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Iray for Maya 2.3

Release Notes
June 2020 Iray for Maya 2.3

Iray for Maya 2.3

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- Physically based, layered material model
- Image based lighting (IBL) using multiple IBL nodes in a single scene
- Sun and sky lighting model
- IES light emitter
- Light emitting geometry
- Support for Maya's standard Directional, Spot, Point and Area Light
- Textureable Maya Area Lights(Iray Photoreal)
- Light Portal functionality for Area Lights
- Custom color for material ID and object ID
- Iray Photoreal: Antialiasing for Auxiliary Canvases
- Support for Maya's UV based textures and shading networks including multiple UVs
- Fast convergence without persistent artifacts
- Simultaneous rendering component output (diffuse, specular, depth, etc.)
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- Light path expressions for custom component output
- Aperture shape can be chosen
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- Faster animation rendering
- Material Viewer support
- ifmState node
- HyperShade swatch rendering
- Support for NVIDIA Volta GPU architecure
- Meta data for OpenEXR file format
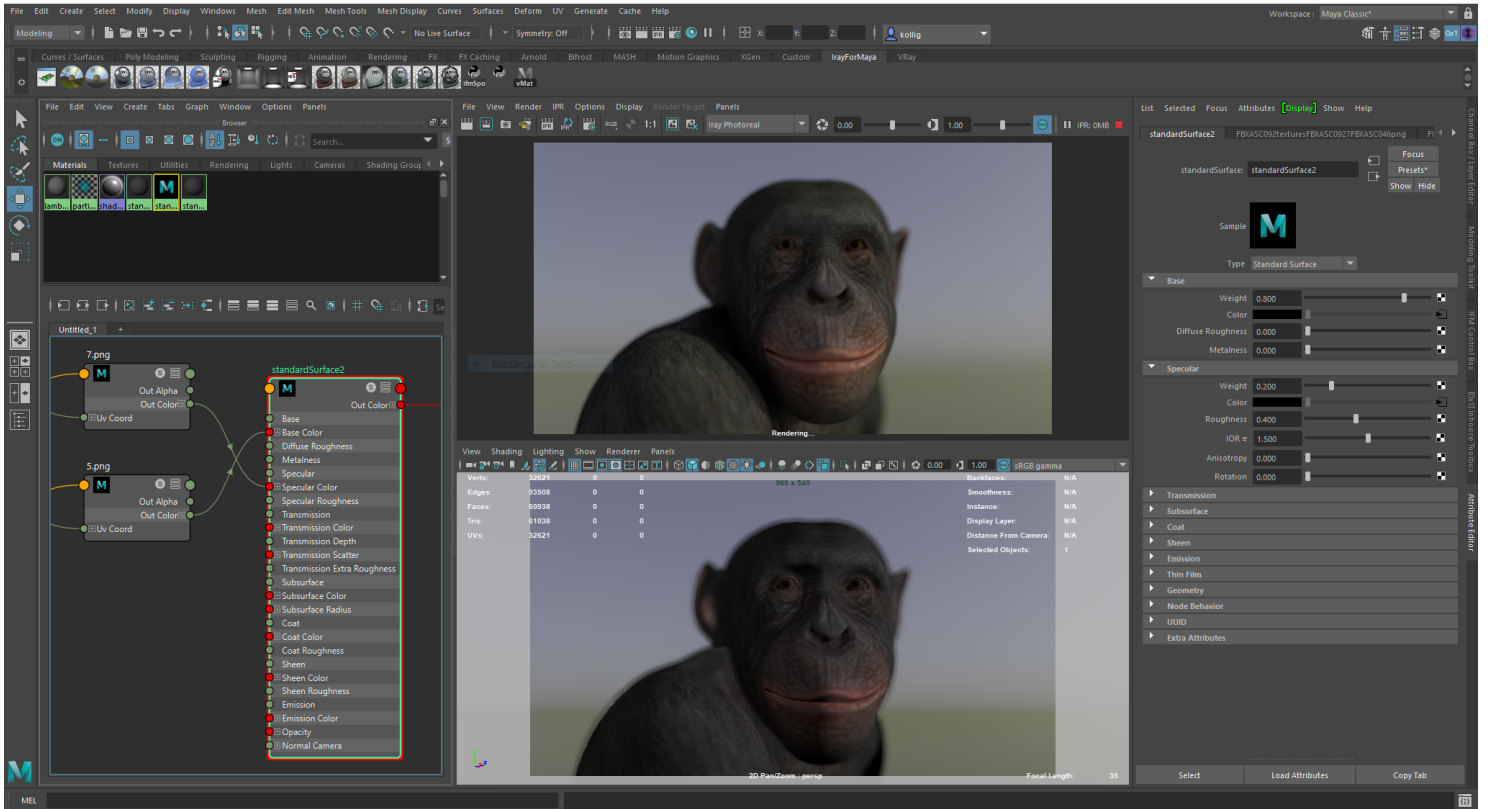- Export to RealityServer

