

Autodesk®
Maya®

2011



Autodesk®

Release Notes

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Autodesk® Maya® 2011 Software

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Introduction

1

Autodesk Maya 2011 release notes

The Maya 2011 release notes contain known limitations and workarounds for Maya and is organized into chapters according to Maya's functionality.

NOTE We want to hear what you think of Maya 2011. Tell us what you like and tell us what we can improve to make your Maya experience better. Visit www.autodesk.com/maya-support and click **Maya 2011 Feedback**.

For release notes related to Maya 2011 in a suite, see:
www.autodesk.com/entertainmentcreationsuites/documentation-Maya_AECSuite_ReleaseNotes_2011.pdf.

To find out what we fixed this release, see the following:

- [What's fixed in general](#) on page 3
- [What's fixed in Assets](#) on page 5
- [What's fixed in Modeling](#) on page 5
- [What's fixed in Animation](#) on page 6
- [What's fixed in Rendering](#) on page 6
- [What's fixed in Artisan, 3D Paint, and Paint Effects](#) on page 7
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- [What's fixed in API](#) on page 10
- [What's fixed in Scripting](#) on page 11
- [What's fixed in Python](#) on page 11
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What's fixed in Autodesk Maya 2011

2

What is What's Fixed?

In Autodesk® Maya® 2011, 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 in Autodesk Maya* in the *What's New in Maya* guide.

The following sections list the software limitations that were fixed in Maya 2011.

What's fixed in general

The following lists general limitations that were fixed in Maya 2011.

Bookmarking directories in the file browser

In previous versions of Maya you could not bookmark specific directories from the file browser. This functionality has been added to the new file browser.

Clicking on torn-off Hypershade menu causes Maya to quit unexpectedly

In previous versions of Maya, attempting to tear off a menu from the Hypershade window, and then clicking a menu item in that torn-off menu, caused Maya to quit unexpectedly. This has been fixed.

FTI vector icons do not appear correctly in the Hypershade

In previous versions of Maya, FTI vector icons appeared non-square in the Hypershade window. This has been fixed.

Attempting to place 40000 objects in the Outliner causes Maya to quit unexpectedly

In previous versions of Maya, attempting to place 40000 objects in the Outliner causes Maya to quit unexpectedly. This has been fixed.

When attempting to open many windows, Maya quits unexpectedly

In previous versions of Maya, attempting to open many windows at the same time on the Windows platform would run into a desktop heap memory limitation, causing Maya to quit unexpectedly, or disallowing the user to open any more windows. This has been fixed.

CER for Mac OS X

You can now file CER reports on the Mac OS X platform. In Mac 32-bit, you must run lipo on the senddmp binary to extract the 32-bit version of the universal binary.

Various display problems with Nvidia GeForce G80/G92 based graphics cards

Previously, when using Maya with an Nvidia GeForce G80/G92 based graphics card, you might have experienced a variety of problems related to screen refreshes. This has been fixed.

Loaded shelves cause scripts to appear twice

Previously, when you loaded a shelf, Maya duplicated every script it contained. This has been fixed.

Speeding up interactive performance on Linux machines

Previously on Linux machines, you could speed up Maya's interactive performance by closing or hiding the Attribute Editor when not in use. The slowdown that made this necessary has now been fixed.

SVG files now supported

Maya now supports the SVG image file format for Hypergraph, Hypershade, and Asset icons.m

(Linux) getModifiers command doesn't work on Linux

Previously on Linux, Maya occasionally did not recognize the Ctrl + click key/mouse sequence. This has been fixed.

Reference edits to custom data no longer stored as a single large string in the reference node

When referencing scenes containing nodes with custom data attributes with large quantities of data, it was possible that reference edits to that data would be stored as a single massive string in the reference node. This large strings could slow down the reading of a MayaAscii file by a factor of 100 or more. This problem has been fixed but to obtain the benefit of the fix you will first have to load and re-save your MayaAscii files.

MayaBinary files are unaffected by the problem.

What's fixed in Assets

The following lists Assets limitations that were fixed for Maya 2011.

Create an asset on top of a nested current asset

In the previous version of Maya, if you attempted to create an asset at the top-level of a current nested asset, Maya froze. This has been fixed.

Include Hierarchy Below not including referenced assets

In the previous version of Maya, if you created an asset and chose to include the hierarchy below (including shapes), Maya did not include referenced assets. This has been fixed.

First loaded template errors always report as Types.template

In the previous version of Maya, a message indicating that Types.template has errors occasionally appeared indicating the first asset template file that Maya tried to load had errors in it. This has been fixed.

What's fixed in Modeling

The following lists modeling limitations that were fixed for Maya 2011.

Automatic mapping does not respect world space

In previous version of Maya, moving an object which had a texture map assigned via Automatic Mapping in perspective view with Hardware Texture mode on caused the texture to shift. This has been fixed.

User defined normals ignored on skinned polygon mesh

In the previous version of Maya, user defined (locked) normals were ignored on a non-uniformly scaled polygon mesh when it was subsequently skinned. This has been fixed.

What's fixed in Animation

The following section lists Animation limitations that were fixed for Maya 2011.

Export animation layers from Maya to MotionBuilder

The FBX plug-in included with Maya now supports the export of Maya animation layers into MotionBuilder.

For more information on the FBX plug-in for Maya and to check for the latest releases of the FBX plug-ins go to <http://www.autodesk.com/fbx>.

Sync problems with long aiff files

A problem that caused synchronization problems when you playblasted sound with large negative offsets has been fixed.

What's fixed in Rendering

The following lists rendering limitations that were fixed for Maya 2011.

Indexed .tga files now load correctly in Maya

Previously, indexed colored .tga files from Photoshop do not load correctly in Maya and appear as black. This has now been fixed.

IMF plug-in support now available with the Hardware Render Buffer.

IMF plug-in support is now available with the Hardware Render Buffer.

Link a stereo camera rig to an existing Maya rig

You can now create a stereo camera rig and use the `proxyRig` attribute to link it to an existing Maya rig. Do this when your stereo camera rig does not contain a camera shape directly beneath the stereo rig root. See `stereoCameraProxyRig.py` in the

...\Python\Lib\site-packages\maya\app\stereo directory for more information.

New example plug-in added

A new example plug-in, lensDistortionCallback, has been added that demonstrates how to enable multiple draw-passes and listen to the pre/post render for each draw-pass.

New shadow map camera available for directional lights

You can now use the shadow map camera to control the area of focus for directional lights. You can enable this camera and set its attributes through the mental ray section of the directional light's Attribute Editor.

mental ray hair rendering with raytracing now improved

For mental ray hair rendering used with raytracing, a new splitting scheme has been implemented. The scheme resolves possible rendering artifacts known from earlier mental ray versions and moderately improves the performance. The MI_HAIR_SPLITTING environment variable is no longer required and has been removed.

Horizontal interlace mode in the stereo camera now works correctly

Previously, on the Windows and Mac OS X platforms, the horizontal interlace mode in the stereo camera has inverted line drawing. This has now been fixed.

Should this problem still occur, a new menu item (Stereo > Swap Interlaced Eyes in the panel menu) has also been added to swap the even-odd/left-right eye convention of the Horizontal Interlace and Checkerboard modes.

Batch render now exits properly upon completion

Previously, if you launch a batch render from within Maya, then launch another after the first one is complete, you may receive a message asking you if you want to cancel the current render. This has now been fixed.

What's fixed in Artisan, 3D Paint, and Paint Effects

The following lists Artisan, 3D Paint, and Paint Effects limitations that were fixed for Maya 2011.

Paint Effects brushes no longer stop working on Windows 7 systems

Paint Effects brushes no longer stop working on systems running Windows 7.

What's fixed in Fluid Effects

The following lists Fluid Effects limitations that were fixed for Maya 2011.

Fluid texture not updating when only connected to outAlpha

Fluid textures not connected to the outColor now update and render properly in mental ray for Maya renderer.

Maya now adds the correct Fluid nCache menu item to the Shelf

Previously, if you tried to add a Fluid nCache menu item to the Shelf by Shift-Ctrl-selecting the item, Maya added a shortcut to the old fluid caching system. Maya now adds a shortcut to the Fluid nCache menu item.

What's fixed in nCloth

The following lists nCloth limitations that were fixed for Maya 2011.

Exclude Collisions on nCloth Transform constraint

Previously, if an nCloth object with a Transform constraint had Exclude Collisions enabled on its dynamicConstraintShape node, any constraints subsequently added to the nCloth object would also apply the exclude collision behavior. This problem has been fixed.

nCloth caching failures with selected objects or Dynamic Relationship editor

nCloth caching no longer fails if you select both an nCloth object and its output mesh, or if the Dynamic Relationships editor is open (which automatically selects the nCloth object and its output mesh) when you nCache an nCloth object.

Connections not created for velocity channels when nCloth objects are cached in same file

You can now cache Position and Velocity of two nCloth objects in the same cache file. This means that you no longer need to make additional connections for the velocity channels or specify the names of the channels you want to

associate with each of the data outputs on the cache node. Note that cache blending of velocity channels is not yet supported.

nCloth caching and settling

Previously, a cached nCloth object that was constrained along one edge would continue to settle after an Append to Cache. This has been fixed.

What's fixed in nParticles

The following lists nParticle limitations that were fixed for Maya 2011.

Assign Solver now assigns orphaned nParticle objects to a Nucleus solver

nParticle objects created without an assigned solver can now be assigned one using the nSolver > Assign Solver menu item.

nParticle self-collisions no longer unstable when Bounce is 0

Bounce values of 0 no longer exaggerate nParticle self-collisions.

Leading frames without nParticles are no longer omitted from nParticle cache

Previously, if you cached an nParticle system in which the leading frames have no particles, the leading frames will not be included in the nCache. This has been fixed.

Error message appears when caching nParticles

No cache file or empty cache file error messages no longer appear when you cache an nParticle system that has no particles in the initial frame of simulation and when you create a cache immediately after starting Maya with newly created preferences.

What's fixed in nDynamics

The following lists Dynamics limitations that were fixed for Maya 2011.

Cached nParticles now collide with nCloth

Previously, if you nCached an nParticle object that collides with nCloth, the nParticles did not collide with the nCloth object when played back. This problem has been fixed.

Combining hidden and visible Nucleus objects

Combining hidden and visible Nucleus objects that are assigned to the same Nucleus solver, no longer causes incorrect simulation playback or performance problems.

What's fixed in API

The following lists API limitations that were fixed for Maya 2011.

Matrix attributes on plug-in nodes now compatible with matrix attributes on built-in nodes

Previously, connections between matrix attributes on plug-in nodes and most of those on built-in nodes (for example `skinCluster.bindPreMatrix`) did not transfer their data correctly. This has now been fixed.

MFnDagNode::fullPathName and MFnDagNode::partialPathName methods are now 'const'.

The `MFnDagNode::fullPathName` and `MFnDagNode::partialPathName` methods are now 'const'.

MGeometryManager now populates data correctly

Previously, when working on a object that hasn't already been cached by the standard viewport drawing code, `MGeometryManager` might not have populated data correctly. This has now been fixed.

MGeometryPrimitive data now remains valid after MGeometry object has been destroyed

Previously, the index data in an `MGeometryPrimitive` object returned by `MGeometry::primitiveArray` would be destroyed when the corresponding `MGeometry` object was destroyed. Now it will remain valid until the `MGeometryPrimitive` object itself is also destroyed.

MFnMesh output statements now fixed

Previously, when using `MFnMesh` to create a mesh and add color info to it, the console would be flooded with output statements. This has now been fixed.

MTimerMessage::addTimerCallback() modified

MTimerMessage::addTimerCallback() has been modified such that it no longer requires that Maya's idle queue run continuously. As such, the sleepCallback() and setSleepCallback() methods are no longer needed. They have been deprecated and will be removed in a future version of Maya.

Also, the problem with timer callbacks firing as soon as they were added has been fixed. The first firing of the callback will now occur after the specified period has elapsed. If you had previously worked around the old behaviour by always skipping the first firing of the callback, you should remove that workaround.

What's fixed in Scripting

The following lists Scripting limitations that were fixed for Maya 2011.

attrControlGrp command now produces error as expected

The attrControlGrp command used to, incorrectly, allow an existing two-value vector control to be attached to a three-value vector attribute, and vice versa. This has now been fixed and will produce an error.

What's fixed in Python

The following lists Python limitations that were fixed for Maya 2011.

Calling a Python subprocess within a Qt application no longer produces exception

The subprocess module included with Maya has been patched so that various operations are restarted on EINTR. This works around an exception which sometimes appears as "OSError: [Errno 4] Interrupted system call". The original file is included as subprocess_original.py. See Python issue 1068268.

Spurious memory leak warning removed

The type of Python API callback ID objects returned by methods such as MSceneMessage::addCallback has been changed to fix the spurious warning "swig/python detected a memory leak of type 'MCallbackId *', no destructor found." Calls to the 'disown' method on the object will now raise an exception and so should be removed.

Undo now works as expected for commands executed in a Python callback

Commands executed in a Python callback are now treated as a single undo chunk.

Python setattr command for attributes of type 'vectorArray' now accepts vector tuple arguments

The Python setattr command for attributes of type 'vectorArray' has been fixed to accept vector tuple arguments only. The previous workaround of including extra arguments between each vector tuple is no longer correct.

setattr command for 'matrix' type now fixed

The Python setattr command for 'matrix' type has been fixed. You can now set matrix values correctly using the setattr command.

Python execution of scripted plug-in commands with multi flags now fixed

Multi flags for scripted plug-in commands are now usable from python.

changeCommand callbacks now passed booleans

Previously, changeCommand callbacks (for example, for the checkBoxGrp and radioButtonGrp commands) were being passed strings (u'true' and u'false'). This has now been fixed and these callbacks are passed booleans.

What's fixed in Documentation

Page-internal links broken in Online Help on Safari and Firefox

In the previous version of the Maya Help, attempting to click a link that led to a heading on the same page didn't work in Safari or Firefox. This has been fixed.

(Linux) FBX Help does not launch

In the previous version of Maya, the FBX Help did not launch correctly when you select Help > Autodesk FBX Help from the main menu bar in Maya. This has been fixed.

(Windows) Microsoft Internet Explorer blocks help content

In previous versions of Maya, Internet Explorer blocked the default HTML pages unless you clicked a warning message and selected Allow Blocked Content. This has been fixed.

Installation and Licensing

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General installation limitations

The following limitations and workarounds relate to installation and licensing issues.

(Windows 64-bit) FLEXnet License Finder fails to find network license

When running Maya on a Windows 64-bit operating system using a network license the FLEXnet License Finder window opens to allow you to identify a suitable license server. This occurs when the client's license file doesn't exist, the server's lmgrd is not running, or the license server cannot be found.

Despite entering the server information in the required fields, Maya does not launch successfully and multiple error messages are displayed in succession.

Workaround

Manually edit the client license file on the client machine and add the license server name. For example:

```
SERVER maya-licenseserver 0  
USE_SERVER
```

By default, this file is located at: <drive>:Program
Files\Autodesk\maya2011\LICPATH.lic

Firewall on license server can block client machines

If you have a firewall running on your license server machine, you need to add an exception for adskflex.exe and lmgrd.exe in order to allow client machines to access licenses from your server.

If you receive a networking error when you try to run Maya on a client machine, verify that the license server is running, and make sure that you have set up these exceptions.

(Windows) License server fails on first reboot

If the `lmgrd.exe` process fails the first time you reboot a license server machine after setting it up as a Maya license server, start the license server manually using LMTOOLS.

NOTE Only the first time starting the license server needs to be done manually. On subsequent reboots the license server starts normally.

To manually start the license server

- 1 Select Start > All Programs > Autodesk > Network License Manager > LMTOOLS.
The LMTOOLS window opens.
- 2 Click the Start/Stop/Reread tab and click Start Server.

Deployment limitations

(Windows 7) Deployment installation not supported

The Maya 2011 *Installation and Licensing* guide includes a section on Network Administration and Deployment for Windows systems. Note that deployment to Windows 7 machines is not currently supported.

Network License Manager update

Autodesk Network License Manager (IPv6 Network only)

If you are using a license server in an IPv6 network, you need to install a patch to the Autodesk Network License Manager, otherwise the license server will not work.

To install the patch (Windows)

- 1 Shut down your license server.

- 2 Back up the contents of `..\Program Files\Autodesk Network License Manager`. By default these files are in `C:\Program Files\Autodesk Network License Manager`.
- 3 Download the patch at: <http://www.autodesk.com/nlm2011-ipv6-windows>.
- 4 Unzip the patch and paste the new files over the old ones in `..\Program Files\Autodesk Network License Manager`. (Four files will be overwritten.)
- 5 Restart your license server.
Your license server should now work as expected.

To install the patch (Mac OS X)

NOTE Autodesk Network License Manager IPv6 support is only enabled on 32-bit platforms for Mac OS X.

- 1 Do the following to shut down your license server:
 - Open a Terminal window and navigate to the Autodesk Network License Manger file folder (where `lmutil`, `lmgrd` and `adskflex` are installed). By default, these files are installed in the following directory:
`/usr/local/flexnetserver`.
 - In this folder, enter the following command:
`./lmutil lmdown -c @hostname -q -all -force`
If you don't know the host name, entering the following command in Terminal to locate the name of each server you plan to use:
`lmutil lmhostid-hostname`
- 2 Download the patch at <http://www.autodesk.com/nlm2011-ipv6-mac>.
- 3 Do one of the following to extract the files:
 - Double-click the archive file to extract it into the current folder.
 - Enter the following in Terminal:
`tar -zxvf nlmipv6support_mac32.tar.gz`
- 4 Update the Network License Manager for IPv6 by replacing the original Autodesk Network License Manager file with the newly extracted file.
- 5 Do the following to restart your Network License Manager:
 - Open a shell window, navigate to the Autodesk Network License Manger folder (where `lmutil`, `lmgrd` and `adskflex` are installed).

- In this folder, enter the following command:

```
./lmgrd -c license_file_list -I debug_log_path
```

NOTE It is recommended that you start lmgrd with a non-root user. If you must start lmgrd with a root user, enter the following to run lmgrd as a non-privileged user:

```
su username ./lmgrd -c license_file_list -I debug_log_path
```

(where `username` is a non-privileged user).

Your license server should now work as expected.

To install the patch (Linux)

NOTE Autodesk Network License Manager IPv6 support is only enabled on 64-bit platforms for Linux.

- 1 Do the following to shut down your license server:
 - Open a Terminal window and navigate to the Autodesk Network License Manger file folder (where lmutil, lmgrd and adskflex are installed).
 - In this folder, enter the following command:

```
./lmutil lmdown -c @hostname -q -all -force
```

If you don't know the host name, enter the following command in Terminal to locate the name of each server you plan to use:

```
lmutil lmhostid-hostname
```
- 2 Download the patch at: <http://www.autodesk.com/nlm2011-ipv6-linux>.
- 3 Do one of the following to extract the IPv6 files:
 - Double-click the archive file to extract it into the current folder.
 - Enter the following in Terminal:

```
tar -zxvf nlmipv6support_linux64.tar.gz
```
- 4 Update the Network License Manager for IPv6 by replacing the original Autodesk Network License Manager file with the newly extracted file.
- 5 Do the following to restart your Network License Manager:
 - Open a shell window, navigate to the Autodesk Network License Manger file folder (where lmutil, lmgrd and adskflex are installed).

- In this folder, enter the following command:

```
./lmgrd -c license_file_list -I debug_log_path
```

NOTE It is recommended that you start lmgrd with a non-root user. If you must start lmgrd with a root user, enter the following to run lmgrd as a non-privileged user:

```
su username ./lmgrd -c license_file_list -I debug_log_path
```

(where `username` is a non-privileged user).

Your license server should now work as expected.

Uninstall limitations

(Windows Vista) Uninstall progress bar updates very slowly

When you uninstall Maya 2010 on Windows Vista, the progress bar indicating the status of the uninstall does not move for several minutes. Maya does uninstall properly and the progress bar displays at full completion when the uninstall finishes.

Notes for Beta program participants

The following release note applies only to customers who installed Maya as part of the Maya 2009 Beta program.

(Windows) Maya 2009 Beta licensing files can interfere with Maya 2011 licensing

If you participated in the Maya 2009 Beta program, you may need to manually delete some Beta licensing files before you can install Maya 2011.

The following error message may appear during installation if you have the Maya 2009 Beta licensing files on your machine:

```
1:5:2: adlmPITSetProductInformation failed 3:25.
```

Workaround

If you installed a Beta version of Maya 2009, complete the following steps to ensure the previous licensing files are removed from your system before installing Maya 2011:

- 1 Uninstall any Maya 2009 Beta version.
- 2 Manually delete the following folders:
 - C:\Documents and Settings\All users\Application data\Autodesk\Adlm
 - C:\Program Files\Common Files\Autodesk Shared\adlm\R1

Basic interface

4

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 160
- [Maya for Linux limitations](#) on page 161
- [Maya for Mac OS X limitations](#) on page 165

Some UI files made with Qt Designer 4.6 may not appear correctly in Maya

Some UI files created using Qt Designer 4.6 may not appear correctly in Maya.

