocServer" 0;
```

## Viewing the online help without using the help server

Please note before you begin: if you read the help outside the Maya help server, search is not available. For this reason you may want to consider using a centralized Maya help server instead of moving the help onto a different Web server.

The Maya help server reads the online help from inside Zip files. In order to read the help files directly from the filesystem or from a Web server other than the Maya help server, you need to unzip the help content.

- 1** Stop the Help server. See "How do I shut down the help server?" on page 167.
- 2** Under the main Maya folder, go to `docs/Documents/Maya6.5/en_US`. This folder contains the online help content.
- 3** Unzip all the zip files into directories with the same names. For example, put the contents of `Painting.zip` into a directory called `Painting/`.  
Make sure you don't accidentally create a structure like `Painting/Painting/`.
- 4** Copy the contents of the `misc/no_server` directory of your help system to the root of your help system (that is, `docs/Documents/Maya6.5/en_US`).
- 5** Rename `index.html` to `index.old.html`.
- 6** Rename `index_no_server.html` to `index.html`.
- 7** Once you have unzipped the files and set up the `no_server` index files, you can move your help system to a Web server, or leave the files where they are if you just want to be able to read them directly from the file system without using a server.
- 8** Open Maya and choose `Window > Settings/Preferences > Preferences`. Click `Misc`. Under `Help Location` click `Remote` and enter the URL of the help's new location, either the URL of the directory on the Web server or a file: URL pointing to the docs directory. For example:

```
file://C:/Program Files/Alias/Maya6.5/docs/Documents/
Maya6.5/en_US/
```

```
file:///usr/aw/maya/docs/Documents/Maya6.5/en_US/
```

```
http://helpserver:4448/Maya6.5/en_US/
```



## Netscape errors to the console

Netscape errors to the console when using Maya help are usually a result of an improperly installed version of Netscape or multiple installed versions. Common error messages are:

```
usage: xprop [-options ...] [[format [dformat]]  
atom]
```

or

```
Can't find Lock file!
```

### Workaround

Make sure the shell command *which netscape* returns the intended version. If not, modify your PATH environment variable so the intended version is correctly located.

## Essential skills movies require QuickTime 6.5

To view captions in English properly in the Essential skills movies, QuickTime 6.5 must be installed. Previous versions of QuickTime may display the movies correctly, but may not display the captions properly. Please upgrade to QuickTime 6.5X if you experience any problems viewing the movies.

## Essential skills movies Japanese captions

Some Japanese captions may not display properly on Windows operating systems with QuickTime-J 6.5X. This was a known issue with Apple QuickTime on Windows when Maya 6.5 was shipped.

## **22 | Documentation**

**Release notes** > Essential skills movies Japanese captions

# Index

## Numerics

2D fluid	
surface render .....	109
2d motion blur .....	69
3D Paint .....	59
3D Paint Tool	
texture placement .....	61
3D paint, multiple surfaces .....	60

## A

aim direction, instances .....	54
Alpha channel display problem .....	68
Animation	
Graph Editor .....	30
path .....	31
Playblast .....	29
preview .....	29
Apply Fog in Post, IPR .....	81
articulations .....	123
Artisan .....	59
color feedback .....	59
Artisan .tif format	
texture files .....	59
Attach Surfaces .....	39
Attribute Editor	
hotkeys disabled .....	22
interactive performance .....	22
attribute maps	
exporting, from NURBS surfaces .....	59

## B

batch render .....	34
Blind Data limitations .....	50
brush stroke off .....	65

## C

callbacks .....	24
camera depth output .....	63
canvas wrapping .....	63

casting shadows	
Paint Effects .....	65
Cleanup	
Polygons .....	48
clips, relative .....	31
Cloth .....	89
color resources	
setting .....	126
coloring polygons .....	48
Command Shell removed .....	130
commands .....	135
Component Editor .....	54
component selection, shaded mode .....	116
components	
selecting with Lasso Tool .....	24
convert fluid to polygon .....	109
cursor	
display problems .....	127
curve on surface	
extend .....	39
using project curve or intersect surfaces .....	39
CVs	
snap mode .....	35
cycle checking .....	117

## D

deformer set	
weight field .....	34
deformers .....	34
depth buffer	
surface fluid .....	108
depth buffer visual	
Odyssey graphics card .....	115
depth map shadows	
for volumes .....	76
desktop	
dragging and dropping from .....	125
Device Editor .....	130
device editor .....	32
dragging and dropping from the desktop .....	125
Duplicate .....	118
duplicate objects, duplicated layers .....	116

## Index

Dynamics. . . . . 51

## E

Edit option menu . . . . . 23  
Edit options  
    when character current . . . . . 29  
emitters . . . . . 53  
Enum values . . . . . 23  
exporting  
    include and link statements . . . . . 72  
eye points . . . . . 123

## F

Fast Interaction  
    painting with . . . . . 61  
feedback from IPR . . . . . 81  
field callbacks . . . . . 24  
Field Rendering . . . . . 69  
    Paint Effects . . . . . 64  
fields. . . . . 53  
file formats . . . . . 139  
file referencing  
    particle expressions . . . . . 53  
    UV values . . . . . 119  
file textures . . . . . 123  
file transfer . . . . . 130  
files  
    referencing or importing . . . . . 118  
flipping edges . . . . . 48  
flow  
    lattice . . . . . 31  
flow effects  
    units . . . . . 52  
Fluid Effects . . . . . 69, 105  
fluid texture placement  
    spot light . . . . . 108  
fonts  
    changing . . . . . 126  
Freeze Transformations. . . . . 123  
    Paint Effects . . . . . 64  
ftp file transfer . . . . . 130

Fur . . . . . 69, 97

## G

GNOME. . . . . 124, 125  
Graph Editor. . . . . 30  
graphics card, Odyssey . . . . . 115  
grid  
    perspective view . . . . . 22

## H

hardware overlays  
    color differences. . . . . 125  
hardware rendering  
    motion blur . . . . . 54  
history  
    construction . . . . . 48  
hotkeys disabled  
    Attribute Editor . . . . . 22  
Hypershade . . . . . 128

## I

IK Solver . . . . . 34  
image plane, display options  
    IPR . . . . . 81  
image size . . . . . 132  
importing files . . . . . 118  
include statements  
    exporting. . . . . 72  
influence object  
    smooth skin . . . . . 35  
input connections  
    listing. . . . . 128  
instancing . . . . . 54  
interactive performance  
    Attribute Editor . . . . . 22  
Interactive Photorealistic Rendering. . . . . 69  
interface. . . . . 21  
inverse kinematics . . . . . 33  
IPR . . . . . 69  
    stroke shadows . . . . . 63

- IPR rendering . . . . . 80
- Isolate Select
  - Subdivision Surface vertices, edges . . . . . 25
- J**
- joints
  - mirroring . . . . . 34
- K**
- KDE . . . . . 127
- key tangents . . . . . 30
- known limitations . . . . . 69
- L**
- lamina faces. . . . . 48
- Lasso Tool . . . . . 24
- lattice
  - flow . . . . . 31
- Level of Detail. . . . . 49
- light fog . . . . . 120
  - depth map shadows . . . . . 76
- light glow . . . . . 69
- light linking. . . . . 63
- light point . . . . . 123
- light sources . . . . . 123
- limitations . . . . . 69
- line endings. . . . . 130
- linear units . . . . . 23
- link statements
  - exporting . . . . . 72
- Linux . . . . . 124, 125
- LOD . . . . . 123
- M**
- Make Copy Soft
  - Duplicate. . . . . 53
- mapping project directories
  - Windows 2000 . . . . . 119
- marquee
  - disappears. . . . . 24
- Maya 4.0.3 . . . . . 123