2 What's new

New features in Iray for Maya 2.3

2.1 Support for Maya 2020

Iray for Maya 2.3 supports Maya 2020.

2.2 Maya StandardSurface support

Iray for Maya 2.3 supports Mayas new StandardSurface.

2.3 Fur rendering

Even if Iray for Maya 2.3 is a stable release version it contains a beta version of hair and fur rendering with Maya XGen. In this first beta version only the groomable splines are supported (xgmSplineDescription). A new material is added to adjust hair and fur material features: IfmHair

2.4 RTX support

Iray for Maya 2.3 supports Nvidias RTX technology.

There is no need to enable any attribute for that. Iray will detect if a GPU using RTX technology is available and use all of its features.

2.5 Instancing Shift Camera

Instancing Shift Camera will help to render proper results when the scene scaling will reach Irays precision limits. An example could be a car on a race track. *Instancing Shift Camera* increases the precision and accuracy of rendering computations and reduces artifacts that originate from self-intersection.

For more detail check the chapter *6.2.1 General attributes* in the Iray for Maya 2.3 User Guide.
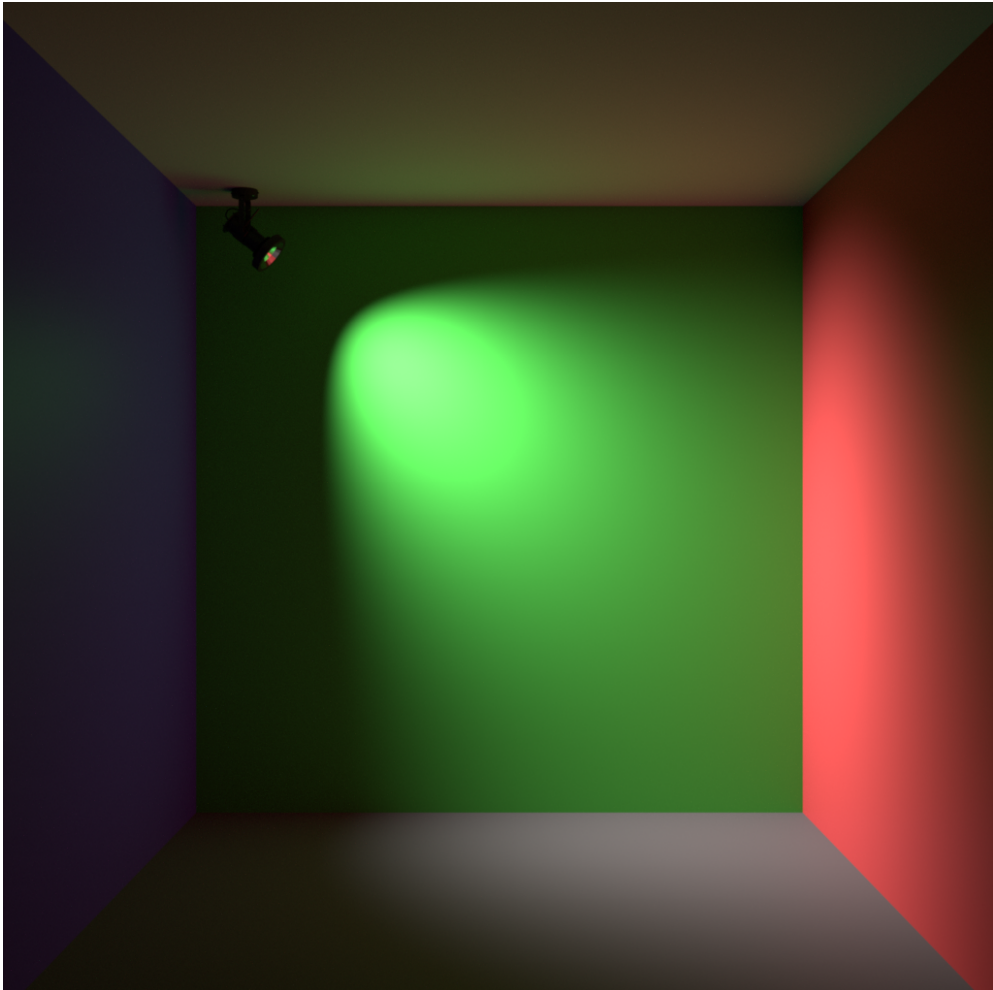
2.6 Enhanced EXR output