Workaround

If you encounter problems, use Qt Designer 4.5.3 rather than 4.6. You can find it at <http://qt.nokia.com/autodesk>.

Holding Control + Shift + Alt and selecting a menu no longer adds it to the current shelf

In previous versions of Maya, you could hold Control + Shift + Alt and click a command to add it to the current toolbar. Now you only need to hold Control + Shift. Holding all three buttons and clicking a command no longer works.

Workaround

Hold Control + Shift and click a command to add it to the current shelf.

Quickly switching between the Hotbox and marking menus causes hotbox to remain onscreen

When switching very quickly between the Hotbox and Maya marking menus, the Hotbox may occasionally remain on screen even after spacebar is released.

Workaround

Press spacebar again to close the Hotbox.

Scroll up button in the Shelf doesn't work like scroll down button does

If you have a shelf that spans more than one line and you click the scroll down button, the shelf scrolls down. However, if you click the scroll up button, the shelf does not scroll up.

Workaround

Hold the mouse button over the scroll up button and drag up. The shelf will then scroll up. Alternatively, press the right-mouse-button over one of the arrows and select Scroll Up from the pop-up menu.

lsUI -dumpWidgets does not list objects of type radioCollection

The lsUI -dumpWidgets command does not list objects of type radioCollection. Although this may not be expected, this is correct behavior as radioCollection objects are not widgets.

Tab Layout in a new window creates a blank tab

Creating a tab layout in a new window results in Maya creating a blank tab and selecting it first, such as in the following script:

```
window;  
tabLayout TAB;  
shelfLayout Anim;  
button;button;button;button  
setParent ..;  
shelfLayout Render;  
setParent ..;  
shelfLayout Misc;  
setParent ..;  
showWindow;
```

Workaround

Put the layout in a `frameLayout` first, and then add the following line of code prior to `tabLayout TAB`:

```
frameLayout -borderVisible 0 -labelVisible 0;
```

Although the blank tab is still present, the non-blank Anim tab is selected by default.

attrColorSliderGroup labels are now right justified

attrColorSliderGroup labels are now right justified by default instead of left justified.

Workaround

Use the `-cal` flag to change justification to left.

Device Editor has been removed from the Maya UI

The Device Editor has been removed from the Maya UI. However, devices are still supported through the API.

Workaround

Use the API commands `deviceEditor` and `deviceManager` to communicate with devices.

File Browser may be slow on some systems

The File Browser may react slowly on certain systems.

Workaround

If you have a floppy drive on your system that is not working, then disable it. If you have a mapped network drive that is unavailable, disconnect it. If neither of these workarounds resolve the slowness, then switch to the OS native browser by selecting `Window > Settings/Preferences > Preferences`. In the `File/Projects` section, under `File Dialog`, set `Dialog style` to `OS native`.

Non-compound numeric multis missing Add New Item button in Attribute Editor

Numeric multis do not have the Add New Item button in the attribute editor. For example, the +/- Average shading node does not have the Add new Item button in the Input 1D section.

Can't drag window width shorter than its largest widget length

If you create a window using the script editor, you cannot shrink that window past its longest (length) widget.

Workaround

Set the width and height of the `columnLayout` to 1 to allow you to resize past maximum widget sizes.

Pressing a hotkey and swiping the mouse at the same time can have unexpected results

If you press a hotkey and move swipe the mouse at the same time, the results may not always be consistent. For example, if you press spacebar to open the Hotbox and swipe at the same time, you may open a Hotbox menu or you may marquee select the object behind the cursor.

Workaround

Leave more time between pressing a hotkey and swiping the mouse to eliminate any ambiguity. Alternatively, try working in smooth-shaded mode to increase your interactive performance. You can also try reducing the texture resolution in the Maya Settings/Preferences to 512 x 512.

Right-clicking to switch focus to a viewport may result in a menu momentarily appearing

If you right-click a viewport to change the focus to it, a menu may momentarily appear, particularly when dealing with larger scenes. This may result in you inadvertently selecting a menu.

Workaround

Map the MEL script `setFocus `getPanel -underPointer`;` to a key and use this key to switch the focus to whichever viewport is under the mouse cursor.

Changing the enable state of layouts does not propagate that state to all children.

If you change the enable state of a layout in Maya, its children do not receive that change automatically. For example, enabling a layout will no longer enable all the buttons in that layout.

Workaround

Change the enable state of each child individually.

Custom menu position inconsistent when switching between menu sets

When you create a custom menu add it to the common menu set using the `menuSet` command, the menu initially appears next to the Help menu. However, if you switch menu sets, the menu changes position next to the Assets menu.

Workaround

If you want the custom menu to stay next to the Help menu, only use the `menuSet` command on Linux in a version of Maya before 2011, otherwise it is not necessary. You could also wrap the `menuSet` command in a conditional statement using the `about -version` and `about -os` commands to retrieve the operating system and Maya version respectively.

Script editor creates spaces instead of tabs

If you press the tab key in the Maya Script Editor, the tab actually consists of a number of spaces. This may make pasting blocks of code created with tabs difficult.

Workaround

Execute the following script”

```
cmdScrollFieldExecuter -e -tabsForIndent 1 cmdScrollFieldExecuter1;
```

This will set tabs in the Script Editor.

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
```

Maya 3D Shockwave Exporter

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

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.

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.

Power saver software causes problems

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

Workaround

Disable power saver software when working with Maya.

Japanese user interface

Some menus in the UI are truncated

On lower resolutions, some menus in the UI may become truncated.

Workaround

Tear off the menu or increase the resolution of your display device.

Custom install paths

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

Multibyte node names and attributes

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

Workaround

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

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

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

Workaround

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

Syntax errors when using localized version of Maya

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

Workaround

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

Scripting using multibyte text in Maya

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

User interface panel/configuration name limitations

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

Workaround

Change the syntax of the script using the example below as a guide. For example, replace lines like:`getPanel -withLabel "Graph Editor"` with `this:getPanel -withLabel (localizedPanelLabel("Graph Editor"))`

Multibyte text when setting environment variables

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

Workaround

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

Multibyte text for defining name clash prefixes for file referencing

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

Workaround

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

Assets limitations

Sharing shading networks among referenced assets can cause shaders to lose assignments

If you attempt to share shading networks among referenced assets, shaders may lose their assignments. In general, you should avoid sharing shading networks among assets using the shared shading networks feature in the Create Reference window.

Placing an object in an Asset with Transform and then using the virtual slider moves the object instead of the asset

When you create an object and place it in an Asset with Transform, then select a Translate/Rotate/Scale attribute in the Channel Box and attempt to move it by dragging the middle-mouse-button, Maya actually moves the object itself and not the asset.

Workaround

Make sure to select the asset in the Outliner first or set it to Black Box Mode. Alternatively, change the selection mode to Asset-centric.

No method to export connections between two referenced files to an offline file via UI

Currently, there is no way to export connections between two referenced files to an offline file through the user interface. For example, if you created a geometry asset and a shader asset, then referenced them both into a scene and

assigned the shader asset to the geometry asset and exported to an offline file, Maya would not export the shader assignment.

Workaround

Rather than using the Export to Offline File menu, use this command instead:

```
exportEdits -includeShaders -orn <geo-asset-reference-here> -orn  
<shader-asset-reference-here> "<your-edit-file-here>.editMA"
```

So for a geometry asset named "box" and a shader asset named "myshader," the command would look as follows:

```
exportEdits -includeShaders -orn boxRN -orn myshaderRN  
"scenes/edits/shader.editMA"
```

This would produce an edits file named shader.editMA with the appropriate connection assignments.

Loading a container from Maya 2008 or earlier may result in a warning message

Starting from Maya 2010, assets can no longer contain non-asset nodes from other files. These disallowed nodes are automatically removed from the container at file read time. A warning message will be issued for any impacted nodes.

Workaround

Open the referenced file and place the referenced nodes into a container. Then make that container a subcontainer of the parent scene's container.

Custom asset icon shows noise when selected in the Outliner

After assigning a custom icon to an asset and then selecting the asset in the Outliner, the background of the icon may appear noisy.

Workaround

When using an XPM file, make sure the background color for the icon is a uniform flat color. Alternatively, use a PNG file with a transparent background.

Slider for published float value may not have desired range

Dynamic attributes that are published to a container and do not have assigned min and max values are displayed in the container UI with default soft min and soft max values as follows:

- unitless attributes: -25 to 25
- linear attributes: -100 to 100
- rotation attributes: -360 to 360
- scale attributes: -10 to 10

Workaround

Use the `softMinValue` and `softMaxValue` flags on the `addAttr` command to assign custom soft min and soft max values to an attribute.

Asset Editor refreshing after Undo

The Asset Editor does not auto-refresh after you undo a bind or publish operations. Although the undo works properly, the Asset Editor does not reflect the results.

Workaround

Unpin the container and then pin it again or click the Refresh button.

Asset Editor and Attribute Editor performance with many attributes

When a container is displayed in Flat view mode, with more than 40 published attributes, any attributes beyond the first 40 are organized into groups in the AttributeEditor and Asset Editor. Each group is displayed in its own frame to improve UI performance. You can set the size of these groups with the `FlatViewCap` optionVar. The values and results are as follows:

- 0 disables the grouping entirely
- a value greater than 12 sets the groups to that size.
- any other value will result in a group size of 12.

The default value is 12.

General limitations

Can't save, load, import, or export on a network while under FDCC GPO

If you have two computers with their own IPs and are current setup under the Federal Desktop Core Configuration Group Policy Objects (FDCC GPO), you cannot save, load, import, or export files in Maya from one machine to the other.

Workaround

Have the administrator create an exception in the firewall options for files and print sharing, then create a shared folder on the computer with the source files/save location with permissions set for the appropriate users.

Files exported from Maya 2011 incompatible with previous versions of Mudbox

Files exported as .fbx from Maya 2011 are not compatible with versions of Mudbox before 2011.

Context sensitive help doesn't work on certain windows and editors

The context sensitive help menu on certain windows and editors doesn't open the Maya documentation.

Workaround

The following is a list of Windows and Editors and where they are located in the Maya documentation.

Menu in Maya	Location in documentation
Display > Heads Up Display > Poly Count	User Guide > General > Basics > Basics menus > Display > Heads Up Display
[Polygon Menu Set] Mesh > Booleans (all three options)	User Guide > Modeling > Polygons menus > Mesh > Booleans
[Polygon Menu Set] Edit Mesh > Crease Sets > Create Crease Sets	User Guide > Modeling > Polygon menus > Edit Mesh > Crease Sets > Create Crease Sets
Select Tool Help button	User Guide > General > Basics > Basics Tools > Tool Box > Select Tool

Changing preset panel configurations on heavy scene causes Maya to stall temporarily

When working in very heavy geometry scenes, sometimes switching between various preset panel configurations causes Maya to stall temporarily.

Workaround

In the Settings/Preferences > Preferences window, in the Display section, lower the value of Max. texture display res..

Loading and unloading multiple edit files doesn't work when the files affect the same attributes

If you have multiple referenced edit files for a single reference on simultaneously, and they modify the same attributes, toggling those edit files in the Reference Editor may not produce the expected results.

Workaround

Create edit files that can be applied to a reference one at a time rather than trying to stack their effects on top of each other.

Loading and unloading a reference with edits on it does not reapply the edits

If you have a loaded reference that has an edit file applied to it, then unload the reference and reload it again, it appears without the appropriate edits applied.

Workaround

Unload and reload the edit file.

Cannot apply edits without the proper extension

If you rename the extension of an offline edit file, you won't be able to see it in the Assign Offline File file browser window.

Workaround

Rename your offline edit file with the appropriate .editMA or .editMB extension.

Export Selected can refer to UNKNOWN_REF_NODE

Occasionally, when exporting nodes using the Export Selected option, Maya may refer to a node that is outside the file which results in the creation of an `_UNKNOWN_REF_NODE_`.

Offline edits of poly history can't be inserted into a different chain

If you perform an operation that creates a node in the history, then export those edits to an offline file, delete the history node, and attempt to apply that same offline file, the results may not match the pre-deleted history.

Workaround

Create a reference for the object you are working on and apply the offline file to that reference.

Python modules break if Maya can't find expected version of libssl.so.6

Python modules in Maya won't work if Maya can't find the correct version of `libssl.so.6`.

Workaround

If the Maya installer doesn't find the expected version of this file, it copies the system version to the `Maya lib` directory as Maya is being installed. If for some reason this fails, you can find the file on the Maya DVD in the `support/openssl` directory which you can manually copy to the `Maya lib` directory.

Using menuItem in startup scripts breaks existing menus

When launching Maya with a MEL script that contains the `menuItem` command, only the custom menus in the script appeared in the main menu bar.

Creating a new project with defaults causes an error

If you have the Autodesk Packet File plugin loaded and then attempt to create a new project (File > Project > New) with default settings, Maya returns an error.

Workaround

Unload the `AutodeskPacketFile.mll` plugin before creating a new project.

Display layer limitations

The following known limitations affect display layers when you are using the Playback On and Playback Off options. (In the Display Layer Editor, select Layers > Set All Layers > Playback On or Layers > Set All Layers > Playback Off.)

- Setting Playback On may not re-start animation playback on all objects as expected.

Workaround 1: Select each object you want to start animating again.

Workaround 2: Execute the command: `dgdirty -a`

NOTE This command will update all objects even if they are on display layers set with Playback Off.

- Object positions may update unexpectedly when you select Playback Off.
Workaround: Middle-drag in the Time Slider to update the time without updating the animation. Play your animation with nothing selected and middle-drag one frame forward and back to maintain your object placement as expected.
- Animated ikHandles on display layers keep animating when you set Playback Off.
Workaround: Use constraints with ikHandles.

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.

Unsupported windows

The following windows are unsupported as of Maya 2011.

- Multilister

- Device editor (API commands are still available)
- Maya Live

Using the workspace command to set your file rule only works in the current session of Maya

Using the workspace command to set your `scene` file rule only works in the current session of Maya:

```
workspace -fr "scene" "scenes/3d";
```

Setting the default location for a file using the `scene -fileRule` flag for the workspace command in MEL works for your `mayaAscii` and `mayaBinary` files in the current session of Maya. However, when you open Maya again, you must set your `mayaAscii` and `mayaBinary` workspace fileRules to this directory as well. Otherwise, a file not found error occurs.

```
workspace -fr "mayaAscii" "scenes/3d";
```

```
workspace -fr "mayaBinary" "scenes/3d";
```

Workaround

Set your `mayaAscii` and `mayaBinary` rules to the same directory as your `scene` rule when creating a new project.

Change in behavior when MPxTranslator::haveNamespaceSupport returns false

Previously, `MPxTranslator::haveNamespaceSupport` returning `false` would still force nodes into a namespace. From 2011 on, Maya will always leave nodes in the current namespace (regardless of the namespace options that were selected for the file operation). Name clash resolution is entirely up to the translator. Maya will not attempt to do anything. If the user wants the file IO namespace options to be respected or Maya to do some kind of name clash resolution, their translator should return `haveNamespaceSupport = true`.

Forward compatibility for Maya 2011 files

If you open a Maya 2011 file in a lower version of Maya, for example, Maya 2010, the file may not open correctly due to the new `relationship` command being used for light-linking in 2011. Light-linking forward compatibility may also be broken.

Workaround

To workaround this problem, copy the `relationship.mel` script at this location <http://usa.autodesk.com/getdoc/id=TS14617293> and drop it into your Maya binary location's `runTime/scripts/others` folder.

General animation limitations

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

Stop button slow to respond when playing complex simulations

In large scenes, especially when running complex simulations, clicking the Stop button in the Playback controls may respond slowly and not stop at the current frame.

Workaround

Press the Esc key instead of clicking the Stop button to stop playback.

“Node” keyword in namespaced non-particle expressions does not return namespaced node name

If you are using a non-particle expression that is in a namespace, the namespace of the expression is not returned when you use the "node" keyword in your expression. This occurs because the expression is running in namespace-relative mode, set relative to its own namespace.

If your expression defers any MEL call using the name, it may be important to have a root-relative node name.

Workaround

To have the expression run in root-relative namespace mode, start your expression with:

```
namespace -relative off;
```

This sets the expression to always return a fully namespaced node name.

Caching objects with changing topology

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

In addition, if you make topology changes to a mesh after caching, then create a new cache, the new cache may not be created as expected. For example, if you cache a low resolution model, add a PolySmooth node, then cache the model again, Maya creates the cache on disk correctly, but may connect the new cache node at an incorrect location in the dependency graph.

To ensure that your new geometry cache works as expected, use the following workaround.

Workaround

- 1 Create the new geometry cache.
- 2 Select Edit > Delete All By Type > History.
- 3 Select Geometry Cache > Import Cache to attach the cache of the smoothed geometry.

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

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

Workaround

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

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

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

Workaround

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

Quaternion animation curves not correctly converted to Trax clip

Workaround

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

Synchronized quaternion curve

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

Workaround

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

Synchronized Quaternion rotation interpolation limitation

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

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

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

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.

Ghosting and simulated objects

Attempting to apply ghosting to simulated objects such as particle simulations, soft bodies, rigid bodies, cloth and jiggle deformers may result in unpredictable reactions.

Workaround

Create a disk cache for the simulation.

Preferred angles on joints controlled by IK handles

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.
- Delete the IK Handle and then invoking "Undo" to restore yields an IK solution that respects preferred angle.

Deleting the top level character

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 they are 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>;
```

FBIK and Auto Key

When working with full body IK, Auto Key will always set keys for the full body, even if your keying mode is set to Body Part or Selected.

Workaround

To set only Body Part or Selected Keys on full body IK rigs, you must disable Auto Key and set the keys manually.

Exporting animation curves creates file that can't be imported

Occasionally, if you select animation curves in the Outliner and then export them (File > Export Selected), Maya creates a file that cannot be imported. This often happens when exporting animation at the root level, or animation for child objects with non-unique names.

Workaround

Select both the animation curves and the object and then export (File > Export Selected).

Alternately, turn on the animImportExport plug-in (Window > Settings/Preferences > Plug-in Manager), then export the curves as an animExport file in the Export Selection Options window.

Animation layer notes and limitations

The following notes and limitations relate to animation layers in Maya.

Attribute and value name changes in the animLayer node

Note that the following enum attribute names and their value names have changed to better reflect their function. If you have used these attributes and values in your own scripts, ensure that you update the following names:

- **rotationInterpolateMode** is now **rotationAccumulationMode**
The former **Euler** and **Quaternion** values are now **By Component** and **By Layer**.
- **scaleInterpolateMode** is now **scaleAccumulationMode**
The former **additive** and **multiply** values are now **Additive** and **Multiply** (capitalized).

For more information on these updated attributes, refer to the topic *Animation Layer Editor menu bar* in the Maya Help.

Animation playblast limitations

The following limitations and workarounds relate to the Playblast window in Maya. Note that in some cases (where specified) these playblast limitations can also occur in the Camera Sequencer.

(Linux) QuickTime player does not loop playblasted animation

When you playblast movies in QuickTime format on Linux, the lqtplay player is used to play the QuickTime files. (This player is included with libquicktime, which you must install separately to enable QuickTime playback on Linux.) Note that the lqtplay player does not loop the animation, but plays the movie once, then closes.

(Mac OS X) Overlapping audio clips don't playblast correctly

If you have multiple audio clips that overlap in the Time Slider, the timing of the audio is incorrectly adjusted when you playblast your animation.

NOTE This limitation applies only to normal playblasting (using Window > Playblast). Playblasting in the Camera Sequencer uses only the top audio clip in the Soundtrack area, so no incorrect adjustments will occur.

(64-bit Mac OS X) QuickTime playback on image planes is not real-time

When you import a QuickTime movie to play on an image plane (using View > Image Plane > Import Movie in the panel menu), the movie does not playback in real-time, even if you have set the scene Playback Speed to Real-time [24 fps].

This issue can also occur in the Camera Sequencer, for example when you playblast a camera shot in QuickTime format (with Build Image Plane turned on in the Playblast Options), or if you manually assign an image plane with a QuickTime movie to a camera shot.

Workaround

Run Maya in 32-bit mode to view QuickTime movies on image planes at real-time playback speed.

(32-bit Mac OS X) Importing QuickTime movies created with DV codec not supported

Maya may quit unexpectedly if you import QuickTime movie files created with the DV codec on 32-bit Mac OS X systems. This can occur when importing

movie files to an image plane in your scene (View > Image Plane > Import Movie in the panel menus), or if you import the movie files to a camera shot image plane in the Camera Sequencer (right-clicking the shot and selecting Attach Image Plane.)

Playblast escape limitation

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

Large imported audio files delay Playblast

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

Workaround

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

Camera Sequencer limitations

The following known limitations and workarounds apply to the Camera Sequencer window. Note that some playblast limitations described in the previous section may also affect the Camera Sequencer.

Spaces in folder names can prevent Maya from finding imported editorial content

If you are exporting files in Apple® Final Cut Pro® XML format for use in the Camera Sequencer, avoid using spaces in the folder names that you are exporting. Final Cut Pro® uses %20 to denote spaces in filepaths, which Maya does not interpret properly.