- Maya Live pointblasts. . . . . 127
- MayaScheme file
  - changing fonts . . . . . 126
- menu
  - nothing happens when posting. . . . . 127
- menus, tear off . . . . . 22
- Mesh brush
  - canvas wrapping . . . . . 63
- Metacity. . . . . 127
- mirrorJoint command . . . . . 33
- modeling
  - NURBS . . . . . 39
- motion blur
  - hardware rendering . . . . . 54
- motion capture . . . . . 32
- movie files . . . . . 127
- MTL textures
  - OBJ. . . . . 123
- multi attributes
  - partial presets. . . . . 109
- multiple processors
  - fluid rendering. . . . . 108
- N**
- naming conventions
  - limitations. . . . . 131
- Netscape errors . . . . . 169
- Netscape, for IRIX . . . . . 118
- Node Caching
  - hardware display. . . . . 108
- node1 output
  - connecting to node2 input . . . . . 128
- noise
  - volumetric objects . . . . . 110
- non-manifold geometry . . . . . 48
  - painting. . . . . 60
- normals . . . . . 123
- NURBS. . . . . 39

## Index

NURBS surface  
    rendering . . . . . 117

## O

Odyssey graphics card  
    depth buffer visual . . . . . 115  
optical effects . . . . . 69  
option submenus  
    display problems . . . . . 127  
orthogonal views  
    painting in. . . . . 63  
overlays  
    color differences. . . . . 125

## P

Paint Effects . . . . . 59, 69  
panel contents  
    disappear . . . . . 24  
panels, tear off . . . . . 23  
parented objects . . . . . 117  
particle effects. . . . . 69  
particles  
    surface emitter . . . . . 53  
passive rigid body . . . . . 52  
path  
    Animation. . . . . 31  
pathnames  
    symbols in. . . . . 132  
performance . . . . . 129  
pixels redrawn off  
    Paint Effects . . . . . 65  
Playblast . . . . . 127  
    escape limitation . . . . . 29  
playblast . . . . . 29  
Polygon Proxy Mode. . . . . 41  
polygonal objects  
    color per vertex animation . . . . . 48  
poses. . . . . 30  
preferences . . . . . 118  
Preferences...Interface Show Title Bar. . . . . 126

Presets  
    old . . . . . 110  
    uninstalling. . . . . 110  
preview  
    Animation. . . . . 29

## R

raytraced shadows  
    translucence limitation . . . . . 83  
referencing files . . . . . 118  
Render Layer  
    rendering issue. . . . . 87  
Render menu  
    tearing off . . . . . 73  
render type . . . . . 55  
Render View . . . . . 81  
rendering large images . . . . . 132  
Revolve . . . . . 55  
revolved surface. . . . . 117  
RGBA double buffered . . . . . 115  
rigid body . . . . . 52  
    default rotation order . . . . . 53  
    with negative scales and non-zero pivot points  
        54  
rotate pivot . . . . . 54  
rotation and translation limits . . . . . 23  
running Maya  
    maximized, Windows 2000 . . . . . 25

## S

scaling objects  
    Paint Effects . . . . . 64  
ScreenSpace Width. . . . . 65  
script filters . . . . . 116  
scripts  
    playing back, Paint Effects . . . . . 64  
selection marquee  
    disappears. . . . . 24  
self shadowing  
    fluid rendering. . . . . 108  
Set Driven Key . . . . . 33

setInputDeviceMapping -view .....	32
SGI color schemes .....	126
shaded mode, component selection .....	116
shader	
changing assignment .....	61
shader assignment, loss of .....	118
shader glow. ....	51, 69
shading group connections	
editing .....	116
shell key, UNIX .....	116
Shift-Ctrl-Alt	
Linux substitution for .....	127
skeletons .....	33
Skinning	
Subdivision Surfaces .....	41
smooth skin	
influence object .....	35
snap mode	
CVs. ....	35
soft body .....	54
stroke shadows	
IPR .....	63
stroke, near edge of frame .....	64
studioImport. ....	120
Subdiv selection map	
importing .....	59
Subdivision Surface vertices, edges	
Isolate Select .....	25
surface emission	
trimmed surfaces .....	51
symbols .....	132
synchronized keys, channels .....	28
Synchronized quaternion curve. ....	28

## T

tear off menu	
Render menu .....	73
tear off menus. ....	22
tear off panels. ....	23
tear-off menus. ....	22
Texture Coordinate Method. ....	108

texture files	
Artisan .tif format .....	59
textured lights .....	120
textures	
3D Paint Tool .....	65
larger than 512 .....	60
texturing polygons. ....	48
ThinLine brush. ....	63
tips .....	76
tomac .....	130
topology	
changing .....	36
tounix. ....	130
track planes. ....	123
transform, with multiple surfaces .....	117
transformation	
Paint Effects .....	64
translucence	
raytraced shadows .....	83
Transparent Blob .....	53
TraX .....	30
clips .....	30

## U

UI .....	21
UNIX	
interactive performance .....	22
transferring files to .....	130
UNIX shell key .....	116
unsupported features .....	69
upstream graph limitation .....	55
user interface .....	21
UV sets, switching .....	61
UV Texture Editor .....	41
selecting UV vertices. ....	41
UV values	
file referencing. ....	119

## V

view plane	
painting on .....	63

## Index

Visor.....	30
brushes .....	63
volumes	
depth map shadows .....	76

## W

window contents	
disappear .....	24
Windows	
transferring files to .....	130
windows	
disappearing.....	127
no initial height or weight .....	125
readability or visibility problems.....	125
Windows 2000	
mapping project directories .....	119
running Maya, maximized.....	25
Windows XP .....	22
Windows/Settings_Preferences .....	126
wireframe	
fluid .....	109
worldVelocity attribute.....	54
wrap deformer .....	35, 36
wrapping, scene or canvas	
Paint Effects .....	63

## X

X resources	
modifying .....	126
xfontsel command .....	126
xlsfonts command .....	126
Xsgi process	
uses a lot of memory (IRIX) .....	118

## Z

Z-up environment	
Paint Effects .....	64