The EXR ouput for depth and canvas output was modified. The canvases now stores three different ways to display the appearance of depth and distance in the R, G and B channel of the canvas. This effect will be only visible when opening the file in a software like Adobe Photoshop.
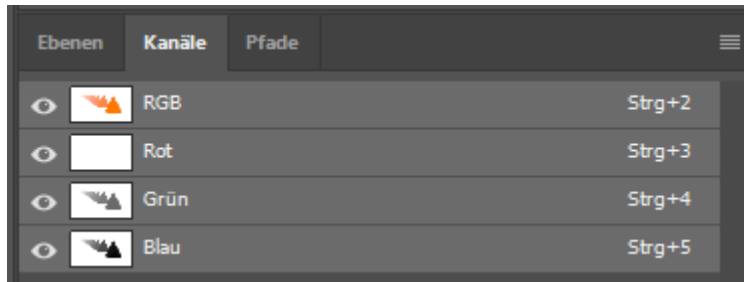
The different representation of the depth in R, G and B displayed in Photoshop.

For more detail check the chapter *6.8.2 Auxiliary canvases attributes* in the Iray for Maya 2.3 User Guide.

2.7 New light emission materials
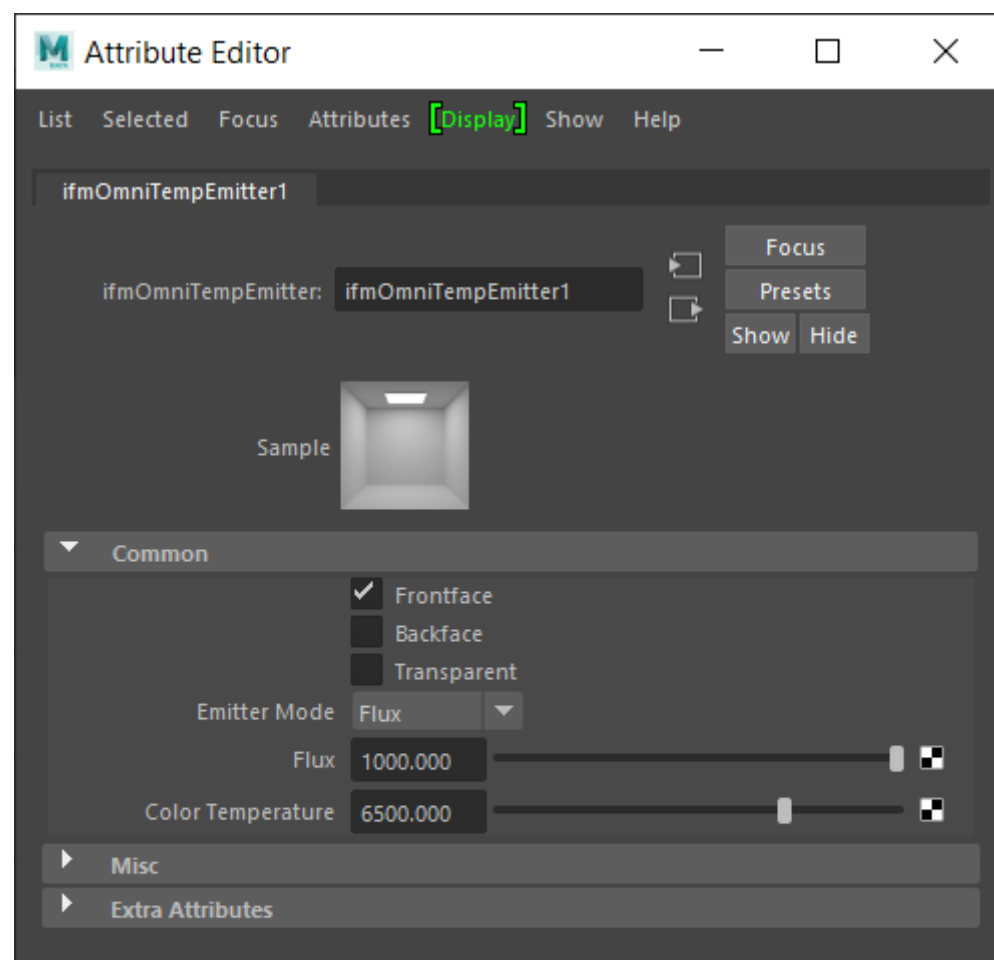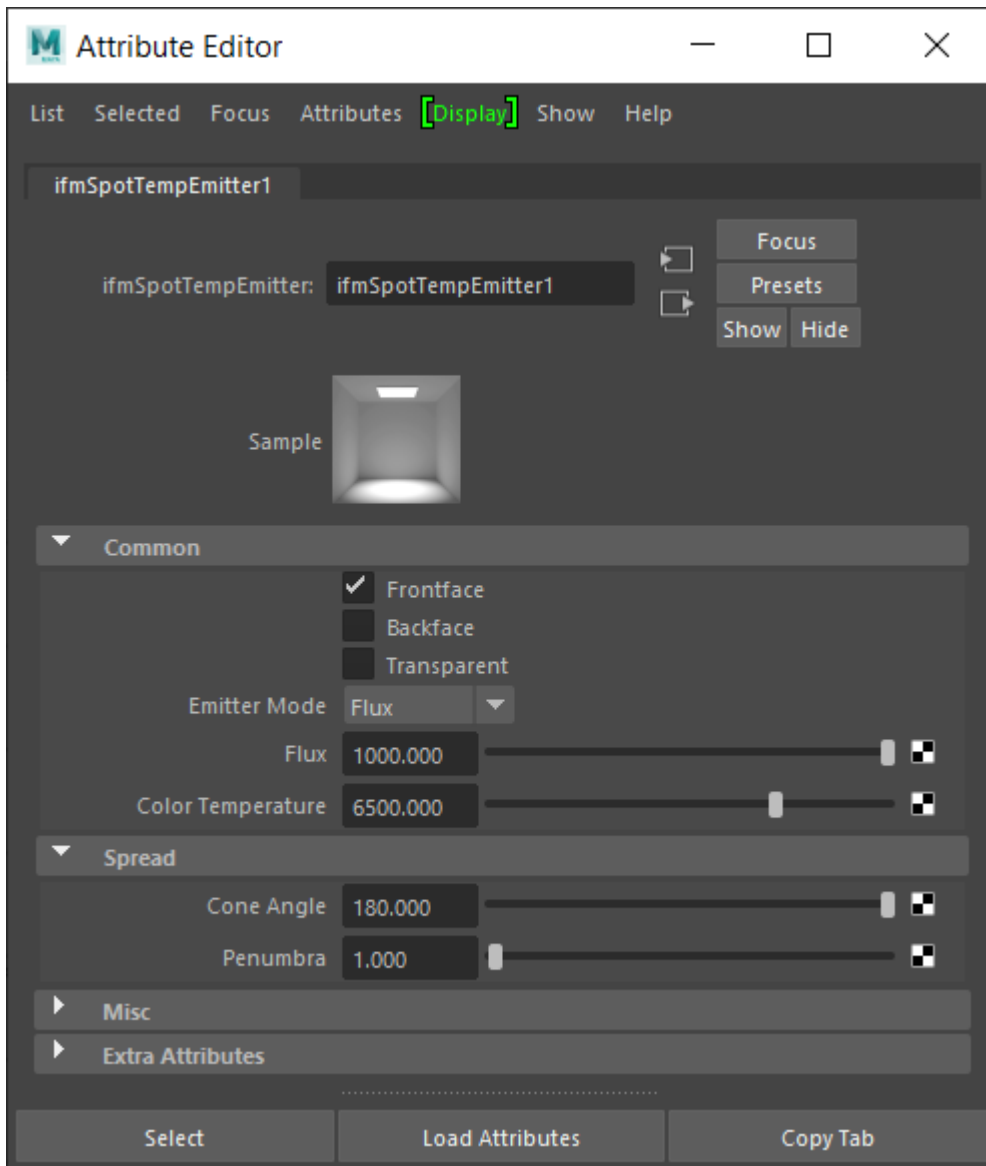
15

Attribute Editor

List   Selected   Focus   Attributes   [Display]   Show   Help

ifmSpotTempEmitter1

Focus
Presets
Show | Hide

ifmSpotTempEmitter: `ifmSpotTempEmitter1`

Sample

▼ Common

- ✔ Frontface
- ☐ Backface
- ☐ Transparent

Emitter Mode   `Flux`

Flux   `1000.000`

Color Temperature   `6500.000`

▼ Spread

Cone Angle   `180.000`

Penumbra   `1.000`

▶ Misc

▶ Extra Attributes

Select	Load Attributes	Copy Tab