For example, if you export a folder named `video shoot` from Final Cut Pro, the folder name is written out as `video%20shoot` in the exported XML file. When imported into the Camera Sequencer, Maya cannot find the editorial files in `video%20shoot`.

Workaround

If you have already imported the editorial content, you can re-source the files manually.

Audio tracks not included in Sequence Start and End Times

In Maya, the Sequence Start Time and Sequence End Time are based on camera shots, not on audio clips. If you have audio clips that start or end before or after the camera shots in the sequence, that audio does not play during playback, and the audio frames are not included in the Sequence Start Time and Sequence End Time. Note that this is in contrast to Final Cut Pro, which does include audio in the sequence in and out times.

Enabling camera Overscan affects framing of playblasted shots

The camera Overscan attribute is designed to let you view more of the camera's view than you will actually render. If you enable Overscan for cameras in the Camera Sequencer (set Overscan to a value higher than the default 1), the larger camera view is rendered when you playblast the shot to an image plane. This means the shot may appear to be framed incorrectly, or mis-aligned with the objects in your scene.

Workaround

Set Overscan to 1 when playblasting, then adjust back to the desired value as you continue working in the Camera Sequencer.

(Windows) Codec support limitations for playblast in AVI format

NOTE Maya relies on the codecs already installed on your system. You may need to download and install additional codecs, and not all codecs will be compatible with Maya. Because of the number and variety of codecs available, Autodesk does not provide a list of qualified codecs.

Depending on which version of Windows you use, playblasting shots in AVI format with the following codecs can result in the error *“Unable to create video track. Check format”* or other known issues.

32-bit Windows XP

- MS-H.263
- IR32
- IR45

- Indeo Video 5
- IYUV
- MS-YUV
- MS-H.261
- Toshiba YUV411
- MS-RLE

NOTE The MS-RLE codec does not give an error, but produces unexpected color results on both 32-bit and 64-bit Windows systems.

64-bit Windows XP

- IYUV
- MS-YUV
- MS-RLE
- Toshiba YUV411

32-bit Windows 7

- MS-YUV
- MS-RLE
- Toshiba YUV411
- DiVX

IMPORTANT Maya stops responding if you playblast camera shots using the AVI format and DiVX codec on 32-bit Windows 7.

Workaround

Select an alternative codec, such as Cinepak Codec, MS-CRAM, or Raw to playblast in AVI format on Windows.

(Mac OS X) Playblasted shots not rendered properly

Rendering problems can appear after the first few frames when you playblast shots in the Camera Sequencer. For example, shader flipping or unintentional shading overrides can cause a mesh in the output movie to appear fully white, or as if in X-Ray display mode.

Workaround 1

This workaround lets you avoid these issues by setting Maya to render onscreen rather than using a backbuffer.

- Edit the following MEL scripts to remove each instance of `-offscreen`.

TIP Make a backup copy of these scripts before editing in case you want to revert your changes.

- `doPlayblastSequenceArgList.mel`

- `doReplayblastShotArgList.mel`

- `doPlayblastShotArgList.mel`

(By default, MEL scripts are installed to the following directory:

`/Applications/Autodesk/maya2011/Maya.app/Contents/scripts/others.`)

NOTE Be aware that when you render onscreen, the output movie resolution is based on the resolution of the scene view. This can result in some stretching effects when the output movie is mapped to the image plane for the associated camera shot.

Workaround 2

In some cases, simply re-playblasting or tweaking the camera settings can produce a higher quality render.

To re-playblast for improved quality

- 1 Playblast the shot.
- 2 Re-playblast the shot without removing the existing image plane.

NOTE If you have completed this workaround and the playblast result is still not satisfactory, verify that your Near and Far Clip Plane values are set to an appropriate range.

(Mac OS X) Re-playblasting a shot loses audio

If you re-playblast a shot with associated audio using the default re-playblast options, the audio is dropped and does not play in the output movie.

Workaround

To re-playblast with audio and video

- 1 Select Playblast > Re-Playblast Selected Shot to re-playblast with the default options (note that Replace Audio is off by default.)

This re-playblasts the video, but the re-playblasted audio will not play in the output movie.

- 2 Select Playblast > Re-Playblast Selected Shot > , turn on Replace Audio in the Re-Playblast Shot Options window, and click Re-Playblast Shot.

This re-playblasts the audio only, so that now both the audio and video are re-playblasted.

Note that you must re-playblast twice, changing the Re-Playblast Shot Options the second time in order to have the audio and video re-playblasted together.

(Mac OS X) Directory field in the playblast options may link to folder that does not exist

By default, movies playblasted in the Camera Sequencer are saved to the `data` directory of your current project. If you change the current project from the default project, the Directory field in the Playblast Shot Options or Playblast Sequence Options lists a `data` directory that does not actually exist, and Maya does not let you browse to a different directory.

Workaround

- 1 In the Playblast Shot Options or Playblast Sequence Options, delete the folder name that displays in the Directory field.
- 2 Click the Browse (folder) icon next to the Directory field and browse to select a new directory in the file browser that appears.

Incorrect color documented for grouped shots

A topic called *Create a group of camera shots* in the Maya Help incorrectly states that newly grouped shots display in green. Grouped shots are purple.

Device Editor

The Device Editor has been removed in Maya 2011. The API still exists for custom tools.

Dope Sheet limitations

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

Dope Sheet Manipulator disappears

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

Workaround

Redo your selection to restore the manipulator.

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

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

Trax Editor limitations

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

Merging characters copies clips but not the blends between clips

Workaround

Restore the blends manually after merging.

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

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

Workaround

Do one of the following:

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

Unable to create layered animation on top of a relative clip

Workaround

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

Blends not working for certain clip configurations

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

Workaround

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

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

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

Workaround

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

Parenting a Cloth object to a Trax character

When a Cloth object is parented to a Trax character, the Trax Editor will not evaluate Cloth correctly.

Workaround

Select the object and cloth node and unparent them from the main character's hierarchy. Delete the Cloth cache and run the simulation.

Sound limitations

(Linux) Updated OpenAL audio library available

Maya ships with version 1.10.622 of the OpenAL Soft audio library (libopenal.so.1.10.622). You can update to version 1.11.753, or check for new versions at <http://kcat.strangesoft.net/openal.html>.

To use new system versions

- 1 Locate the existing OpenAL libraries on your system.
By default, the libraries installed with Maya are in the /lib directory under your Maya installation directory.
- 2 Create backup copies or otherwise archive the existing OpenAL libraries or symbolic links found in the /lib directory in case they need to be restored later.
- 3 Replace those libraries with the most up-to-date libraries.

NOTE By default, RHEL 5 does not include PulseAudio. However OpenAL version 1.11.753 requires PulseAudio 0.9.15 in order to compile. A version of PulseAudio 0.9.15 is available from the EPEL repository at <http://fedoraproject.org/wiki/EPEL>.

Incorrect default value listed for MAYA_AUDIO_LIBRARY in Maya Help

The topic *Audio variables* in the Maya Help incorrectly states that the default value for the MAYA_AUDIO_LIBRARY environment variable is 1. The default value is 2, which sets Maya to use the OpenAL audio library and support multiple track audio.

(Windows) Some 8-bit audio (aif) sample rates are not supported

8-bit audio files with sample rates of 8000, 11025, 22050 and 32000 (mono and stereo) are not supported.

Workaround

Import audio files with a more common sample rate, such as 44100.

Path animation limitations

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

Geometry popping out of flow lattice

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

Workaround

Do one of the following:

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

Character setup

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General character setup limitations

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

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

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

Workaround

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

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

HumanIK and retargeting limitations

Cannot change the Mapping List after a character is characterized

If you characterize a character in the HumanIK window, then change the character's mapped hierarchy (by clearing slots of the Mapping List and re-mapping joints to different slots), connections are lost and the character cannot be re-characterized.

Workaround

Click Delete in the Characterize tab to delete the HumanIK character, then click New to create a new HumanIK character and complete the Mapping List again.

(Mac OS X) HumanIK may not load automatically

If you get an error message the first time you try to open the HumanIK window (Skeleton > HumanIK in the Animation menu set), the HumanIK plug-in may not be set to load automatically.

Workaround

To load HumanIK manually

- 1 Start Maya.
- 2 Select Window > Settings/Preferences > Plug-in Manager.
The Plug-in Manager opens.
- 3 Locate the mayaHIK plug-in and turn on Loaded. (To load HumanIK automatically every time you start Maya, turn on Auto load.)
Maya loads the HumanIK plug-in.
- 4 Click Close.

Skeleton and Inverse Kinematics limitations

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

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

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

Insert joint tool does not work at certain angles

The insert joint tool does not work if joint pivot display is off and the camera is tumbled to some specific camera angles.

Workaround

Enable joint pivot display or move the camera slightly.

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.

Skinning limitations

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

Interactive skin bind node (skinBinding) can cause FBX export errors

When you use interactive skin binding, Maya creates a skinBinding node as well as a skinCluster node. The skinBinding node holds data for the interactive bind volumes, but the actual weight data is stored in the skinCluster. The skinBinding node is not supported by FBX and can cause errors when exporting to FBX format.

Workaround

If you plan to export the mesh in FBX format, you can safely delete the skinBinding node when you finish manipulating the interactive bind manipulators, as it does not store any weight data.

Opening Paint Skin Weights Tool turns on X-Ray Joints

X-Ray Joints display mode turns on when you switch to the Paint Skin Weights Tool, even if you have turned X-Ray Joints off in the panel menu (Shading > X-Ray Joints), or in the contextual menu that appears when you right-click the mesh.

Workaround

Use the XRay Joints option under the Display heading in the Paint Skin Weights Tool Settings to toggle X-Ray Joints display mode on and off.

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

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

General deformer limitations

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

Using target blend shapes in a referenced file

If you are using target blendshapes from a referenced file to deform a base object, the base object may change position unexpectedly if you open the main scene with the references unloaded. Specifically, the unloaded targets will be treated as if the Origin attribute is set to World even if the Origin attribute is set to Local.

Workaround

Load the referenced file the first time you open and save the scene. You can then unload the referenced file if you choose, and keep working with the base objects as expected.

Adding a new influence object to a smooth skin

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

Workaround

Close the Component Editor and reopen it.

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

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

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

The Rebuild Curve operation may change the number of CVs in a curve, changing the sections or spans attributes of a makeNurbSphere node may change the number of CVs in the resulting NURBS surface, and the Polygons > Smooth operation can drastically change the number of polygon vertices in the smoothed object. Unfortunately, Maya does not yet have a way to communicate these changes to the nodes downstream in a way that allows the "right thing" to happen.

Workaround

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

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

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

Other examples of this limitation

- Wrap behaving unpredictably

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

Workaround

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

■ Changing the CV count of a deformed object downstream

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

Workaround

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

Lattices with partial resolution may distort target geometry

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

Workaround

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

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

Workaround

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

Ghosting is not reliable on jiggle deformations

Workaround

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

NURBS modeling

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NURBS modeling limitations

Bevel Plus limitation

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

Workaround

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

Convert NURBS to Subdiv for groups returns an error

Sometimes when using the Modify > Convert > NURBS to Subdiv option on groups of NURBS objects, Maya returns the following error:

```
// Error: More than one object matches name
```

Workaround

Select Modify > Convert > NURBS to Subdiv > . In the NURBS to Subdiv window, turn on Keep Original and then click Create. A converted version of your NURBS group appears on top of the original group. Delete the original group.

Create Adobe Illustrator Object limitations

Illustrator version compatibility

Maya is only compatible with Adobe Illustrator 8 files. Attempting to import Illustrator files created in other versions may yield unexpected results.

Workaround

If you are working in a version of Illustrator other than 8, convert the files to Illustrator 8 format.

Unexpected results when importing an Illustrator file

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

Workaround

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

Adobe Illustrator file does not import

In a compound path if the inside path is behind the outside path you get the following error message when attempting to import the file into Maya:

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

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

Workaround

You may need to fix the groupings and compound paths in the Adobe Illustrator file. To do this:

- 1 Open the file in Adobe Illustrator.
- 2 Select the compound path.
- 3 Select Object > Compound path > Release.
- 4 Select the outer path.
- 5 Select Object > Arrange > Send to Back.

- 6 Select both paths.
- 7 Select Object > Compound Path > Make.
- 8 Save the file and import it into Maya.

If Maya doesn't import anything, you need to perform the Create > Adobe Illustrator Object operation again.

Beveled text does not tessellate correctly when rendered

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

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

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, selecting UV vertices that are on texture borders may sometimes result in multiple vertices being picked.

Clean Topology in the UV Texture Editor causes UV distortion

Using the Subdiv Surfaces > Clean Topology option on a subdivision surface in the UV Texture editor may distort the UVs.

Workaround

Right-click the subdivision surface and select Polygon from the marking menu. Open the Hypergraph Hierarchy and select the polyToSubdShape1HistPoly node. Select Subdiv Surfaces > Clean Topology.

File referencing with Subdivision UVs

When referencing a file that contains a subdivision surface with UVs, the UV information is included in the parent file.

General polygon and games limitations

The following lists general polygon and games limitations and workarounds.

Crease node with history can affect Smooth Mesh performance

The interactive performance of vertex edits to polygon meshes displayed in Smooth Mesh Preview mode may be adversely affected whenever a crease node is contained in the construction history. This is noticeable immediately after the first click-drag of the mouse.

Workaround

Avoid having a crease node in the polygon meshes construction history, or delete the construction history before performing the vertex edits.

Magnet tolerance when using Insert and Offset Edge Loop tools

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

Workaround

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

Shared faces with opposite UV winding may have normals reversed

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

Workaround

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

Combining instanced polygon meshes may delete geometry

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

Workaround

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

Shell option in Constraint Selection feature selects UV texture shells instead of polygon shells

In previous versions of Maya, the Select Using Constraints feature (Select > Select Using Constraints) selected polygon shells when the propagation option was set to Shell. In Maya 8.5 this behavior changed so that only UV texture shells became selected.

Workaround

Select a component on the object where you want to select a polygon shell and then convert the selection by selecting Select > Convert Selection > To UV Shell.

UV layouts appear different on other platforms and versions

Recent changes to how floating point calculations are computed in Maya has resulted in changes to the order in which UV shells are calculated. As a result, the layout of UVs may appear different when the file is subsequently loaded in Maya on a different hardware platform or a later version, particularly when the original UV layout has been edited.

Workaround

Delete the history in the original file and then save it before attempting to open it on another platform or version.

Black color per vertex values are not saved on corner vertices

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

Workaround

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

Maya does not maintain the order of selected components

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

Workaround

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

```
global proc selectProc() {
    global string $gSelectedComponents[];
    string $selC[] = `ls -sl -flatten`;
    if (size($selC) > 0) {
        int $match = 0;
        for ($newSel in $selC) {
            $match = 0;
            for ($oneComponent in $gSelectedComponents) {
                if ($newSel == $oneComponent) $match = 1;
            }
            if ($match == 0)
                $gSelectedComponents[size($gSelectedComponents)] = $newSel;
        }
    }
    else {
        clear ($gSelectedComponents);
    }
    int $debug = 1;
    if ($debug && (size($selC) > 0)) {
        print ("Selected components (in the order) ...\\n");
        print ($gSelectedComponents);
        print ("\\n"); } // to load the scriptJob
    int $jobNum = `scriptJob -e "SelectionChanged" "selectProc"`; //
    to unload the scriptJob scriptJob -kill $jobNum;
```

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

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

Polygonal faces disappear in shaded mode

When you apply a Freeze Transformations 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.

However, when back-face culling (Shading > Backface Culling) is also on in the polygon display options, back-faced polygons are also culled. If the object

is not selected, all the polygonal faces are culled in shaded mode display making it seem as though the object has disappeared.

cp attribute limitation

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

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

Workaround

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

For example:

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

polySeparate command

The polySeparate command fails if the object is invisible.

The error message in this case can be misleading:

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

Workaround

Make the object visible.

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

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

Flipping edges from multiple objects

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

Workaround

Select and flip edges from one object at a time.

Color per vertex animation not working for polygonal objects without history

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

Workaround

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

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

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

Workaround

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

MfnMesh limitations

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

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

Envelope attribute for Transfer Attributes

The Envelope attribute is not supported for TransferAttributes.

Soft Selection causes UVs rotated 180 degrees to flip

When Soft Selection is on and you attempt to rotate a set of vertices 180 degrees, the selection flips from positive to negative rotation (or vice versa).

Workaround

Rotate the selected vertices in several, smaller increments.

Tweak mode hotkey problem for non US-EN keyboards

When using a non US-English standard keyboard, the Tweak mode hotkey (C) does not work.

Workaround 1

Toggle Tweak mode on and off through the Tweak mode option in the Move Tool settings.

Workaround 2

- 1 Select Window > Settings/Preferences > Hotkey Editor.
- 2 In the Hotkey Editor, under Categories, select Modify. Then, under Commands, select STRStweakModeOn.
- 3 Under Assign New Hotkey, enter the key but do not use a modifier.

NOTE If you do not want to interfere with Maya's default hotkeys, set this value to the '9' key.

- 4 Set Direction to Press.
- 5 Click Assign.
- 6 Select STRStweakModeOff under Commands.
- 7 Repeat steps 3 - 5 using the same information, but set Direction to Release in step 4.

Workaround 3

Set your keyboard to English - United States IME while using Maya. For more information see your operating system documentation.

Remember This Layout option unavailable for Polygons tabs in the Component Editor

When working in the Component Editor, the Options > Remember This Layout option is unavailable for the Polygons tab and the AdvPolygons tab.

Selection Constraint Angle doesn't work for edges

If you select an edge and then attempt to modify that selection in the Selection Constraint window (Select > Select Using Constraints), the selection remains unmodified.

Workaround

Copy and paste the following script to the script editor and run it.

```
import maya.OpenMaya as OpenMaya
import math
def selectEdgesByAngle(angle):
    cosangle = math.cos(math.radians(angle))
    edgesToSelect = OpenMaya.MSelectionList()
    selection = OpenMaya.MSelectionList()
    OpenMaya.MGlobal.getActiveSelectionList( selection )

    iter = OpenMaya.MItSelectionList ( selection, OpenMaya.MFn.kMesh
    )
    while not iter.isDone(): edgeArray = OpenMaya.MIntArray()
        dagPath = OpenMaya.MDagPath()
        iter.getDagPath( dagPath )
        mObj = OpenMaya.MObject()
        iter.getDependNode( mObj )
        meshFn = OpenMaya.MFnMesh(dagPath)
        edgeIter = OpenMaya.MItMeshEdge( mObj )
        while not edgeIter.isDone():
            status = OpenMaya.MStatus
            connectedFaceIds = OpenMaya.MIntArray()
            edgeIter.getConnectedFaces(connectedFaceIds)
            if connectedFaceIds.length() != 2:
                edgeArray.append(edgeIter.index())
            else:
                normal1 = OpenMaya.MVector()
                normal2 = OpenMaya.MVector()

                meshFn.getPolygonNormal(connectedFaceIds[0], normal1)
                meshFn.getPolygonNormal(connectedFaceIds[1], normal2)

            dotProduct = normal1 * normal2
            if dotProduct <= cosangle:
                edgeArray.append(edgeIter.index()) edgeIter.next() compList
= OpenMaya.MFnSingleIndexedComponent()
            components = compList.create( OpenMaya.MFn.kMeshEdgeComponent )
            compList.addElements( edgeArray )

        edgesToSelect.add( dagPath, components )
        iter.next() OpenMaya.MGlobal.setActiveSelectionList( edgesToSelect
    )
```

After you've run this script, select an edge and run the following command:

```
selectEdgesByAngle.selectEdgesByAngle(30)
```

You can substitute the number 30 for the angle of your original intention.

Artisan, 3D Paint, and Paint Effects

12

Artisan limitations

The following lists Artisan limitations and workarounds.

Paint Vertex Color Tool

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

Color feedback in Artisan tools

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

Exporting attribute maps from NURBS surfaces

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

Importing subdiv edge selection map

Importing subdiv edge selection map will not work.

Workaround

Import them as Vertices and convert the selection to edges.

3D Paint Tool limitations

The following lists 3D Paint Tool limitations and workarounds.

Unable to paint on textures assigned to layered shaders

You cannot paint on textures assigned to layered shaders.

3D Paint slow with large textures

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

Workaround

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

Texture placement

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

Workaround

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

Painting with Fast Interaction

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

Workaround

Turn Fast Interaction off while painting.

Paint Effects limitations

The following lists Paint Effects limitations and workarounds.

Changing scene units moves Paint Effects strokes on NURBS

If you change the units of a scene, for example by using the Preferences, and then either reload the scene or move a CV on the NURBS surface, previously painted strokes jump to new positions on the surface.

Workaround

- 1 Make the stroke path visible by selecting Display > Show > Show Geometry > Stroke Path Curves.
- 2 Right-click the stroke path and select Control Vertices from the popup menu.
- 3 Select the stroke's CVs, and then open the Channel Box.
- 4 In the Channel Box under `curveBrushShape1`, click CVs(click to show).
- 5 In the displayed CV table, Ctrl-select the X, Y, and Z headings.
- 6 Shift-select the first cell, and then type `=*factor`, where `factor` is the multiplier that corresponds to the scene unit change.
For example, if you increased the scene units by a factor of 10, type `=*10`.