Attribute Editor

List   Selected   Focus   Attributes   [Display]   Show   Help

ifmOmniTempEmitter1

Focus
Presets
Show | Hide

ifmOmniTempEmitter: `ifmOmniTempEmitter1`

Sample

▼ Common

- ✔ Frontface
- ☐ Backface
- ☐ Transparent

Emitter Mode   `Flux`

Flux   `1000.000`

Color Temperature   `6500.000`

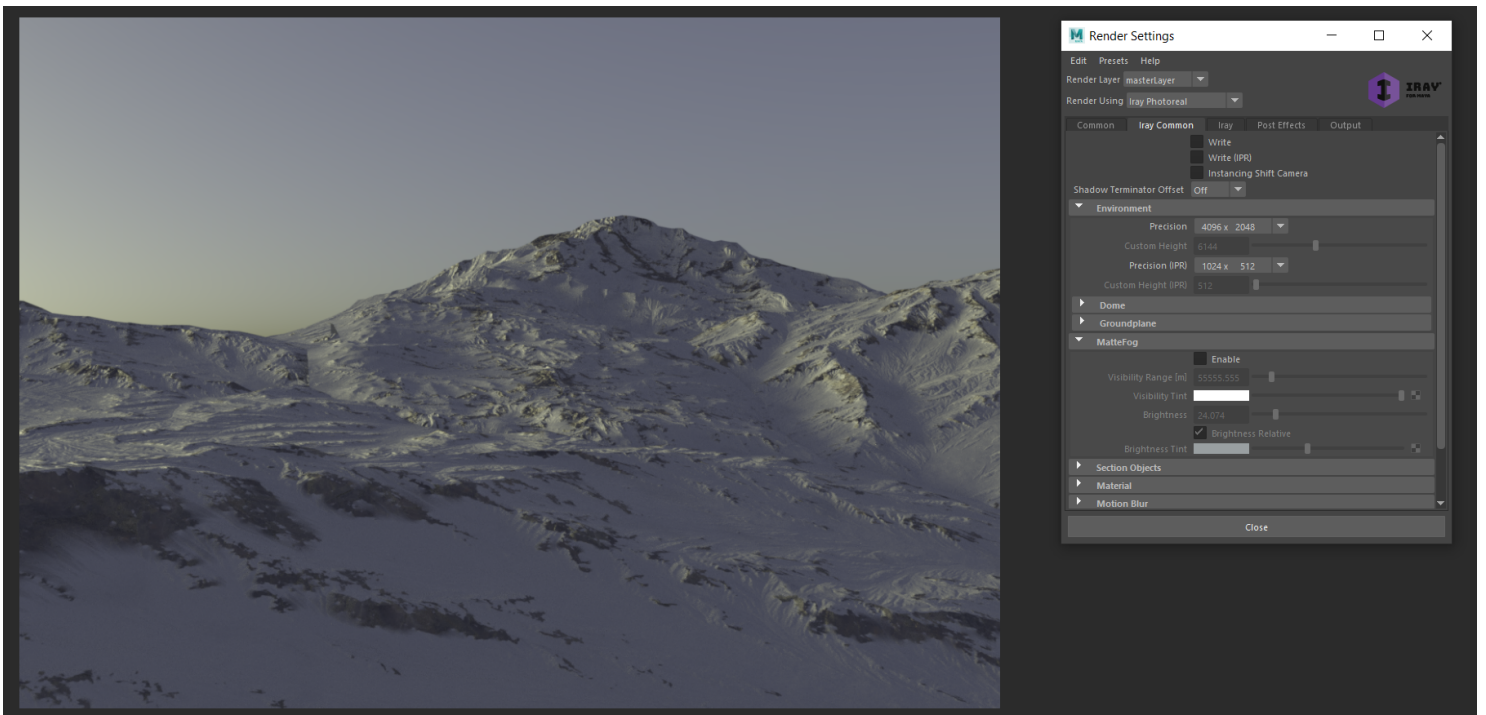**▶ Misc**

▶ Extra Attributes

Iray for Maya 2.3 provides two new physically based light emission materials: *ifmspotTempEmitter* and *ifmOmniTempEmitter*.