Mouse scroll wheel does not zoom in/out of the Paint Effects window

In Maya 2011, the middle scroll wheel on the mouse does not zoom into or out of the Paint Effects window.

Workaround

Use Alt + right-mouse-button to zoom instead.

Copied tabs causes Paint Effects Editor to only affect one object

If you are using a Paint Effects brush and open the Copy Tab in the Shading section of the Attribute Editor, then select another Paint Effects object and close the Copy Tab, Maya returns an error the next time you change your selection. If you attempt to create additional Paint Effects objects and then alter them with the Attribute Editor, Maya edits the object that was selected when the Copy Tab editor was opened instead.

For example:

- 1 Select the Crystal brush.
- 2 Paint two strokes.

- 3 Select crystals2 in the Attribute Editor.
- 4 Open the Shading section.
- 5 Click the Copy Tab button in the Attribute Editor.
- 6 Open the Shading section.
- 7 Select the Select Tool.
- 8 Select crystals1.
- 9 Close the Copy Tab.
- 10 Select crystals2.
Maya returns an error.

Workaround

Save the scene and restart Maya.

Self-shadowing and directional lights

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

Workaround

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

Lighting Based Width not assigned to Paint Effect brush on toon line

When you assign a Paint Effects brush to a toon line, the Lighting Based Width attribute is not set for the Paint Effects brush.

Workaround

Set the Lighting Based Width attribute (in the Illumination section of the brush's Attribute Editor) to the Lighting Based Width value of the toon line.

pfxStrokes MEL command not supported by Toon node

The pfxStrokes MEL command does not output the profile curves for Paint Effects toon objects.

Workaround

Convert the toon object to a NURBS curve by selecting Modify > Convert Paint Effects to Curves. Run the pfxStrokes MEL command on the converted NURBS curve.

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

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

Workaround

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

Missing comma in output of pfxstrokes command

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

Workaround

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

Paint Effects Mesh brushes

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

Workaround

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

Film fit adversely affects Paint Effects

Workaround

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

Renaming strokes with brush springs

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

Workaround

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

Strokes rendering white with light fog

Light fog causes Paint Effects strokes to render white.

Workaround

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

Turbulence stops working during playback

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

Workaround

Open the Flow Animation block in the Attribute Editor.

Paint Effects canvas wrapping with Mesh and ThinLine brushes

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

Stroke shadows in IPR

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

Workaround

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

Light linking

Paint Effects does not support light linking.

Field rendering

Paint Effects does not support Field Rendering.

Workaround

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

Popping near the edge of a frame

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

Workaround

Increasing the stamp density and transparency may fix this.

Scaled objects and jumping strokes

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

Workaround

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

Z-up environment

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

Workaround

Set the environment to Y-up and restart Maya.

Freeze Transformations

Freeze Transformations does not work for Paint Effects strokes.

Transformations and units

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

Playing back scripts

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

Changing Screenspace Width option

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

Workaround

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

Modifying 3D Paint Tool textures in the Paint Effects canvas

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

Workaround

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

Most recent brushstroke gets re-drawn several pixels off

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

Workaround

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

Particle clouds and Paint Effect Strokes don't mix

After creating a Particle cloud emitter with Paint Effects strokes, the strokes become clipped by cloud shapes in front of them.

Workaround

Composite the particle cloud separately.

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.

Using 3D Paint tools on psd file texture may cause Maya error on Mac OS X platform

On the Mac OS X platform, if you create a polygon object and assign to it a PSD File texture, then select the 3D Paint Tools and paint on the object, the texture may turn black, or, Maya may produce an error or stop unexpectedly.

Dynamics limitations

Using the Component Editor to edit emitted particles

Maya may stop unexpectedly if you use the Component Editor to edit emitted particle objects.

Workaround

Do not use the Component Editor to edit emitted particles. Be aware that using the Component Editor to edit any particle system automatically sets the particle system's initial state. Therefore use Solvers > Initial State > Set for Selected to set the initial state of emitted particles or particles present in the start frame of a simulation.

File referencing not fully supported for particle expressions

One remaining limitation when using file referencing with particle expressions is an issue with modifying expressions. For example, if you have a child scene with just a creation expression, and you modified the creation expression in the parent scene, and then added a Runtime before dynamics expression in the child scene, you do not see the new expression in the parent scene. To see the new expression, you must remove the edit that nulled out the Runtime before dynamics runtime expression. 125437, Improved, but not Fixed 11.0

Workaround

- 1 In the Reference Editor, select File > List Reference Edits to identify the edited expression.

- 2 In the List Reference Edits, remove the unwanted modifications from the expression.

In the example provided above, you would remove the edit that nulled the Runtime before dynamics expression. The unwanted edit would appear as: `setAttr`

```
|xxx:nParticle1|xxx:nParticleShapel.internalRuntimeBeforeDynamicsExpression  
-type "string" "".
```

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

Workaround

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

Rigid bodies have a different playback result after saving the scene

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

Workaround

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

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

Interactive Playback limitations

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

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

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

Workaround

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

Rigid body keyframed passive to active resets incorrectly

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

Workaround

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

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

Workaround

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

Fields and emitters don't convert particle positions

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

Workaround

Use standard units.

Particles may collide on creation

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

Workaround

Reverse the normal speed parameter of the surface emission.

Rotate pivot and instancing

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

Workaround

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

Hardware rendering with motion blur limitation

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

Identical rigid bodies may not collide

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

Workaround

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

Rigid bodies do not recognize non-planar polygons

Workaround

Triangulate the non-planar polygons.

Copying a rigid body/rigid constraint systems

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

Workaround

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

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

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

Workaround

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

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

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

Workaround

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

Error messages appear if you modify soft body polygon topology

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

Workaround

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

Exporting to .mi with dynamics

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

Workaround

Do one of the following:

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

General rendering limitations

The following lists miscellaneous rendering limitations and workarounds.

Maya does not transfer the focus back to the last active model view after rendering current frame

If you select a model view, then select Render > Render Current Frame, Maya renders the model view correctly. However, if you close the Render View window and select Render > Render Current Frame again, the error: *Please select the view you want to render* occurs.

In addition, you may also get this error if you scrub the timeline and select Render > Render Current Frame without first selecting a model view.

Batch rendering limitations

mayabatch -render command obsolete

The `mayabatch -render` flag on Windows (`maya -render` on Linux/Mac OS X) is obsolete and has been removed. Use the `Render -r` command instead.

Batch rendering from within Maya on Mac OS X writes to console and mayaRender.log

On the Mac OS X platform, when you batch render from within Maya, the output is sent to the Console Application as well as logged in `~/Library/Logs/Maya` with the name `mayaRender.log`.

Start frame/End frame/By frame values become corrupted when switching renderers

Occasionally, when you set prefs for your Start frame, End frame, and By frame values in the Render Settings: Common tab, these values may become corrupted when you switch renderers.

Batch renderer stops unexpectedly when rendering layers

Occasionally, when using the mental ray for Maya renderer to batch render a scene with render layers, the batch renderer may stop unexpectedly without completing the rendering of all the layers.

Workaround

Fix all mental ray errors reported in the scene.

Excessive amount of error messages when batch rendering a scene with no cache

When batch rendering a scene with no cache, Maya will report with an error "Failed to load external entity..." that it could not locate the cache on disk. However, the number of messages reported may increase exponentially every frame.

Workaround

Either recreate the cache and put it in the correct location, or delete the cache node from the file as well so that it can quietly simulate while rendering without excess error messages.

Render on the local machine setting ignored when batch rendering

If you select mental ray as your renderer, then select Render > Batch Render and disable the Render on the local machine option, then click Batch Render, Maya ignores this setting and your batch render still runs on your local machine.

Workaround

Use the command line renderer. Ensure that the Render on the local machine option is disabled and close the mental ray Batch Render Option window. Use the command line renderer to batch render.

As an alternative, you can also disable rendering on the local machine by using the `-rnm 1` flag with `-mr`.

Legacy scenes with connection error when switching render layers with per-face assignment and material overrides

Occasionally, when switching render layers with per-face assignment and material overrides in legacy scenes, an error may occur and the material assignments may not appear correctly. To workaround this problem, run the `fixRenderLayerOutAdjustmentErrors.mel` script as follows:

- 1 Open the Script Editor and select File > Source Script. Select `fixRenderLayerOutAdjustmentErrors.mel` from the `\scripts\others` directory of your installation directory.
- 2 In the Maya MEL command input line, enter `fixRenderLayerOutAdjustmentErrors.`

Color values limitation

When you click on the Color attribute in the Attribute Editor, the color popup menu is limited to a range of 0.001 to 1000.

Workaround

Set higher or lower values manually using `setAttr`.

Stereoscopic cameras support limitations

Stereo support on Mac OS X platform

Stereoscopic feature is only supported on Mac OS X 10.5.6 and above.

Stereo support on Linux platform

Composite must be disabled when using the stereoscopic feature on the Linux platform.

Video card switches to Basic mode when creating quad-buffer stereo on Windows Vista or Windows 7

When creating quad-buffer stereo on Windows Vista or Windows 7, the video card driver switches themes from Aero to Basic.

Workaround

If you plan to use stereoscopic camera views, select an alternate theme for your Windows system. If you're not using stereoscopic camera views, you can experiment with using the Aero theme.

Viewport support only for multi stereo rig feature

Currently, the multi-camera rig feature is only supported for use in the viewport. You can render each individual camera, but software rendering of the camera set is currently not supported.

Camera sets properties do not refresh in the Relationship Editor

Occasionally, when creating camera sets using the Relationship Editor, the camera layer properties may not refresh.

Workaround

Toggle the expand/collapse and the properties will appear.

Viewport 2.0 limitations

Unsupported platform/graphics cards

Viewport 2.0 is currently not supported on the Mac OS X platform for the ATI Radeon X1900 Gfx card.

Possible slowdown or instability due to issues with memory management on Mac OS X

Users of Viewport 2.0 may encounter either extreme slowdowns or instability due to issues with memory management on Mac OS X.

To try and alleviate this problem, you can set the texture size used for viewport display when loading in file textures for the renderer. Do as follows:

- Set the environment variable :
MAYA_OGS_ENABLE_MAX_TEXTURE_SIZE_PREF to the value you want before starting up Maya.
- After Maya starts up, go to the Windows > Settings/Preferences > Preferences > Display and set the Max. texture display res. The smaller the value, the greater the chance of avoiding this issue.

You can also set this environment variable: MAYA_OGS_CPU_MEMORY_LIMIT (to a value in MB) to how much memory you anticipate you would use for the renderer. The value should be smaller than the actual amount available on your machine.

Possible slowdown on the Linux platform with PCI Express 1.0 hardware

There is a known driver issue on some (particularly older) Linux hardware with PCI Express 1.0 that can force Viewport 2.0 back to a software path. This can result in dramatically slower performance. This issue may be fixed in newer drivers.

Render Settings limitations

Render tokens cannot be inserted in the middle of the File name prefix field

After you input text in the Render Settings window, Common tab, File name prefix field, render tokens cannot be inserted in the middle of a field. This limitation applies to the Mac OS X and Linux platforms.

Workaround

After entering text, hit Enter or Return before choosing the position to insert the next token.

Maya rendered PSD file not readable by PSD file texture

Rendering a layered PSD file, then attempting to load it back into Maya as a PSD file texture results in a black texture.

Workaround

Use PSD and not PSD Layered when rendering out the texture.

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 Lighting/shading > Select Objects Illuminated by Light and Lighting/shading > Select Lights Illuminating Object 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.

Color management limitations

The following features do not support color management:

- swatches in the Attribute Editor, Hypershade, and so forth
- color chooser
- scene view
- hardware render buffer
- any renderer other than mental ray

Gamma value in Render Settings window does not work when Color Management is enabled

The Gamma attribute in the Render Settings window, Quality tab (when the mental ray renderer is selected) does not have any effect when the Enable Color Management option (Render Settings window: Common tab) is selected.

Color management attributes not included in load/set/save presets

Setting up and loading default or user defined/saved Render Setting presets does not take into account the color management attributes.

Convert File to Optimized Format option causes color profile to be ignored

If you render with the Convert File to Optimized Format option enabled (in the file node, mental ray section of the Attribute Editor; or, in the Preferences window, Use optimized textures under Rendering Preferences), Maya renders your scene as if there is no color profile associated with the texture.

Using LUT files with color management in Maya

Lustre LUTs assume the color data is logarithmic. Maya’s color data is linear. Set Display Color Profile to Cineon log in the viewColorManager Attribute Editor so that your LUT file receives logarithmic input.

Using color management with the PSD File node

You can add color management to your workflow by doing as follows:

- 1 In the Hypershade, select Maya > Utilities > Color Profile.
- 2 Middle mouse drag colorProfile1 onto psdFileTex1 in the Hypershade, and choose 'Other' as the connection type.
- 3 In the Connection Editor, choose colorProfileType in the Outputs column, and colorProfile in the Inputs column.

You can now edit the Color Profile Type on the colorProfile1 node.

Maya Software rendering limitations

The following lists miscellaneous software rendering limitations and workarounds.

Per-patch shading assignment

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

Optimized scene file location when using the -optimizeRender flag

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

Workaround

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

Raytraced shadows are not supported for Paint Effects

Raytraced shadows do not work with Paint Effects.

Workaround

Convert Paint Effects objects to polygons.

mental ray for Maya rendering limitations

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

mental ray impacted by Hyperthreading

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

Workaround 1

Turn off hyperthreading when using mental ray.

Workaround 2

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

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 for mental ray for Maya limitations

Currently, IPR for mental ray for Maya does not support the following:

- Level of detail camera updates
- Smooth mesh preview using the hotkey 3

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

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

Solution

Use Shadow Method Segments.

Light position and intersection point values are reversed when using the Simple Shadow Method versus the volume engine

When using the Simple Shadow Method, the shadow ray passes the light position in state->org and the intersection point in state->point. However, these values are reversed when using the volume engine. This behavior is what we expect of the current software.

Non-manifold geometries should be removed before rendering

Non-manifold geometries with approximation may cause Maya to stop unexpectedly when using mental ray for Maya rendering. This is a known limitation for mental ray for Maya. Therefore, non-manifold geometries should be removed before rendering.

Rendering with point lights, light fog and depth map shadows may produce incorrect results

When rendering with point lights, light fog and depth map shadows using mental ray for Maya, the render result may be incorrect.

Workaround

Use detail shadow maps.

Approximation may cause pinhole artifacts

When using ccmesh approximation with mental ray for Maya rendering, pinhole artifacts may appear.

Workaround

Change filter settings to increase the number of samples per pixel.

Subdivision approximation may not work correctly if object has reversed face normals

mental ray subdivision approximation may not work correctly if your object has one of its face normals reversed.

Workaround

Select the Polygon menu set, then select Mesh > Cleanup.

In the Remove Geometry section, select Nonmanifold geometry and Normals and geometry.

Material swatches do not update during mental ray IPR

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

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

Fast subsurface scattering now more accurate but slower with final gather

Beginning Maya 2008, fast subsurface scattering is now more accurate when used with final gather but it is also slower. This is because the `miss_lightmap_write()` shader and all phenomena that use this shader now perform additional calculations to assure quality.

Mayatomr plug-in must be loaded before importing files

Ensure that the `Mayatomr` plug-in is loaded before importing files. Otherwise, if you import a file before loading the `Mayatomr` plug-in, you may encounter errors when attempting to render in mental ray.

Final gather map visualizer limitation

When using the Enable Map Visualizer option or Final Gathering in the Render Settings: Indirect Lighting tab, using the default final gather file name causes no points to appear in the visualizer.

Workaround

Enter an absolute path for the Primary Final Gather File attribute instead of using the default setting.

Particle rendering

You can render the following particle types with mental ray: Points, MultiPoint, Spheres, Sprites, Streak, MultiStreak. The implementation builds on a geometry shader that creates actual geometry from per-particle data which is then passed on to mental ray for rendering.

Hardware particles are shaded in a way that is similar to software particles: a shading group must be assigned to the particle shape, and its surface shader completely determines the appearance of the particles. This implies that none of the shading-related attributes are supported when rendering hardware particles with mental ray.

`spriteNumPP` is unsupported; therefore, assigning different sprites on a per-particle basis is impossible. mental ray and Maya Hardware may render particles slightly differently.

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 'mentalray  
ItemsList.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 framebuffer only outputs 32-bit depth framebuffer

mental ray for Maya only outputs 32-bit depth framebuffer and not 16-bit.

Workaround

Use external tools to clamp the depth into the limited range for specific applications. Compositing packages that cannot read 32-bit depth are rather inappropriate and inconvenient for use with mental ray, since even color values are 32-bit per component (HDR).

mental ray for Maya transfer maps limitation

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

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

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

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

Workaround:

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

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

- Unselect the Connect maps to shader option.

mental ray for Maya transfer Maps custom shaders limitation

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

Removal of Zpic support

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

mental ray mia_roundcorners shader to be used with double-sided geometry

The mental ray mia_roundcorners shader must be used with double-sided geometry.

Batch render may not generate an output image file if mental ray output shader contains a parameter of type 'geometry'

If a scene contains a mental ray output shader that has a parameter of type 'geometry', then a batch render will not generate an output image file. No error messages appear, but there will not be an image file when the render completes.

Workaround

Change the parameter to another type such as 'integer'.

Surface changes during animation is not supported for mental ray for Maya motion blur

Surface changes (for example, changes to the number of vertices) during animation is not supported for mental ray for Maya motion blur. If the motion interval is large, so that the topology change occurs within this interval, mental ray issues the warning message "Shapes are not equivalent, no motion vectors computed" and skips motion data computation on the shape.

Baking to one map in mental ray uses wrong UV set

When Bake to one map is enabled, mental ray currently only bakes the default UV set, regardless of the specified current UV set on the object.

Workaround

Use override mesh UV set assignments, and rename all UV sets to that name.

mental ray does not support multiple motion transforms

Multiple motion transforms is not supported by mental ray for Maya. To obtain curved motion blur, animation should be applied to the shape node and not to the transform. In addition, you must enable the Export Motion Segments option in the Render Settings: Options tab, under the Translation section, Performance sub-section.

Image plane renders darker when mia_physicalsun shader is used

When you add the mia_physicalsun and mia_physicalsky to your scene using the Create button in the Environment section of the Render Settings, a network of nodes is automatically created, which includes the mia_exposure_simple shader that adjusts exposure. The mia_exposure_simple shader is added to the network because the mia_physicalsun and mia_physicalsky shaders create physically correct high dynamic range images that, when viewed without exposure control, will appear all white in the render view. The mia_exposure_simple shader not only affects the sun and sky but rather the entire scene including image planes. A standard image plane will appear darker relative to the bright sky. You can adjust the image plane's brightness using its Color Gain and Color Offset attributes, or using the attributes of the mia_exposure_simple shader.

mental ray volume fur may produce artifacts on tile edges

Occasionally, mental ray volume fur may produce artifacts in the shadowing on tile edges.

Workaround

Use a single tile for the whole image. However, the drawback is that a large amount of memory is required and only one core on the machine is used for rendering.

Incorrect bounding boxes reported for fur node

Maya reports incorrect (zero) bounding boxes for its FurFeedback nodes.

Workaround

Enable Show > Locators and the bounding boxes will be correct.

Multi-render passes limitations

2D Motion Vector pass limitations

File format for 2D Motion Vector pass

The 2D Motion Vector pass requires a 32-bit output. Therefore, when creating this pass, you must select openEXR as your file format. However, since you cannot select a different file format for each render pass, all passes must be written to an openEXR file whenever your list of passes include the 2D Motion Vector pass. This limitation does not apply to the Normalized 2D Motion Vector pass.

Using the 2D Motion Vector pass with Toxik

The 2D Motion Vector pass in mental ray for Maya is 3-channel, and does not support 4-channels.

Workaround

To use the extend option on the blur node in Toxik, you can render a coverage pass and use Set Alpha in Toxik.

Diffuse Material Color pass and Reflected Material Color pass produce different results for Maya shaders versus mia_material_x_passes shaders

The Diffuse Material Color pass for a mia_material_x_passes shader, as compared to that of a Maya shader, appears a little darker when looking at a highly reflective mia_material_x_passes from a low grazing angle.

The Reflected Material Color pass for a mia_material_x_passes shader can have a bright outline at the shader borders, unlike that of Maya shaders that are generally just a flat color.

mental ray sun and sky shaders may cause passes to be brighter than normal

Passes may appear brighter than usual when you use the mia_physicalsun and mia_physicalsky shaders with the multi-render passes. In particular, the refraction pass produces the most noticeable difference.

Workaround

Avoid using the mia_physicalsun and mia_physicalsky shaders with the multi-render passes feature. If you must use these shaders in your scene, you can workaroud the problem by rendering to .exr format and then do the necessary tone mapping in the compositing software (for example, Toxik).

Rendering motion vectors increases memory consumption

When rendering motion vectors with BSP2, memory consumption may be higher, just as with rendering with motion blur. If memory runs low, try using BSP or Large BSP instead.

Render proxy limitations

- If your render proxy contains textures, then, when you export your render proxy, you **must** select the Absolute option under the Texture file category in the Export Selection Options window, Export file paths section.
- Render proxy is currently only supported for static geometry. Therefore, if you put a deformer on a file and animate it and export it as a proxy, mental ray for Maya will only read the last frame when it is loaded in a new file.
- You cannot load a proxy into a file and try and put a deformer on it. You should avoid modifying the proxy shape (in other words, avoid changing the bounding box size in the Maya scene), otherwise, you may get clamping.

Using autovolume may cause a render with shadows even if there are no lights in the scene

Using autovolume may cause shadows to appear in the render even when there are no lights in the scene.

Short name displayed incorrectly when adding a new attribute to a mental ray base shader

Appending a new attribute to any of the mental ray base shaders cause the shortname of the output value to be displayed incorrectly.

Workaround

Add explicit `short name` to the output parameters in the .mi declaration, then save the Maya file with the option Use full names for attributes on nodes enabled under the File Type Specific Options section in the Save Scene As Options window.

Changing the Verbosity Level via mentalrayGlobals does not work

Changing the Verbosity Level for messages through the mentalrayGlobals does not work.

Workaround

Change the verbosity level through Render > Render Current Frame >  instead.

Use shorter namespace names when using nested references

The longer names that result from nested references may dramatically increase Maya's memory consumption. mental ray performance critically degrades when the size of its internal database goes beyond the fixed memory limit or when Maya and mental ray memory consumption go beyond available physical RAM.

To decrease memory contention, use shorter namespace names, especially when using nested references.

To reduce the the length of namespace names on all top level references in a scene, run the following script. Unfortunately, it has to be run on all scenes in the hierarchy that reference-in other scenes. After running the script, all top level namespaces in the file will have names n0, n1, n2, and so on.

```
string $allRefFiles[] = `file -q -reference`;
int $i;
int $numRefFiles = `size($allRefFiles)`;
for( $i = 0; $i < $numRefFiles ; $i++)
{
file -e -ns ("n"+$i ) $allRefFiles[$i] ;
};
```

.mi file created from Maya 2009 does not render in Maya 2010 standalone

If you export a scene as a .mi file using Maya 2009, issues may occur if you try and render the .mi file using Maya 2010 standalone.

Workaround

To workaround this problem, open the scene in Maya 2010 and re-export it as a .mi file.

Hardware rendering limitations

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

Known limitations

Cube map is not affected by translation and scale

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

Hardware renderer performance is slow when baking projected textures

The hardware renderer performance is slow when baking projected textures.

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

Hardware renderer limitation with displaying mental ray area lights

When displaying mental ray area lights, the hardware renderer does not provide the same results as an actual render, but instead produces a very rough approximation that can be viewed in High Quality mode.

The Maya hardware renderer supports the following configuration for mental ray area lights:

- A Maya area light must be used.
- Only the Rectangle mental ray area light shape is supported.
- Basic light parameters such as Color, Intensity, Decay Rate are supported.
- An approximation of shadows is supported.
- A fixed point sampling rate is used for both diffuse and specular highlights. Sampling artifacts may occur, especially for specular highlights where the area of the light is large and the light is close to the surface.
- Other light shapes and options such as High Samples, High Sample Limit and Low Samples are not supported.

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

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

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

- Per Object
- Per Polygon

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

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

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

Workaround

For possible better sorting, the you can either:

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

Hardware renderer clipping planes deviates from the default behavior of the software renderer and the mental ray renderer

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

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

Ashli shader plug-in now part of Bonus Tools

As of Maya 2009, the ASHLI plug-in is now available as part of the Maya Bonus Tools. Bonus Tools is a free collection of useful Maya scripts and plug-ins that are available from the Autodesk Web site (<http://www.autodesk.com/maya-bonustools>).

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

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

Vector rendering limitations

The following lists the Vector rendering limitations and workarounds.

Do not combine frames created from different operating systems

Do not combine frames created from vector rendering on different operating systems (for example, a 32-bit operating system and a 64-bit operating system) as there may be slight differences in the renderer output.

Backburner rendering limitations

When rendering with Backburner as a service, Maya may not use all processors available

When rendering with Backburner server setup as a service, Maya may not use all the processors available on the computer when rendering.

Workaround

- 1 After installing the Backburner service, go to the Services Control Manager.
- 2 Open the Backburner Service properties.
- 3 In the Log On tab select Log on as this account.
- 4 Specify a username and password.
- 5 Start Maya and create preferences for the username and password created in step 4.

General nDynamics limitations

The following lists miscellaneous nDynamics limitations and workarounds.

Caching nParticles with previously cached nCloth objects

When you cache an nParticle object at the same time as two or more nCloth objects that are already cached in the same cache file, the nCloth objects in the resulting cache do not behave as expected if the One file per geometry option is not used.

Workaround

If you want to cache nCloth and nParticle objects together in the same scene, make sure you select One file per geometry in the Create nCache Options window when setting your nCloth and nParticle nCache options.

General nCloth limitations

The following lists miscellaneous nCloth limitations and workarounds.

No connections made when painting cache weights using pop-up menu

Using the right mouse button menu to paint nCache weights does not create the weight connection to the cache blend node. If there is no connection, the per-point cache weights are not be applied.

Workaround

Use the Paint Cache Weights Tool by selecting nCache > Paint Cache Weights Tool the first time paint cache weights.

If you have already painted cache weights using the right mouse button menu, you may have some unconnected cache weights. To fix open the Paint Cache Weights Tool window (nCache > Paint Cache Weights Tool) and select each cache to make sure that all the connections are created before painting.

Friction and Edge Collision Flag can cause unexpected behavior

When Collision Flag is set to Edge, using Friction values greater than 0 can cause unexpected behavior.

Workaround

Set Collision Flag to either Face or Vertex.

Particle expressions not supported on nCloth object attributes

Using nParticle/particle expressions on nCloth object attributes causes nCloth simulations to fail. Particle expressions are not supported for nCloth object attributes.

Workaround

Do not use particle expressions on nCloth objects.

nRigid collision display off from nRigid objects

If all the nCloth objects in a scene are cached, the nRigid collision display will appear one frame off from nRigid after caching the objects.

Workaround

Add a very small un-cached nCloth object to the scene.

Changing the topology of a passive collision object after the start frame

If you change the topology of a passive collision object with an nConstraint after the start frame, and the resulting frame has fewer vertices or faces, Maya may stop indefinitely if you immediately resume playback.

Workaround

Go to the start of the playback range before playing back the scene.

Weld Adjacent Borders constraint and file saving

If an nCloth object is constrained using the Weld Adjacent Borders constraint and the file is saved at a frame other than the start frame and then re-opened, the re-loaded scene will not update the constraint properly during playback.

Workaround

Return to the start of the playback range before saving.

nConstraints on wrapped surface

If an nCloth object uses a mesh as a wrap deformer and then an nConstraint is created between the nCloth and the mesh surface, the constraint will have no affect.

Workaround

Make the wrap shape a passive collision object and then create the constraint.

Removing tearable constraints

If you remove a tearable constraint from a surface using Remove Dynamic Constraint, the nCloth will still tear when you simulate.

Workaround

In the Hypergraph, select and delete the polySplitVert, polyMergeVert and polySoftEdge nodes.

Topology changes during simulation

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

Vertex maps and constraints

You can only create painted vertex maps for constraints that connect vertices to vertices.

Creating nCloth from referenced files

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

nCloth does not cache properly when its input mesh is driven by a geometry cache

If the input mesh on an nCloth object is driven by a geometry cache, many nCache operations will work on the geometry cache instead of on the nCloth cache.

Workaround

- 1 Select the nCloth object, and then from the Animation menu set, select Edit Deformers > Display Intermediate Objects.

All the upstream shapes, including the nCloth input mesh and the pre-geometry-cache mesh are displayed.

- 2 To select the output mesh shape, either pick-walk down from the Transform node, and then pick-walk right until the output cloth mesh is selected. Or, in the Attribute Editor, select the OutputMesh tab.
- 3 Hide the upstream mesh, by selecting Edit Deformers > Hide Intermediate Objects from the Animation menu set.
- 4 From the nDynamics menu, select nMesh > Display Current Mesh to hide the input mesh.

Smoothing and caching

If you create a low resolution model and create an nCache for it, then add a polysmooth and create an nCache the new smoothed model, Maya will re-cache the old the low resolution model instead.

Workaround

After creating the new cache for the smoothed object, select Edit > Delete All by Type > History. Then select Geometry Cache > Import to attach the cache of the smoothed geometry.

Caching nCloth objects with changing topology

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

Last Tool and painting nCloth

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

Component to Component constraints updating per frame

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

Thickness map in shaded mode

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

Workaround

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

Collision Thickness display

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

Workaround

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

nCloth jiggles or oscillates when Push Out Radius is less than collision Thickness

When an nCloth object's Push Out Radius is set to a lower value than its collision Thickness, the nCloth may jiggle or oscillate after colliding with other Nucleus objects.

Workaround

Set the nCloth object's Push Out Radius to a value that is greater than its collision Thickness value.

Transference of downstream connections from nCloth input meshes to output meshes

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

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

Workaround

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

Negative Push Out values

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

Workaround

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

Lift attribute affected by nCloth object size

When the same nCloth object is scaled to different sizes that have the same Lift attribute value, the scaled nCloth objects may behave differently when simulated.

Workaround

Adjust the Lift attribute of each scaled nCloth object until the desired behavior is achieved.

General nParticles limitations

The following lists miscellaneous nParticle limitations and workarounds.

Removing nCloth on a mesh that is a goal for nParticles deletes the nParticle object

If you used an nCloth mesh as the goal for an nParticle object, removing the nCloth by selecting the mesh, and then selecting nCloth> Remove nCloth, the nParticle object is deleted.

Workaround

Disconnect the goals from the nParticle object using a `disconnectAttr` MEL command. For example, if

- the nCloth output mesh is named *outputCloth1*
- the nParticle shape is named *nParticleShape1*
- the goal to be disconnected is the first (or only) goal for nParticleShape1,

use the following MEL command `disconnectAttr outputCloth1.worldMesh[0] nParticleShape1.goalGeometry[0]`.

Deformed nParticle system cannot be cached

If nParticles are influenced by a deformer object, the deformed particle system cannot be nCached and played back.

The deformed object is not considered dynamic, meaning that the cached attributes would not be correct or readable when the cached is played back.

Also, the cached data would include the deformer positions rather than the correct particle positions per frame.

Workaround

Create an nCache of the original nParticle object.

Deformer applied to nParticles can make wrong connections

When a deformer is applied to an nParticle object that is assigned to a nucleus node which is controlling more than one nParticle object, the deformer creates the wrong input object. This means that there is no simulation input to the deformed nParticle system.


Workaround

- 1 Before applying the deformer to the nParticle object, assign it to a new nucleus solver by selecting nSolver > Assign Solver > New Solver.
- 2 Apply the deformer to the nParticle object.
- 3 Select the upstream, undeformed nParticleShape node and assign it to the original nucleus solver.

Resetting the nParticle Tool reverts to the classic Particle Tool window

Selecting Reset Tool when using the nParticle Tool, the Tool Settings window changes from the nParticle Tool settings to the classic Particle Tool settings.

Workaround

- 1 After resetting the nParticle Tool, close the Tool Settings window that appears.
- 2 Reopen the nParticle Tool settings window by selecting nParticles > Create nParticles > nParticle Tool >  .

Undoing nParticle creation may not immediately remove nParticles from the scene

If you want to undo the creation of an nParticle system, you may need to perform an Undo (Edit > Undo) two or more times before the nParticle system is removed from your scene.

Using the Component Editor to edit emitted particles

Maya may stop unexpectedly if you use the Component Editor to edit emitted nParticle objects.

Workaround

Do not use the Component Editor to edit emitted nParticles. Be aware that using the Component Editor to edit any particle system automatically sets the particle system's initial state. Therefore use nSolver > Initial State > Set From Current to set the initial state of emitted nParticles or nParticles present in the start frame of a simulation.

Duplicate nParticle objects with no connections do not play back in saved scene files

Duplicate nParticle objects play back correctly in your scene; however, if the scene file is saved and then opened in Maya, the duplicate nParticle object does not play back correctly. This occurs because the duplicated nParticle object must be assigned to a Nucleus solver and must be connected to time.

Workaround

To connect the new nParticle object to a nucleus solver and to time, do the following:

- 1 Select the nParticle object and then select nSolver > Assign Solver, and select an existing solver from the list.
If you connect the duplicated nParticle object to a different solver (than the original) you will need to save, and then reopen the file before the simulation plays back properly.
- 2 Connect the nParticle object to time using the following command line:
`connectAttr time1.outTime nParticleShape2.currentTime;`
- 3 To assign your duplicated nParticle object to an emitter, use the Dynamic Relationships editor to make the connection.

An nParticle object duplicated at an advanced frame may crash Maya

If you duplicate an nParticle system at an advanced frame of a simulation, and then continue to play it back, Maya may crash.

Workaround

Do one of the following:

- Create the duplicate nParticle system at or before the start frame of the simulation
- Rewind the simulation immediately after duplicating the object, and then play it back.

When using Duplicate Special, the duplicate and original nParticle objects seem connected to the same Nucleus solver

When using Duplicate Special (Edit > Duplicate Special) to duplicate an Particle system, the duplicate and original nParticle objects seem connected to the same Nucleus solver. For example, when Use Plane is turned on for one of the Nucleus nodes, both nParticle systems collide with the ground plane. Also, Duplicate input graph should be selected in the Duplicate Special Options window before duplicating the object.

Workaround

After duplicating the nParticle system using Duplicate Special, save, and then close the scene file. Open the scene file again, and play back the simulation. Each nParticle system now responds properly to their respective Nucleus node settings.

nParticle to nParticle collisions unstable when Bounce is 0

Collisions that occur between the individual nParticles of two nParticle systems (not nParticle self-collisions) are exaggerated when the Bounce attribute on both nParticle objects is set to 0.

Workaround

Do one of the following:

- Set the nucleus node Substeps attribute to 1.
- Set the Bounce attribute on one of the colliding nParticles objects to a very low value such as 0.001.

Output mesh per-vertex data does not appear in Connection Editor

If you turn on Color Per Vertex, Opacity Per Vertex, Incandescence Per Vertex, or Uvw Pert Vertex for an output mesh, the color per-vertex data (colorSet) is not listed in the Connection Editor.

Workaround

- 1 In the Color Set Editor, click New to create an empty color set.
- 2 Select the polySurfaceShape node.
The output mesh per-vertex data is now listed in the Connection Editor as colorSet.

Rendering output meshes with per-vertex shading requires additional user setup

To render output meshes with per-vertex Color, Opacity, or Incandescence using mental ray for Maya renderer, you must create a shading network that includes a mental ray Vertex Colors node.

Workaround

- 1 In the Color Set Editor, click New to create an empty color set.
- 2 Select the polySurfaceShape node.
The output mesh per-vertex data is now listed in the Connection Editor as colorSet.
- 3 See *Render color per vertex in mental ray for Maya* in the *Rendering and Render Setup* guide for information about making node connections.

Motion blur can be seen ahead of nParticle emission when rendered using mental ray

When rendering emitted nParticles using mental ray with motion blur, the blurred mesh surface can be seen before the particle emission starts.

Workaround

Do one of the following:

- Cache the simulation and then render it.
- Use the Maya Software render the nParticle output mesh.

No motion blur on output meshes that are assigned mental ray subdivision approximation

If you create and assign a subdivision approximation (using the mental ray Approximation Editor Subdivisions option) to smooth an output mesh at render time, the mesh cannot be rendered with motion blur.

Workaround

Use either Mesh > Smooth or the Smooth Mesh Preview (Hotkey: 3) to smooth the output mesh before rendering.

Some ramp textures do not render properly on cached nParticles with motion blur

If you use a ramp texture to control nParticle per-particle attributes, such as Opacity, some per-particle values may be incorrect when the cached simulation is rendered with motion blur.

Workaround

Before rendering your simulation, do one of the following:

- In the Caching section of the nParticleShape node Attribute Editor, ensure that Cacheable Attributes is set to All, and then cache the simulation. Disconnect the ramp texture from the per-particle attribute, and render the simulation.
- Instead of using a ramp texture, use the nParticleShape node's internal Opacity Scale ramp to set per-particle Opacity.

Unable to render some output meshes in mental ray

If your output mesh contains nonmanifold geometry, mental ray does not render the frames with the nonmanifold geometry. Output meshes created with the Quad Mesh method are more likely to contain nonmanifold geometry than meshes created using the other Mesh Methods such as Triangle Mesh.

Workaround

Do one the following:

- If you want to remove nonmanifold geometry from a particular frame, you can mesh Cleanup. To do this, from the Polygons menu set, select Mesh > Cleanup. In the Cleanup Options window, under Remove Geometry, turn on Nonmanifold geometry.

- When converting an nParticle object to an output mesh, do not select Quad Mesh as the Mesh Method. For example, use Triangle Mesh.

nParticle cache blend and merge not working

Maya 2011 does not support blending and merging of nParticle caches.

nParticle emission incorrect when emitted from a Nucleus object

nParticle emission may be off by one frame when emitted from the surface of other Nucleus objects (nParticles > Create nParticles > Emit from Object) such as nCloth.

Workaround

Change the DAG order so that the nParticle object appears before the Nucleus and input mesh objects. To do this, in the Outliner, select and then drag the nParticle object so that it is listed above the emitting Nucleus object.

nParticle collisionTime only accurate to the nearest frame

For nParticles, collisionTime returns a value that is only accurate to the nearest frame.

Workaround

Estimate collision time by calculating the value from the nParticle position and velocity in the previous frames of the simulation.

Scripting nParticle creation invokes other commands

Using the `nParticle` command, the `particleFill` command, or the `NCreateEmitter` script, invokes some lower level scripts with `evalDeferred`. If you want to use these commands in a script and then access any per-particle dynamic attributes in the same script, you need to first allow the deferred commands the chance to catch up.

Workaround

Insert a command that lists each `evalDeferred` such as to flush out all the deferred commands.

File referencing not fully supported for particle expressions

One remaining limitation when using file referencing with particle expressions is an issue with modifying expressions. For example, if you have a child scene

with just a creation expression, and you modified the creation expression in the parent scene, and then added a Runtime before dynamics expression in the child scene, you do not see the new expression in the parent scene. To see the new expression, you must remove the edit that nulled out the Runtime before dynamics runtime expression. 125437, Improved, but not Fixed 11.0

Workaround

- 1 In the Reference Editor, select File > List Reference Edits to identify the edited expression.
- 2 In the List Reference Edits, remove the unwanted modifications from the expression.

In the example provided above, you would remove the edit that nulled the Runtime before dynamics expression. The unwanted edit would appear as:

```
setAttr  
|xxx:nParticle1|xxx:nParticleShapel.internalRuntimeBeforeDynamicsExpression  
-type "string" "".
```

General Fur limitations

Fur stamp unexpectedly renders above paintFX stroke stamps

The camera renders fur stamps above paintFX stamps unexpectedly.

Workaround

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

PolySmooth node causes Fur to flicker

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

Workaround

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

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

Using Chord Height Ratio can cause Fur to flip

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

Rendering high resolution

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

Limitations when rendering Fur in the Maya Software renderer

Degree 1 NURBS surfaces tessellate extremely highly

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

Workaround

Convert the geometry to polygons.

Fur does not render correctly in orthographic views

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

Workaround

Render Fur in mental images® mental ray® for Maya.

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 for Maya.

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 for Maya.

Using Chord Height Ration can cause Fur to flip

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

Workaround

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

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

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

Workaround

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

Limitations when rendering Fur in mental ray for Maya

Fur on instanced objects not rendering

Fur cannot be rendered in mental ray for Maya 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 for Maya.

Fluid Effects limitations

Fluid performance issues on some Windows XP multi-core systems

Some Windows multi-core systems running Windows XP may see reduced performance when solving fluid simulations. Currently, the issue is confirmed on some 8-core systems running Windows XP, however if you encounter the problem on other system configurations, the provided workarounds may improve performance.

Workaround

Depending on your system configuration and the complexity of your fluid simulation, one or both workarounds may improve performance:


- Use the MEL `threadCount` command to limit the number of processing threads to six. For example, `threadCount -n 6`.
This workaround has been confirmed on 32-bit Windows XP multi-core systems.
- Use the `MAYA_DEFAULT_BLOCKTIME` environment variable to set the openMP blocktime to 0.
If you are running a 64-bit Windows multi-core system, try this workaround first.

Keep Voxels Square and Base Resolution do not resample fluid contents

Turning on Keep Voxels Square or using Base Resolution to adjust the resolution of a fluid empties the fluid container.

Workaround

Use the Edit Fluid Resolution Options by doing the following:

- 1 Turn off Keep Voxels Square.
- 2 Select the fluid and then select Fluid Effects > Edit Fluid > .
- 3 In the Edit Fluid Resolution Options window, use the X, Y, or Z resolution attributes to change the fluid resolution.

If you have saved the fluid's initial state, and want it resaved based on the updated resolution, ensure that Rebuild initial state is on.

Turning off Auto Resize and Keep Voxels Square on auto-resized fluids

If you turn off Auto Resize and Keep Voxels Square in an advanced frame of an auto-resized fluid, the fluid's internal dimensions remain set to the values at that frame. This means that the fluid draw will no longer match the boundary draw, and the emission will be inconsistent.

Workaround

Rewind the simulation to the start frame before turning off Auto Resize and Keep Voxels Square.

Ambient lighting causes jitter in auto-resized fluids

When an auto-resized fluid is rendered with Ambient Diffusion, the ambient light may cause jitter in the simulation.

Workaround

Do not render auto-resized fluids with Ambient Diffusion.

Using Resize To Emitter with low or zero density emitters

Resize To Emitter may not work as expected with auto-resized fluids that have low or no density emission.

Workaround

Lower the Auto Resize Threshold value so that the container resizes at lower density values. You can also increase the density emission rate.

See *Auto-resizing fast moving and high resolution fluids* in the *Fluid Effects* guide for other workarounds.

Can't set initial state of an auto-resized fluid from an advanced frame

You cannot use Fluid Effects > Set Initial State to set the initial state of an auto-resized fluid in an advanced frame of a simulation. You must manually set the Resolution and Size.

Workaround

Before playing the auto-resized simulation to an advanced frame, take note of the original Resolution values at the start frame, and then do the following:

- 1 Play the simulation to the frame you want to set to the initial state.
- 2 In the fluidShape node Attribute Editor, turn off Auto Resize and Keep Voxels Square.
- 3 Take note of the current Resolution and Dynamic Offset Values.
- 4 Set the current frame to initial state by selecting Fluid Effects > Set Initial State.
- 5 Rewind the simulation to the start frame.
- 6 Set the Resolution using the values noted at the advanced frame.
- 7 Calculate the new Size using the following formula: $\text{Resolution/Previous Resolution} \times \text{Size}$
- 8 Set the new Size based on your calculations.
- 9 Add the Dynamic Offset value to the container's Transform value (in the fluid node).

Fluids with temperature turbulence and backward compatibility

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

Workaround

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

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

Output mesh per-vertex data does not appear in Connection Editor

If you turn on Color Per Vertex, Opacity Per Vertex, Incandescence Per Vertex, or Uvw Pert Vertex for an output mesh, the color per-vertex data (colorSet) is not listed in the Connection Editor.

Workaround

- 1 In the Color Set Editor, click New to create an empty color set.
- 2 Select the polySurfaceShape node.
The output mesh per-vertex data is now listed in the Connection Editor as colorSet.

Rendering output meshes with per-vertex shading requires additional user setup

To render output meshes with per-vertex Color, Opacity, or Incandescence using mental ray for Maya renderer, you must create a shading network that includes a mental ray Vertex Colors node.

Workaround

- 1 In the Color Set Editor, click New to create an empty color set.
- 2 Select the polySurfaceShape node.
The output mesh per-vertex data is now listed in the Connection Editor as colorSet.
- 3 See *Render color per vertex in mental ray for Maya* in the *Rendering and Render Setup* guide for information about making node connections.

No motion blur on output meshes that are assigned mental ray subdivision approximation

If you create and assign a subdivision approximation (using the mental ray Approximation Editor Subdivisions option) to smooth an output mesh at render time, the mesh cannot be rendered with motion blur.

Workaround

Use either Mesh > Smooth or the Smooth Mesh Preview (Hotkey: 3) to smooth the output mesh before rendering.

Use Per-Point Rates(ratePP) does not work when emitting fluid from emitted particles

When you emit fluid from emitted nParticles (or classic particles), turning on Use Per-Point Rates(ratePP) causes particle emission to stop. This problem does not occur when emitting fluid from static particles.

Workaround

Do not turn on Use Per-Point Rates(ratePP) when emitting fluid from emitted particles. Use it only when you emit fluid from static particles.

Like-named fluids cause cache problems

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

Workaround

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

Fluid initial state cache node may be named incorrectly

If you create an initial state for a referenced fluid or a fluid in a namespace, the cache node 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` as appropriate.

Source caches of merged fluid nCaches must be disabled or deleted

When fluid nCaches are merged, each source cache file must either be disabled or deleted. Otherwise, the cached fluid simulation may not play back as expected.

Workaround

Disable or delete the source fluid caches by doing one of the following:

- To disable caches, select the fluid objects, and then from the Dynamics menu set, select Fluid nCache > Disable All Caches On Selected.

- To delete the source caches clips after they have been merged, in the Merge Fluid Cache Options window, select Cache: Delete existing caches after merge.

Fluid cache files that contain more than one fluid object may not play back as expected

Fluid cache files that contain more than one cached fluid object may not play back as expected. This is especially the case when the caches are blended or merged with other fluid nCache files.

Workaround

Select, and then cache each fluid object separately so that the cache files contain only one fluid object.

Maya does not re-simulate missing fluid caches during batch renders

During batch renders from the cache, Maya no longer attempts to re-simulate when it cannot locate a fluid cache. With fluids nCaching, Maya issues an error message indicating that it cannot locate a fluid cache file. This behavior differs from the previous version of fluids caching.

Cached channels do not attach properly when attaching an existing fluid cache

Attaching an existing fluid cache file (using Attach Existing Cache File) does not attach all the channels from the cache file. Even if the cache, which is to be attached, has the same channels as the cache node connected to the fluid, the names of the channels are not specified in full, and only the Density data (first channel) is sent to the fluid.

Workaround

Specify the channels you want to cache in the order they were connected. Ensure that you use the full name of each channel as it's listed in the XML file. For example:

```
setAttr -typ "string" fluidShape1Cache1.channel[0] "fluid
Shape1_density";
setAttr -typ "string" fluidShape1Cache1.channel[1] "fluidShape1_
velocity";
```

If the attached cache contains additional channels, open the Hypergraph to see the names that are associated with each channel.


Append to Cache does not work for painted, non simulated fluid frames

There are two associated limitations:

- Append to Cache (Fluid nCache > Append to Cache) does not work for non simulated fluid frames that are painted using the Paint Fluids Tool. To append a paint cache frame, you must use Replace Cache Frame.
- Replacing a painted cache frame only works when the Replace Fluid Cache Frame(s) Options window is open.

Workaround

To append a painted or imported frames to the end of a fluids cache, do the following:

- 1 Append the unmodified frame (Fluid nCache > Append to Cache).
- 2 Make the desired modifications to the frame.
- 3 Replace the appended frame by selecting Fluid nCache > Replace Cache Frame >  .

In order for the replace frame operation to work, you must leave the Replace Fluid Cache Frame(s) Options window open.

- 4 Click Replace.

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).

Using an internal Directional light when rendering an auto-resized fluid in mental ray

If you use the fluids internal Directional (Real Lights off) with Self Shadow on to render an auto-resized fluid using mental ray, the light does not shine from the set X, Y, and Z positions.

Workaround

Use a scene Directional Light light to render the fluid.

- 1 In the Lighting section of the fluidShape node attributes, turn on Real Lights.
- 2 In the scene, create a real Directional light and set its Translate X, Y, and Z to match the Directional Light settings of the internal light.

Drop-off can cause popping with auto-resized fluids

On auto-resized fluids, popping can be seen around the areas of the fluid dropoff. This effect is more pronounced if the Edge Dropoff value is low and the Dropoff Shape is close the edge of the fluid container.

Workaround

Increase the Edge Dropoff value and ensure that the Dropoff Shape is not near the boundary of the fluid.

MR render does not read fluid names properly

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

Workaround

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

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 0.01.

2D texture collision missing some areas

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

Workaround

Triangulate the poly mesh explicitly using Mesh > Triangulate in the Polygons menu set.

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.

Animated fluid emission rate is not updated

When scenes with animated fluid emission rates are saved while the simulation is at an advanced frame (after the start frame), the emission on the first frame may be incorrect. This occurs the first time the simulation is played back after rewinding to the start frame.

Workaround

Save the scene at or before the start frame. If you did not save the scene at the start frame, play the scene, rewind, and then play it a second time. The scene should play back normally thereafter.

When batch rendering, make sure that you save the scene at or before the start frame. Otherwise, use an nCached version of the simulation when batch rendering.

Floating object animation limitation

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

Workaround

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

Alpha in image plane expands when used with volume fluids

Alpha in image plane expands when used with volume fluids.

Workaround

Make a second render.

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

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

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

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

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

- 1 Create an ocean or ocean shader. Set the numFrequencies and waveHeight both to zero so that the ocean is totally flat and more optimal to render.
- 2 Map the oceanShader waveHeightOffset with an ocean texture.asProjection = ON and newTexturePlacement OFF. On the projection set the rotateX to 90.
- 3 Map the colorOffset of this texture with another ocean texture as Projection = 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).

Ocean horizon appearance

Large Ocean objects may appear blurry near the horizon when rendered in either mental ray for Maya or Maya renderers.

Workaround

Lower the horizon filter value from 1.0 to 0.1 on the ocean shader.

Ocean horizon and waves

When the camera is positioned such that a wave obscures the horizon line, a line artifact may appear on the wave.

Workaround

- Make the Horizon Filter value zero on the ocean shader. Note that a higher antialiasing setting may be required to avoid jitter along the ocean horizon.
- Render the scene using in mental ray for Maya renderer.

Increased intensity of lights when multiple lights are used to illuminate fluid objects

When multiple lights are used to illuminate a scene with a fluid object, the intensity of each light is incorrectly increased.

Workaround

- 1 Create lights specifically for illuminating the fluid object.
- 2 Using the Light Linking Relationship Editor (Window > Relationship Editors > Light Linking), link the lights to the fluid object.
- 3 Adjust the intensity of each light accordingly.

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.

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 Display settings

Turning on Caching in the Node Behavior section of the Attribute Editor results in unexpected fluid behavior in the hardware display.

Workaround

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

Depth buffer inaccurate for surface fluid

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

Workaround

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

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

If the 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 Display: As Render

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

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

- You will get ribboning if your drop off shape is off, or the edge dropoff is 0, whatever the shape.

Noise and volumetric objects

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

Older presets are not removed when Maya uninstalled

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

Workaround

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

Hair limitations

Erroneous caching warnings when batch rendering

If you create a hair cache and then save the scene file when it is at or before the start frame of the simulation, you may get erroneous warning indicating that the hair cache file is not found or the file contains an uncached hair system.

Workaround

Ignore these warnings. If you created the hair cache, Maya will read it for batch rendering.

Hair width incorrect when rendered with mental ray for Maya

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

Workaround

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

IK solver may crash Hair render

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

Workaround

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

3D motion blur on Hair

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

Workaround

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

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

Simulation rate problems due to over and undersampling

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

Workaround

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

Lock Length not working with clusters

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

Undo not working when using Lock Length

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

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

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

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

Workaround

Modify Rest or Start curves in the referenced file instead.

Problems with non unique hair curve names and namespaces

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

Workaround

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

Gravity not working with Hair

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

Workaround

Use a gravity field instead of the built in gravity

A default dynamic curve behaves differently at each end

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

Workaround

Apply a transform constraint at the end of the hair.

Hair jittering with collision constraint

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

Workaround

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

Toon limitations

Lighting Based Width does not work with Offset Mesh

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

Workaround

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

pfxStrokes command does not support pfxToon node completely

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

Workaround

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

Reverse surfaces only work for polygons

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

Workaround

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

Translators and Platform-specific

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Translator limitations

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

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

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, use the “seed” function which is available in Maya.

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

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

Workaround

Adjust its size to get the desired result.

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

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

Workaround

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

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

where decay is:

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

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

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

(StudioImport) StudioTools image plane placement

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

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

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

(StudioImport) Losing animation sequence number during conversion

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

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

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

Obj limitations

The following limitations and workarounds relate to Obj.

.obj suffix on obj filename necessary

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

Workaround

Append .obj to the end of the filename.

MTL textures

MTL textures only work with file textures.

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.

Miscellaneous translators

Compression not working using VRML2, OpenInventor export

To use compress in Export Vrm12 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) Cannot save to c:\ in Windows 7

You may find that you cannot save files directly to the c:\ root directory in Windows 7 when the UAC is active.

Workaround

Although we do not recommend saving files directly to the c:\ root, if you must do so, deactivate UAC and then save the file.

(Windows Vista and Windows 7) Aero theme causes display issues with stereoscopic camera views

Display issues with the stereoscopic views can occur in Maya if your Windows Vista or Windows 7 system is set to use the Aero display theme.

Workaround

If you plan to use stereoscopic camera views, select an alternate theme for your Windows system. If you're not using stereoscopic views, you can experiment with using the Aero theme.

(Windows) Case sensitivity when searching for xpm files

If reference an xpm file as .XPM in a script, Maya will not find the associated file due to mismatched cases.

Workaround

Reference all xpm files in lower case.

(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.

(Windows) Maya does not start from Japanese/multibyte path

If you install Maya to a custom location containing Japanese/multibyte characters and then attempt to open Maya, Windows returns an error.

Workaround

Do not install Maya to a custom location containing Japanese/multibyte characters.

(Windows) Maya confuses decimal point and decimal comma

When working in a Windows regional setting that uses decimal commas, Maya occasionally swaps decimal points for decimal commas.

Workaround

In the Windows regional settings, exchange the decimal comma for a decimal point.

Maya for Linux limitations

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

(Linux) Maya does not start if Maya can't find expected version of libssl.so.6

Maya will not start if it can't find the expected version of libssl.so.6 and libcrypto.so.6.

Workaround

If the Maya installer doesn't find the expected version of this file, it copies the system version to the Maya `lib` directory as Maya is being installed. If for some reason this fails, you can find the file on the Maya DVD in the `support/openssl` directory which you can manually copy to the Maya `lib` directory.

(Linux) User Interface doesn't load if project directory isn't writable

The main Maya UI doesn't load if the current project directory isn't writable. Instead, the Script Editor opens with the following error.

```
//Error: file: /usr/local/maya/scripts/startup/layerEditor.mel  
line 4137: Could not find attribute named "defaultRenderLayer.pre  
compTemplate"//
```

Workaround

Change the project directory to one you do have write permissions to or change the write permissions of the current project directory.

(Linux) Maya cannot load files with colons in folder name

If you attempt to load a file with a colon in the folder name, Maya does not load any files in that folder despite not returning an error.

Workaround

Rename the folder so it does not have a colon in it.

(Linux) New parenting behavior may disrupt old workflows

In Maya 2011, Linux parenting is now forced to the main Maya window. In some cases, this may disrupt workflows you were used to in previous versions of Maya.

Workaround

Add the environment variable `MAYA_SET_PARENT_HINT`. Setting this variable to 0 reverts Maya to the old behavior (not forcing Linux parenting to Maya).

You can set this variable in the `Maya.env` file or general environment before running Maya.

(Linux) Undocked windows disappear when Maya loses focus

If you have undocked windows in Maya, then change the focus to another application, the undocked windows disappear.

Workaround

In your KDE Personal Settings, under Windows Behavior, turn off Hide utility windows for inactive applications.

(Linux) Maya may hang if X11 is compiled with XCB

If you have X server library `libX11` compiled with the module `XCB`, Maya may hang during normal usage.

Workaround

Recompile `libX11.so` without `XCB` support. One such method (for `libX11.so.6`) is as follows:

- 1 Obtain src rpm for distro.
- 2 Check what files are in the src rpm by running the command `rpm -qlp libX11-1.3-1.fc12.src.rpm`.
For FC12, the return output should be:

```
dont-forward-keycode-0.patch  
libX11-1.3.tar.bz2  
libX11.spec
```
- 3 Install src rpm to the following folders:

```
/root/rpmbuild/SOURCES  
/root/rpmbuild/SPECS
```
- 4 Copy the files to the local build area:

```
~/libX11/fc12
```
- 5 Extract the files from the `.bz2` archive.
- 6 Go to the src directory.
- 7 Apply the patches with the command `patch -p1 <dont-forward-keycode-0.patch`.

- 8 Configure the build with the following command `./configure --without-xcb`.
- 9 Compile the build with the `make` command.
A new `libX11.so.6` library appears in the `src/ .libs` directory.
- 10 Check that your new `libX11.so.6` has no dependency on `libxcb` by running the command `ldd libX11.so.6`.
- 11 Copy this `libX11.so.6` file to the Maya lib directory, or save a backup and then replace the system library version. This second option is only recommended if no other programs on your system require XCB support.

(Linux) Using the Hotbox causes all windows to refresh

When you use the Hotbox in Maya, all windows on screen flicker due to refreshing.

(Linux) Viewport refresh may cause Maya to hang when using an Nvidia driver

Occasionally when using Maya for Linux with an Nvidia driver installed, Maya may hang during a viewport refresh.

(Linux) Dragging and dropping

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

(Linux) Window sizes

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

Workaround

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

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

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

(Linux) Maya windows disappear

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

Workaround

Change the default settings for the following:

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

(Linux) 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.

(Linux) Home variable not always set

Under certain conditions, the Home environment variable may not always be set which cause various errors in Maya.

Workaround

Make sure the Home environment variable is set to the correct user profile.

Maya for Mac OS X limitations

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

(32-bit Mac OS X) CER report window hangs

If Maya quits unexpectedly on 32-bit Mac OS X systems, the CER window that appears (asking you to report the error) may hang.

Workaround

To ensure you can send CER reports from Mac OS X 32-bit systems, you can do the following:

- 1 Open a Terminal window and enter the following to navigate to the senddmp application:

```
cd /Applications/Autodesk/maya2011/Maya.app/Contents/bin/senddmp.app/Contents/MacOS/
```

NOTE This path assumes you have Maya installed in the default installation directory `/Applications/Autodesk/maya2011/`.

- 2 Execute the following command to copy the senddmp.32 file to the senddmp program:

```
cp senddmp.32 senddmp
```

NOTE If you plan to switch to running Maya in 64-bit mode, follow the same steps, but copy the file `senddmp.ub` to `senddmp`.

(Mac OS X) Volumes folder does not appear in File Browser

If you open the Maya File Browser, the Volumes folder does not appear under “/” initially.

Workaround

Deselect “/” and then select it again. Alternatively, right-click the file listing and select the Show hidden files option.

(Mac OS X) An option box icon at the bottom of a tear off menu cannot be clicked

If you tear off a menu, and that menu has a menu item with an option box as the last entry, that option box cannot be clicked.

Workaround

Shift-click the menu item to open the appropriate option box window.

(Mac OS X) Hard to resize UV Texture Editor

Currently, you may find it difficult to resize the UV Texture Editor by grabbing the bottom-right corner. Although it is still possible, the area which triggers the resize cursor is very small.

(Mac OS X) Font smoothing issues on non-Apple monitors

Font smoothing may appear incorrect when displaying Maya on a non-Apple monitor.

Workaround

Run the command `defaults -currentHost write -globalDomain AppleFontSmoothing -int 1` (or another number) in a terminal, then restart Maya.

(Mac OS X) Can't scroll in command completion list in the Script Editor - 64 bit only

When using the Command Completion feature in the Script Editor, if you press `Ctrl + Space` to show a list of possible commands that appears with a scroll bar, attempting to scroll through the list using the middle mouse button doesn't do anything.

Workaround

Place the cursor back on the unfinished word and add additional letters to the word you were typing. This forces the Command Completion list to update.

(Mac OS X) Snapshot to render view in panels looks distorted - 64 bit only

If you open the render view in a panel and then snapshot the current scene, the snapshot can appear distorted without proper scaling.

Workaround

Resize the window slightly and the render will return to normal.

(Mac OS X) Active view's border in Four View panel layout doesn't change color - 64 bit only

In the Mac OS X 64-bit version, the currently active view in the Four View panel layout doesn't change border color to indicate it is active.

(Mac OS X) Snapping gets stuck

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

Workaround

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

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

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

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

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

(Mac OS X) Default location to install plug-ins

Maya for Mac OS X provides a default location where you can install plug-ins:

(32 bit) `/Users/Shared/Autodesk/maya/2011`

(64 bit) `/Users/Shared/Autodesk/maya/2011_x64`

Refer to the topic *Load or unload Maya plug-ins* in the *Basics* guide.

(Mac OS X) Features for Mac OS X not available for Windows or Linux

The following features are available in Mac OS X but not Windows or Linux versions of Maya.

- QuickTime integration
- Threaded sound playback in time line during scrubbing
- AppleScript executes Maya MEL commands with results returned. (Refer to the topic *Calling MEL from AppleScript and vice-versa* in the *MEL and Expressions* guide.)

3rd party programs not available for Mac OS X

- Motion capture drivers

Limitations of Maya for Mac OS X

- Ability to read in pre-Maya 3.0 files

(Mac OS X) Mac OS X file fails to open on Windows XP

A reliable way to transfer Maya ASCII files between Macintosh computers and other platforms running Maya is to use ftp in ASCII mode.

(Mac OS X) Can't use a back slash code in MEL (Korean and Japanese systems only)

Workaround

Type the string on the same line (do not use a back slash to carry the string to the next line).

(Mac OS X) 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) 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) FBX symbols are not exported

If you are writing your own plug-ins, note that symbols in the version of the Maya FBX plug-in included with this service pack are not exported.

Workaround

Download and re-install the Maya FBX plug-in from <http://www.autodesk.com/fbx>.

(Mac OS X) Playback performance issue

If you experience stuttering during playback, it is recommended that you change the number of threads Maya is using during playback.

Workaround

Enter the following using the Maya Command Line:

```
threadCount -n # of threads
```

(Mac OS X) Maya removes last character of a shelf command not ending in semicolon

If you have a .mel file in which the last command does not end in a semicolon and then add that .mel file to the Shelf, Maya removes the last character of the last command.

Workaround

Load the .mel file into the Script Editor, replace the missing character, and save the .mel file again.

(Mac OS X) Maya cannot load from a remote mounted file system

Sometimes when working in an environment with multiple client PCs and a central file server, attempting to load a file directly from the file server results in an error. This happens particularly often when multiple clients attempt to load the same file at the same time.

Workaround

Copy the Maya scene file from the file server to your local client machine and then open it. When you are finished with the scene, copy the same file back to the file server.

(Mac OS X) Interactive Primitive creation doesn't work after IME change

When running Maya in a JP environment with the IME mode set to EN, if you attempt to switch the IME mode to JP and then back to EN, Maya loses the ability create polygons with Interactive Creation.

Workaround

Turn off Interactive Creation and then create the polygon.

Maya commands limitations

General

Menu bar layouts

Menu bar layouts are not visible until a child control is added.

Workaround

Create the menu bar layout and children and then show the window.

MEL

Using a string as an integer may crash Maya

Maya may crash if you source a MEL script that tries to operate on a string as an integer.

MEL array limitation

When a MEL array is specified using the {} notation then the type of the array is inferred from the first argument in the array. Therefore, an array declared with an integer as its first argument will generate a warning if a float value is specified later. These values will be converted to integers. Here is an example:

```
float $arr[] = { 1, 2.5 };  
// Warning: Casting from float to int may result in a loss of precision. //  
print($arr[0] + " " + $arr[1] + "\n");  
1 2
```

The value of the second element in \$arr is 2, not 2.5 as expected.

Workaround

Make sure you declare the first element of the array as the type that you want the array to have. In the case above, this would mean declaring the array as:

```
float $arr[] = { 1.0, 2.5 };
```

By declaring the "1" as "1.0", the type of the array is indicated to be float.

Polygon create command texture flag is no longer supported

The `-texture` flag (`-tx`) for the polygon create commands is no longer supported as of Maya 8.0. The `-createUVs` flag (`-cuv`) should be used instead.

addPP does not add per-particle field attributes

In the Maya command documentation, `addPP` is described as adding a per-particle attribute capability for an attribute of an emitter or field. Currently, `addPP` only adds per-particle attribute capability to emitters.

Using a dash in MEL strings

If the first character of a string begins with a dash, the MEL interpreter assumes it is a command flag.

However, this is now a specific case where you can use strings that begin with dashes in MEL commands: the `setAttr` command can now set an attribute of type string with a value string that begins with a dash.

We strongly recommend against using strings in MEL that begin with dashes because they will not work in any other command. If you try to use these strings as attributes in any other command, you will get incorrect results.

stringArrayIntersector

In batch mode, the MEL function `stringArrayIntersector` does not work.

Connected attributes in MEL must be of identical type

Maya may stop unexpectedly when attempting to connect two multi-dimensional array attributes of different types in MEL.

Workaround

Ensure the connected attributes are identical in type.

Python

Use `asUnits()` method instead of `as()` method to avoid conflict in Python 2.6

Python plug-ins and scripts which previously used the `as()` method from the `MAngle`, `MDistance` or `MTime` classes must be changed to use the new `asUnits()` method to avoid conflict with Python 2.6's `as` keyword.

Script editor cannot source `.py` file

Attempting to source a `.py` (Python) script in the Script Editor (File > Source Script) returns errors, as it is being read as MEL.

Workaround

Use the `import` directive. The script must be in your `PYTHONPATH` or `sys.path`.

The script node does not accept Python

You cannot use Python in script nodes.

Workaround

Write your Python script in a `.py` file and save it in your scripts directory. Use the MEL command below in a script Node.

```
python("\ \ import myPythonScript;\ myPythonScript.pyCommand();\ \ "); 262522 nf 10.0
```

Can't import a Maya Python module twice in Composite

There is a known issue that prevents Composite from importing a Maya Python module a second time in a new Python embedded interpreter.

Runtime commands from Python and hotkeys

Menu items that are runtime commands from Python don't display hotkeys.

Python commands in menuitems on the Shelf produce an error

Python commands attached to menuitems that are part of Shelf buttons produce an error when Maya is restarted. Although this works the first time around, because it is being created with the **menulitem** command (`-command` flag is `SCRIPT` type), the second time it is being created in the saved `shelf.mel` file, with the **shelfButton** command whose `-mi` flag takes the String String (multi-use) arguments.

Workaround

- 1 Wrap your Python commands in the MEL **python** command:

```
mc.menuItem(checkBox = True, label = "menuItem 1", command =
"python(\"print 'MENU ITEM 1 PRESSED'\")")
mc.menuItem(checkBox = True, label = "menuItem 2", command =
"python(\"print 'MENU ITEM 2 PRESSED'\")")
```

- 2 Keep a Python script in your local `maya/scripts` folder that has the functions you want to call from the Shelf:

```
"python(\"import shelfScripts;shelfScripts.thisFunction();\")"
```

You must restart Maya once you add the Shelf commands, before you use the menus.

Python runtime commands produce an error

Python runtime commands do not find their procedures when Maya is restarted; the are being incorrectly interpreted as MEL commands.

Workaround

- 1 Wrap your Python commands in the MEL **python** command.
- 2 Keep a Python script in your local `maya/scripts` folder that has the functions you want to call from the runtime command:

```
"python(\"import myRunTimes;myRunTimes.thisFunction();\")"
```

When you re-start Maya, Maya uses the MEL interpreter and correctly executes your functions.

Missing Python modules from 64-bit systems

The following modules are not included in 64-bit distributions of Python (Windows and Linux):

audioop, imageop, rgbimg

For more information, see <http://svn.python.org/projects/python/trunk/README>

Possible error referencing files when using PyQt

When using PyQt in your production, if you experience a *glibc detected error* when referencing files into a scene through `maya.standalone`, you may try adding:

```
from PyQt4.QtCore import *
```

before attempting the reference.

Maya commands that expect MEL strings only

Some Maya commands with callbacks expect MEL strings only. To identify flags with this behavior, look at the help for this command in the Script Editor. If the type is `script`, it can accept Python or MEL; if the type is `string`, it can only accept MEL.

Workaround

Use the 'python' MEL command in your MEL callback string:

```
-c 'python "import myScript;myScript.myFunction()"'
```

See also *User Guide > General > Python > Tips and tricks for scripters new to Python* in the Maya Help for information on how to register a Python function as a MEL procedure.

Windows of the same size are generated if they do not have names

Using the `cmds.window` command to create windows with different widths and heights will generate windows of the same size if you create a window with no name. This is because preferences were saved for the first window under its default name, and default window names are reused if the window gets deleted. Therefore, the new window may have the same name and thus, the same window prefs. This problem also occurs if you create a window with a specific name, delete it, and then create a window with the exact same name.

Workaround

Give each window you generate a different name.

Unable to copy and paste from eclipse into Maya on Mac OS X

Copy and paste into the Script Editor may not work from some Mac OS X applications such as Eclipse.

Workaround

Install copy paste pro and turn on paste without styles in the prefs. Remember to release the command key before pasting.

You can also try drag and drop with the left mouse button.

Infinite recursion if `maya.utils` not found

When executing Maya library-mode applications, or when starting Maya in batch mode, the `maya.utils` module is used to report errors during Python initialization. If `maya.utils` itself cannot be found, infinite recursion can result as the initialization code repeatedly tries to use `maya.utils` to report that `maya.utils` cannot be found. The usual cause for the problem is that the user's `PYTHONHOME` variable has been set to point to a Python installation other than the one which ships with Maya.

Customizing the command highlighting in the Script Editor

The Script Editor syntax highlighting of keywords is based on a list of Maya commands in a file named *commandList*. The optionVar *scriptEditorKeywordsFile*, if set to the full path of an alternate file, overrides this. The alternate file should be a text file with one keyword per line.

Long MEL scripts may block all interaction with desktop

If you execute a long-running command or script from the hotbox, the hotbox window may block all interaction with the desktop until the command is completed.

Workaround

Insert a call to 'hotBox -release' before calling the long procedure.

`commandPort` breaks code upon new lines

Beginning Maya 7.0, when submitting code through the `commandPort` command, Maya may treat every line as a separate statement even if the statements have been written to continue to the next line(s).

Workaround

Use the `-returnNumCommands(-rnc)` flag.

image command does not read `.iff` images

The `image` command does not read `.iff` images.

Workaround

Convert the image to another format (for example, .jpg or .png).

Behavior of selectionConnection has changed in Maya 2011

The behavior of selectionConnection has changed in Maya 2011 and may cause issues with your MEL script.

Workaround

To retain the old behavior of selectionConnection, create it as global:

```
$selection = `selectionConnection -global`;
```

and delete it with

```
deleteUI $selection
```


File formats limitations

Maya does not recognize .app as executable in OS X for Mudbox

When setting the Application Path for Autodesk Mudbox in the Preferences, Maya does not recognize the Mudbox .app file as a valid executable.

Workaround

When setting the Application Path for Autodesk Mudbox, navigate to the application folder using the folder icon rather than manually inputting the path in the field. Double-click the .app file and then navigate to `Contents/MacOS/Mudbox`.

Sets on .obj files imported into Maya considered shading groups

All sets on .obj files imported into Maya are considered shading groups. This means that adjustment of an object's rendering groups within Maya causes simultaneous modification of the membership of the sets that were imported from the .obj file.

Workaround

In Maya, for each .obj file set whose membership you wish to preserve, select the contents of the set and create a new set.

Importing Adobe Illustrator 9.0 eps files into Maya

Importing an Adobe illustrator 9.0 eps file into Maya results in a transform node, but there is nothing in the view.

Workaround

In Adobe Illustrator 9.0, save as an eps file and specify that it be in Adobe Illustrator 8.0 format.

(Mac OS X) Maya doesn't recognize IGS file format

If you open the file browser and change the Files of Type field to IGES_DC (*iges; *igs), Maya doesn't recognize files with the extension IGS.

Workaround

Change the capitalization of the file's extension to .igs or .iges from .IGS.

Maya doesn't recognize scene files prior to 3.0

Maya 2010 doesn't recognize scene files prior to Maya 3.0.

Workaround

To load a scene file from an earlier version of Maya, first load the scene into an intermediate release between up to Maya 5.0 and re-save the file.

File referencing limitations

Proxy references do not support renaming prefixes

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

Workaround

Use the namespace option when working with proxy references.

Namespaces and loading of referenced nodes

Maya always loads referenced nodes into a temporary namespace, then moves them into their permanent namespace. Therefore, the name returned by the node added callback is different than the name returned by the node removed callback.

Workaround

In order to track nodes consistently, you must use the `nameChanged` callback to find the name of the object after it has been put in its permanent namespace.

Referencing multiple scenes that contain mental ray data produces unexpected results

Referencing multiple scenes that contain mental ray for Maya data may cause the following issues:

- The Script Editor displays multiple warning messages regarding already connected nodes when the referenced files are loaded.
- Rendering the scene produces an image based on unexpected render settings.

Maya does not correctly distinguish between the shared nodes that exist for mental ray Render Settings. Each time a reference within one of these nodes is loaded, it applies the `setAttrs` and `connectAttrs` from that file to the shared node. The mental ray for Maya Render Settings that result will depend on the last reference that gets loaded.

Workaround

- In Maya, set the same Render Settings for each file you intend to reference for your scene.
- Reference the files into your parent scene, ignoring the warning messages.
- Confirm the mental ray for Maya Render Settings prior to rendering.

When a reference is locked, animation on compound attributes, such as translate and rotate, may not play back.

Workaround

If you need the animation for feedback, but want to make sure that the reference is not accidentally modified, you can customize your locking by adding the parent compound attributes to the Excluded attributes script. Alternatively, instead of locking the reference, you can put it in a display layer with the appropriate settings to avoid accidentally selecting it.

Export As Reference not working with file references containing multiple layers

It is not possible to Export As Reference multiple objects from a scene where multiple layers exist.

Workaround

Remove the multiple layers and export the objects as references and reassign the layers afterwards.

Poly mesh geometry must have construction history to be modified within the parent scene

If you reference a scene containing a poly mesh and perform modifications to that mesh from within the parent scene, those modifications will not be respected unless the poly mesh had an existing construction history before it was referenced.

Workaround

Ensure that any referenced poly mesh geometry has at least one history node in the referenced file prior to referencing.

Reference edits may be lost when using identical node names

In order to apply an edit to a node from a reference it must be able to uniquely identify the node. In the following case this is not possible:

- Using renaming prefixes and you add a node to the parent file that has the same name as the renaming prefix and the reference node name.

Workaround

Make sure the names of your nodes are unique before you start applying edits in the parent scene.

Hypergraph layouts of objects from referenced files ignored

The Hypergraph layouts of objects from referenced files are ignored when the file is referenced.

Workaround

Make any adjustments to the layout of the objects in the referencing file. Keep your Hypergraph closed when importing/referencing, and then clean up afterwards.

Expressions and back-quoted commands limitation

If a referenced or imported file contains expressions and the expressions contain back-quoted commands, then the part in back-quotes will not have any node names prefixed properly.

Workaround

Use namespaces when referencing or importing files. Alternatively, you can modify your expressions to not use MEL commands or back-quoted expressions. C style expressions such as “foo.x = 0.5” are treated correctly in references and the nodes will be correctly renamed. However, MEL style commands such as “setAttr foo.x 0.5” will not work correctly.

Limitations with using prefixes for name clash resolution

When referencing a file using a renaming prefix that in turn references a file using a namespace, the outer renaming prefix will be turned into a namespace instead.

Referencing a file into the same scene multiple times using the default renaming prefix will result in ambiguous references to the objects contained within that file. Note that referencing a file multiple times into the same scene can happen indirectly if a file being referenced or imported references that scene.

Workaround

Use namespaces for all your file references. For import though, once you use namespaces, everything gets put in a namespace, whether it's clashing or not (even if it already has a namespace, it gets another one added on). But if you use prefixes, it will strip out existing namespaces, and then resolve clashes with prefixes. So you may wish to choose your method of clash resolution depending on what's in your file already. Alternatively, you can ensure that you assign unique rename prefixes to files that will be imported multiple times. You can do this by going to the File > Import options box or by using the -renamingPrefix flag on the file command in the Script Editor.

Problems importing and referencing the same file with the same prefix

There are problems with importing and referencing the same file with the same prefix. If the file is referenced and then imported then all is well. However, if the file is imported and then referenced, there are ambiguities in object names. Also, if the same renaming prefix is used with multilevel references, the resulting file may contain errors.

Workaround

Use namespaces when importing or referencing files. Alternatively, you can either reference the file before importing it or change the renaming prefix between importing and referencing.

Namespace or name-clash mechanisms limitation

When creating a reference in the current scene, and this reference in turn contains a referenced MEL script, the namespace or name-clash mechanisms will not be applied to any node names referred to in the script. This can cause problems if the MEL script relies on explicit names that are contained in the referenced file.

Workaround

Try to create MEL scripts that are not dependent on the actual naming of nodes contained in the scene.

Can't replace nested reference

Replacing a nested reference file (i.e., a reference which is not a child of the main scene) is a temporary action. The reference to the new file will not be saved with the main scene.

Workaround

Open the parent file of the reference and replace it there.

Can't save reference edits with Shared Shading Networks or Shared Display Layers on

If a reference is created with the Shared Shading Networks or Shared Display Layers options, you will not be able to Save Reference Edits to it. The menu item in the UI is not available, and an error will be returned when using the `file -saveReference` command.

Changing the structure of shading networks prevents sharing

When creating references with the Shared Shading Networks option you should avoid changing the structure of any resulting shared shading networks. If nodes are added or removed from the shading network in the parent scene (for example, by creating a node in the parent scene and connecting it to one of the referenced shading network nodes), the network may not be correctly shared the next time a reference is reloaded.

This limitation does not apply to the modification of attributes or attribute values: attributes can be added or deleted, and attribute values changed.

Problems with nodes when exporting animation

The export animation flags of the **file** command only write out animation nodes. When you have animation nodes parented under other nodes which are not exported, Maya writes out **connectAttr** commands that reference these missing nodes. A relative path is used for these connectAttrs because the most common scenario is when these missing nodes actually belong to some other referenced file.

In cases where there are non-unique node names involved, the relative paths for non-exported nodes can be the same if the exported nodes are parented under different nodes with the same name. This creates incorrect results when the exported animation is re-imported to Maya.

Workaround

Make sure that parent (non-animation) nodes, such as locators, are uniquely named, or choose a way of exporting (such as export selected) that also exports the parented non-animation nodes.

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, select a vertex, and execute the Edit Mesh > Transform Component command with construction history enabled, without actually moving the vertex.

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.

API and Devkit limitations

The following lists limitations and workarounds for the API and Devkit for Maya 2010. We also recommend that you read the *API guide* documentation before attempting a major project using Maya.

fileDialog2 missing fileCommand flag

There is no equivalent to the `-fileCommand` flag for the `fileDialog2` command.

Workaround

If you use the `fileDialog2` command, you need to code slightly differently (see Maya Commands documentation for `fileDialog`, `fileBrowserDialog`, or `fileDialog2`). Note that even if you use the deprecated `fileDialog` and `fileBrowserDialog` commands, this flag works slightly differently from previous versions of Maya. The command calls the flag after the dialog disappears rather than while it's still up.

Maya ignores control attachments in formLayout that result in cyclical control dependencies

If you create a `formLayout` in which the controls form a cyclical dependency, Maya returns a warning and ignores the last attachment that causes that cyclical dependency.

For example:

```
window;
string $f = 'formLayout';
string $btn1 = 'button';
string $btn2 = 'button';
string $btn3 = 'button';
setParent ..;
formLayout -e -ac $btn2 "top" 2 $btn1 -ac $btn3 "top" 2 btn2 -ac
$btn1 "right" 2 $btn3 $f;
showWindow;
```

In this example, the placement of \$btn1 is dependent on the placement of \$btn3. \$btn1 is dependent on the placement of \$btn3, which is itself dependent on the placement of \$btn1. Thus there is a loop in dependencies.

Workaround

Alter the script to eliminate the cyclical dependency.

scriptedPanel deletion causes Maya to quit unexpectedly

If you write a script involving the scriptedPanel function, and then attempt to delete the widget calling that function with the deleteUI command, Maya quits unexpectedly.

Workaround

Use evalDeferred deleteUI rather than the deleteUI command.

UI short name lookup behavior changed from previous version

When looking up a short name (e.g. setParent(shortName)) which is not under the current parent, and where the short name is not globally unique, no particular order is guaranteed for the return.

Workaround

Make sure your short names are unique or that the short name you're searching for is under the current parent.

It is not possible to distinguish between the color black and an unassigned color in an MPxHwShaderNode plug-in

There currently is no way of setting what value to use for an unassigned color of an MPxHwShaderNode plug-in. Currently, the color black or 0,0,0,1 is used as the unassigned color.

Unable to unload an MPxNode plug-in if MPxData is specified

If a MPxNode plug-in creates an MPxData in its `initialize()` method, you will receive a warning that the plug-in is in use when trying to unload it even if you have not created a node. This is because the proxy MPxData type is in use.

Workaround

Do not create the `MPxData` until it is required in the `compute()` method.

Custom model views created using MPx3dModelView have no right mouse button context menu

User defined model views created using `MPx3dModelView` do not have a right mouse button context menu.

Workaround

To get a right mouse button menu for a custom `MPx3dModelView` panel, you need to call

```
ModelEdMenu $panelName;
```

when creating the panel in order to register the context menu with that panel.

MIItMeshPolygon::getColors(colorArray) does not provide access to all colors

There is a second parameter to the `MIItMeshPolygon::getColors()` method. This parameter specifies the list of color sets that should be considered in the method. If not specified, this method will operate on the current color set.

Workaround

Specify the list of color sets that should be considered by the `MIItMeshPolygon::getColors()` method.

Plugs are deleted upon deleting or disconnecting nodes

When deleting or disconnecting nodes that are connected to other nodes, the plugs that are connected to the deleted or disconnected nodes gets deleted as well.

Workaround

Create a new plug for every attribute.

Attribute changed callbacks limitation

Attribute changed callbacks are not invoked if the modification to the attribute is made by a tool such as Move.

MFnDependencyNode flags limitation

MFnDependencyNode flags are not reset when they are deallocated. Resetting these flags requires an entire DG traversal.

For best performance, it is better for you to control this operation since you may only be interested in a subset of the depend nodes in the scene.

MFnMesh::assignUVs() does not support history

The method `MFnMesh::assignUVs()` does not support history. As a result, modifications made to UVs with this method may be overwritten as the dependency graph updates.

Long names of attributes can be incorrectly re-used

It is possible to create new attributes on a node that have the same long name as an already existing attribute but differs by the short name. This will cause updating problems for the Channel Box and Attribute Editor.

API plugs and dependencies hierarchy limitation

The API does not support hierarchies of plugs and their dependencies in a single dependency node. Dirty propagation works correctly across connections between nodes, but not between internal attributes on a user-defined node made with `MPxNode`.

Workaround

Use the method `attributeAffects()` to “flatten hierarchies” when declaring their affects behavior between all inputs and outputs on your node.

OBJ files need “.obj” extension

Wavefront OBJ files need the `.obj` extension to be recognized automatically when the File > Open Scene Import option is set to Best Guess.

Workaround

Set the Import option to OBJ to import a file without the `.obj` extension.

Batch rendering scenes with plug-ins

If you have a Maya scene that uses two (or more) plug-ins, both of which fail in their “initializePlugin” method (due to a missing license for example), and both plug-ins require one of the libraries `OpenMayaUI`, `OpenMayaAnim` or `OpenMayaFX`, when attempting to batch render the scene Maya may produce a fatal error.

Workaround

Manually add the following lines at the end of your `userPrefs.mel` file.

```
dynamicLoad OpenMayaUI
dynamicLoad OpenMayaAnim
dynamicLoad OpenMayaFX
```

Unloading and reloading plug-in

If a plug-in command is called from an expression or a MEL procedure, and after the expression or procedure has been parsed, the plug-in is unloaded (or unloaded and then reloaded), Maya may produce a fatal error if the expression is triggered or the procedure is re-executed. When MEL parses the expression or procedure, it saves a pointer to the `doIt` method of the plug-in command. The value of this pointer is not normally recalculated, so if the plug-in is unloaded or reloaded at a different location, the pointer is no longer valid.

Similar issues will occur if `MFnPlugin::registerUI()` is used to register a command defined by a plug-in.

Workaround

Enclose the call to the plug-in command in a MEL *eval* statement. This forces MEL to compile the statement each time the expression is evaluated or the procedure is run. If the plug-in has been unloaded this is detected and an error results. If the plug-in has been reloaded, the new location of the `doIt` method is computed during the recompile.

Custom material shader plug-in with a glow intensity attribute

If a custom material shader plug-in is implemented with a glow intensity attribute, this attribute will be ignored by the software renderer unless an internal Maya material shader in the scene (e.g. `lamBERT`, `blinn`, `phong`) has a `glowIntensity` value greater than zero. Currently the software renderer only queries material shader nodes that match the internal types for a `glowIntensity` value that is greater than zero. There is no way to directly override this limitation.

Workaround

In order to assure the rendering of a custom shader's `glowIntensity` attribute an `MSceneMessage::kBeforeSoftwareRender` callback and an `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.

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 fol
lowing 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 & componentL
ist, MObject & component, bool useComponents)
virtual MPxGeometryIterator * iterator (MObjectArray & componentL
ist, MObject & component, bool useComponents, bool world) const
```

These routines are used in classes derived from `MPxGeometryData`. There is currently no workaround for this problem.

No hooks for creating light shader nodes

There are currently no hooks from within the API for creating light shader nodes with properties similar to Maya's area light node.

Creating a blendShape

If a `blendShape` is created from within the API using `MFnBlendShapeDeformer::create()`, the method

`MFnBlendShapeDeformer::addBaseObject()` will fail if used with the `MObject` of a curve that was newly created using `MFnNurbsCurve::create()`.

Workaround

A simple workaround is to locate the `MDagPath` of the newly created NURBS curve and obtain the `MObject` from that class. This object can be used successfully with `addBaseObject()`.

Tools performing “add pick”

Tools made with `MPxSelectionContext` perform an “add pick” by default as opposed to the built in Maya selection tools which perform a “replace pick” by default. An “add pick” adds a selection to the active selection list while a “replace pick” replaces the current selection list with the selected object or objects.

Workaround

Use `MGlobal::displayInfo()` to instruct the user to left click the mouse in an empty part of the scene in order to begin a new selection.

Method `setCursor()`

When the method `setCursor()` is called with an instance of an `MPxSelectionContext` class the method will fail. The same method called with an instance of `MPxContext` will function as documented.

Method `MDrawRequestQueue::isEmpty()`

Using the method `MDrawRequestQueue::isEmpty()` on an instance of `MDrawRequestQueue` to which no `MDrawRequests` have been added will cause Maya to crash.

Workaround

The method operates as documented if called on a queue to which one or more `MDrawRequests` have been added. Incorporate state checking code to assure that an `MDrawRequest` has been appended before make a call to `isEmpty()`.

Assigning a texture shader as an input to a built-in Maya material shader

When a user assigns a texture shader as an input to a built-in Maya material shader (for example, `lambert`) a connection is automatically made between the texture node's message attribute and the downstream `materialInfo` node's

texture[0] attribute. This is necessary for accurate hardware rendering. This does not happen automatically with custom material shaders and procedures will have to be implemented to make the connection. Unfortunately when the scene is saved and re-opened the texture will no longer be connected to the materialInfo node's texture[0] attribute. Instead the material shader's message attribute will have this connection.

Workaround

Procedures will have to be implemented to break this connection and reconnect the texture node's message attribute with the texture[0] attribute. Possible solutions may include: the registering of a callback in the plug-in's initialize method to check for this connection and alter it if necessary, or the modification of the AE template script to make such connections when necessary.

Monitoring the desired hardware resolution of a Texture2d node

To monitor the desired hardware resolution of a Texture2d node the renderer queries its resolution attribute. This attribute is added dynamically to a texture when the user sets the Hardware Texturing >Texture Quality of a built in material shader node (e.g. lambert.). This is not the case with custom material shader plug-ins.

Workaround

A procedure must be implemented that will dynamically add the resolution attribute (type kLong) to an input texture. The resolution attribute can have the values: 32, 64, 128, or 256.

MPxContext::doHold() method

The `MPxContext::doHold()` method is called on a context tool even if the Alt key is pressed. Ordinarily the use of the Alt key should override the context tool and allow exclusive use of the tumble mechanism. Instead, both happen simultaneously.

Shader plug-ins and using float2 compound attributes

Shader plug-ins that make use of `float2` compound attributes may occasionally receive incorrect data from the data block.

Workaround

It is best to extract the data as a compound attribute, and retrieve the contents individually. In other words, the first example is preferred over the second equivalent example.

```
float2& uv = block.inputValue( aUVCoord ).asFloat2();
float u = uv[0];
float v = uv[1];
vs.
float& u = block.inputValue( aUCoord ).asFloat();
float& v = block.inputValue( aVCoord ).asFloat();
```

Coding it the second way may result in the `u` and `v` values being the same in certain cases.

Calling `MFnMesh::deleteFace()`

A call to `MFnMesh::deleteFace()` will insert a `deleteComponent` node as construction history upstream from the affected mesh, however a call to `MFnMesh::addPolygon()` does not insert a corresponding construction history node.

Workaround

`MFnMesh::addPolygon()` should only be used from within the compute method of a node that is placed upstream from the affected mesh object. Within the compute method the `MFnMesh` instance will act upon the `kMeshData` that is passed through as input and output data.

Querying the active view port within the API

There is no way within the API to query the active view port to find out if textures are currently displayed, nor is it possible to set this option.

MPxCommand and complex data types

When writing an `MPxCommand` that is intended to receive arguments from the MEL command line, please be aware that there is no way to hand a command plug-in a complex data type by pointer value.

Workaround

The class `MArgList` contains several methods that permit the passing of complex data types from the MEL command line to a plug-in command. These are:

```
MStatus get( unsigned& indexReadAndUpdate, MVector&, unsigned
numElements=3 ) const
MStatus get( unsigned& indexReadAndUpdate, MPoint&, unsigned
numElements=3 ) const
MStatus get( unsigned& indexReadAndUpdate, MMatrix& ) const
MStatus get( unsigned& indexReadAndUpdate, MIntArray& ) const
MStatus get( unsigned& indexReadAndUpdate, MDoubleArray& ) const
MStatus get( unsigned& indexReadAndUpdate, MStringArray& ) const
```

MFnPluginData::create() will fail to maintain a reference to an MObject

`MFnPluginData::create()` will fail to maintain a reference to an `MObject` if the assignment is not done at the time of creation. For example this will fail:

```
fnPluginDat.create(id, &stat);
MObject obj = fnPluginDat.object();
```

Workaround

Always assign the `MObject` at the time of creation so that a reference will be maintained internally. For example:

```
MObject obj = fnPluginDat.create(id, &stat);
```

MFnFreePointTriadManipulator::setSnapMode(false)

If `MFnFreePointTriadManipulator::setSnapMode(false)` is set to `false`, it will remain in `snapMode` if a single axis handle is manipulated. If the central handle is used the manipulator will move freely.

Global selection list does not preserve selection order of mesh object components

The global selection list does not preserve selection order of mesh object components. For example, a tool designed to operate selected mesh vertices should not depend on the selection order.

MITDependencyGraph only traverses connections that affect the specified starting plug or node

`MITDependencyGraph` only traverses connections that affect the specified starting plug or node. Therefore, it may not traverse some connected nodes, such as connections to message attributes or dynamic attributes. Also, connections to a transform node's translate, rotate, scale attributes will not be found if traversing upstream through the worldMatrix output. Additionally, since `AnimUtil::isAnimated()` relies on `MITDependencyGraph` for its functionality, it will not find animCurves connected to the translate, rotate or scale if getting there requires traversing the transform node's worldMatrix attribute.

Workaround

When using `MITDependencyGraph`, when a transform node or message plug is reached, prune the current iteration and start another `MITDependencyGraph`. When using `MAnimUtil::isAnimated()`, when a transform node or message plug is reached, call `MAnimUtil::isAnimated()` again.

Invoking the objExists MEL command limitation

Invoking the `objExists` MEL command with `MGlobal::executeCommand()` during the retrieval of a scene file can produce incorrect results.

MArgDatabase::getFlagArgument() and MArgParser::getFlagArgument() usage limitation

The methods `MArgDatabase::getFlagArgument()` and `MArgParser::getFlagArgument()` require that numbers larger than 2^{31} be enclosed in quotes.

MPxSurfaceShape related problems

The following lists `MPxSurfaceShape` related problems.

User defined shapes created with MPxSurfaceShape

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

MFileObject resolvedName empty if file not found

The resolved path and name for `MFileObject` are now empty if the file was not found. Previously, they used to be the same as the raw path and name.

The following functions now return an empty string if the file was not found:

- `name()`
- `path()`
- `fullPath()`
- `resolvedName()`
- `resolvedPath()`
- `resolvedFullName()`

Maya and MayaScheme files have been removed

With the switch to Qt, X Resource files can no longer be used to customize the UI on Linux systems. The `Maya` and `MayaScheme` files in the `app-defaults` directory have been removed.

MFnDependencyNode::hasAttribute() raises an exception in Python for non-existent attributes

When `MFnDependencyNode::hasAttribute()` is passed the name of a non-existent attribute, not only does it return false, but it also returns a status value of `MS::kFailure`. In Python this becomes an exception, which may not be what you would expect.

Workaround

Catch the exception.

For example, if you execute your script as follows and get an error:

```
dgFn = OpenMaya.MFnDependencyNode( node )
print dgFn.hasAttribute("abc")
```

You can catch the exception by doing the following:

```
hasAttr = dgFn.hasAttribute("abc")
except RuntimeError:
    hasAttr = False
```

Limitations of MPxNode::inheritAttributesFrom()

Error checking has been added to `MPxNode::inheritAttributesFrom()` to enforce the following limitations on its use:

- `inheritAttributes()` can only be called once in a node's `initialize()` method.

- It must be called before any other attributes have been added.
- The node making the call must have been registered using the same `MPxNode::Type` as the node it is inheriting from (for example, `MPxNode::kLocatorNode`).

As a result, some plug-ins which previously appeared to load without error will now fail to load.

These are not new limitations. It has always been the case that violating any of them could lead to corruption of a node's datablock. However they were previously undocumented and unchecked and that oversight has now been addressed.

Qt plug-ins by default built for debug on Linux

On the Linux platform, the files in the `devkit/plugin` directory which are used for building plug-ins which use Qt have been incorrectly configured to build the plug-ins for debug by default. To correct this, make the following three changes.

In the `qtconfig` file change line 2 from this:

```
CONFIG += qt warn_on debug plugin
```

to this:

```
CONFIG += qt warn_on plugin
```

Also in `qtconfig`, change line 17 from this:

```
_CFLAGS = -O3 -fno-strict-aliasing \
```

to this

```
_CFLAGS = -fno-strict-aliasing \
```

Finally, in the `'Makefile.qt'` file, change line 56 from this:

```
-e 's?-dynamiclib??' >$@
```

to this:

```
-e 's?-dynamiclib??' -e 's?-mtune=generic??' >$@
```

If you subsequently wish to build a plug-in for debug, add the following line to its `.pro` file:

```
CONFIG += debug
```


Support for parent space mode in the rotation manipulator

Previously, the parent space mode defaulted to object space behavior. Beginning Maya 2011, the manipulator will line up to the parent object matrix.

References to basic types

The API Guide notes that when an API method requires a pointer or a reference to a basic type, such as 'int' or 'float', the `MScriptUtil` class must be used to generate that pointer/reference since Python knows nothing about pointers and cannot pass references to basic types.

The following example should help to clarify the usage of `MScriptUtil`. It shows how to get the x, y and z values from a call to `MFnLattice.getDivisions()`:

```
import maya.OpenMaya as OpenMaya
import maya.OpenMayaAnim as Anim
xutil = OpenMaya.MScriptUtil()
xptr = xutil.asUIntPtr()
yutil = OpenMaya.MScriptUtil()
yptr = yutil.asUIntPtr()
zutil = OpenMaya.MScriptUtil()
zptr = zutil.asUIntPtr()
it = OpenMaya.MItDependencyNodes(om.MFn.kFFD)
while not it.isDone():
    latDefFn = Anim.MFnLatticeDeformer( it.thisNode() )
    latFn = Anim.MFnLattice( latDefFn.deformLattice() )
    latFn.getDivisions(xptr, yptr, zptr)
    x = xutil.getUInt(xptr)
    y = yutil.getUInt(yptr)
    z = zutil.getUInt(zptr)
    doSomethingUseful(x, y, z)
    it.next()
```

Since `getUInt()` is a static method of `MScriptUtil`, an alternative way of retrieving the final values is to call it directly from the class. For example:

```
x = OpenMaya.MScriptUtil.getUInt(xptr)
```

Unsupported commands and callbacks

The following commands and callbacks are unsupported as of Maya 2011.

- `finder`
- `dynRelEditor`

- `setEditor`
- `lightListEditor`
- `xpmPicker`
- `kBeforeReference` (**use** `kBeforeCreateReference` **OR** `kBeforeLoadReference` instead)
- `kAfterReference`
- `kBeforeReferenceCheck`

Maya Help limitations

File Referencing tutorial file may load with detached skin

When working in the File Referencing tutorial file, Maya may occasionally load or reference the characters without proper skinning.

Workaround

Reload or re-reference the character.

Referencing zombieShuffle file may result in an error message

When referencing the zombieShuffle.mb file for the File Referencing tutorial, an error message may appear regarding Maya being unable to lock certain attributes from a referenced file. You can ignore this as it has no affect on completing the tutorial.

Assign Offline File button mis-documented

In the Maya documentation (User Guide > General > File Referencing > Assign Offline File), in steps describing how to assign edits to the main scene via import, the buttons in step 7 and step 9 are documented as Apply Edits. This should actually say Assign Offline File.

Additional changes to command flags

In addition to what is written in the What's New, the following command flags have been changed:

New flags

- container -unbindParent/unp
- skinCluster -addToSelection/ats
- sound -endTime/et
- text -wordWrap/w
- windowPref -restoreMainWindowState/rms
- windowPref -saveMainWindowState/sms

Removed flags

- clipEditor -characterOutline/co
- lsUI -filters/f
- stereoCameraView -stereoCmd/sc
- stereoCameraView -stereoCmdDefault/scd
- treeView -drawSelectionBackground

Movie files may have issues playing in VGA mode

There are a number of .mov files in the Maya documentation (for example, in User Guide > Dynamics and Effects > Fluid Effects > Introducing Maya Fluid Effects > Fluid Effects overview). If you attempt to play these movies on an extended desktop where the second display is hooked up to your computer via VGA, you may not be able to see the movie on that display.

Workaround

Move the movie player to your primary display and you should be able to see the movie.

(Mac OS X) Maya Online Help search unavailable on some versions of Safari 4

You cannot search the Maya Help using the Search tab on some versions of Safari 4.

Workaround

To ensure that you can search the Online Help from the Search tab, update your Safari browser to version 4.0.3 or later.

Essential skills movies require QuickTime 7.2 or later

Please upgrade your version of QuickTime if you experience any problems viewing the movies.

(Windows) Essential skills movies do not playback normally across network with QuickTime 7

The Essential skills movies may not playback consistently if Maya is accessed across a network when using QuickTime 7 for Windows. The movies will playback normally if Maya is installed on your computer's hard drive. This was a known issue with Apple QuickTime 7 for Windows when Maya 7 was shipped.

(Windows) Essential Skills Movies caption text may not appear at the beginning of a movie when played

The caption text that normally appears at the bottom of the Essential Skills Movies may not appear at the beginning of the movie on Windows computers when the movie is first launched if the QuickTime Player options are set to automatically play the movie when opened. This issue appears to only occur on Windows.

Workaround

On Windows computers, do the following in your QuickTime Player:

Select Edit > Preferences > Player preferences, and turn off *Automatically play movies when opened*.

Select Edit > Preferences > QuickTime Preferences, select the Browser tab, and turn off *Play Movies Automatically*.

(Windows) Essential Skills Movies caption text may appear incorrect when the codepage setting and language setting for the movie are mismatched

The text captions for the Essential Skills movies may appear incorrectly when played back on Windows computers when the codepage setting and language setting for the movie are mismatched. For example, when playing back a movie with the movie's language set to Chinese, on a computer whose codepage setting is Japanese, the Chinese caption text may appear incorrectly.

The audio works correctly in all cases. This was a known limitation with Apple QuickTime 7 when Maya 8.5 was shipped.

Workaround

Play back movies in the language for which your computer is currently set.

(Mac OS X) Comments link generates corrupted page in Japanese Safari

If you click the Please send us your comments about this page link at the bottom of a topic in the documentation in Japanese Safari, the help system returns a corrupt page.

Workaround

Use another browser (such as Mozilla Firefox) to send comments.

Installing to a path with Japanese or other multibyte characters may prevent the Maya Help from loading

If you install to Maya and the Maya docs to a path that contains Japanese or other multibyte characters, you may encounter problems loading the Maya Help, depending on your browser.

Workaround

Install the documentation to a path with no multibyte characters and use the Window > Settings/Preferences > Preferences > Help > Help Location to point Maya to the new help location using the Remote help option.

Double byte space causes error in search in Japanese help

If you input a double byte space character in the search field of the Japanese Maya Help, the search function won't work.

Workaround

Avoid using the double byte space character in the search field.

Maya Help search engine errors in Japanese Internet Explorer

In Internet Explorer, searching common terms such as "UV Editor" with the OR parameter on may result in a "Stop running this script?" warning. Clicking Yes in this dialog causes the search to stall.

Workaround

Do one of the following:

- Click No in the warning dialog box until the search results appear.
- Switch the search parameter from OR to AND. If the same warning appears, click No in the warning dialog until the search results appear.
- Use another supported browser, like Mozilla Firefox (this error does not occur on Firefox).

Incorrect file path in Linux compiler requirement

In the Developer Resources > API Guide > Setting up your build environment > Linux compiler requirement section, the gcc compiler instructions state to run the following on 1 line.

```
../files/gcc-4.1.2/configure --prefix=/opt/gcc412 --program-suffix=412 --enable-shared --enable-threads=posix --enable-checking=release --with-system-zlib --disable-libunwind-exceptions --enable-__cxa_atexit
```

However, the first part should be `../gcc-4.1.2/configure` instead of `../files/gcc-4.1.2/configure`.

Maya PDF limitations

PDF files display with low quality when read using the Preview program on Mac OS X

When viewing PDF files on the Mac OS X platform, use the Adobe Acrobat Reader program instead of the default Preview program.

Maya Essential Skills Movies limitations

Essential Skills Movies may not play correctly with QuickTime 10 on Snow Leopard

If you use QuickTime 10 on your Snow Leopard Mac OS X system, and you have selected English as your default language, the Essential Skills movies may not play correctly. If you select Chinese or Japanese as your language, the audio will play correctly; however, the captions will remain in English.

Workaround

Change your system's default language to the one in which you want to play the Essential Skills Movies. For example, if you want to play the movies in Chinese, you should select Simplified Chinese as your system's default language.

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