# 2.8 Matte fog support
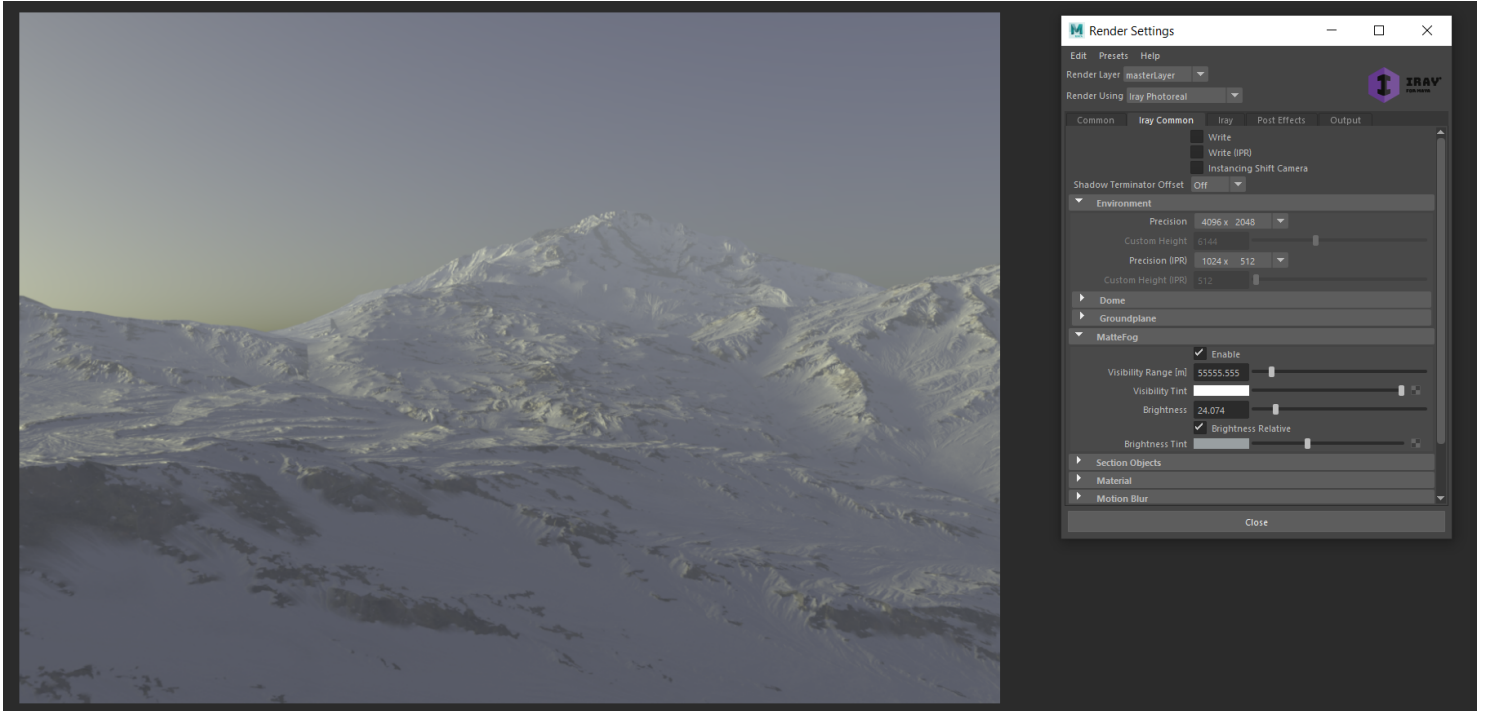
Scene rendere with MatteFog enabled

Scene rendere with MatteFog disabled (default)

Iray Photoreal and Iray Interactive offer a simple "matte fog" effect to create fog-like atmospheric effects, such as aerial perspective, without the computational overhead of modelling an actual scattering volume. Matte fog does not affect rays hitting the environment, as attenuation and in-scattering are assumed to be already present in the environment or backplate.

2.9 MDL 1.6 support

Iray for Maya 2.3 supports MDL in its specification 1.6.

2.10 File node supports color spaces
sRGB (gamma of 2.2) and Raw (linear)
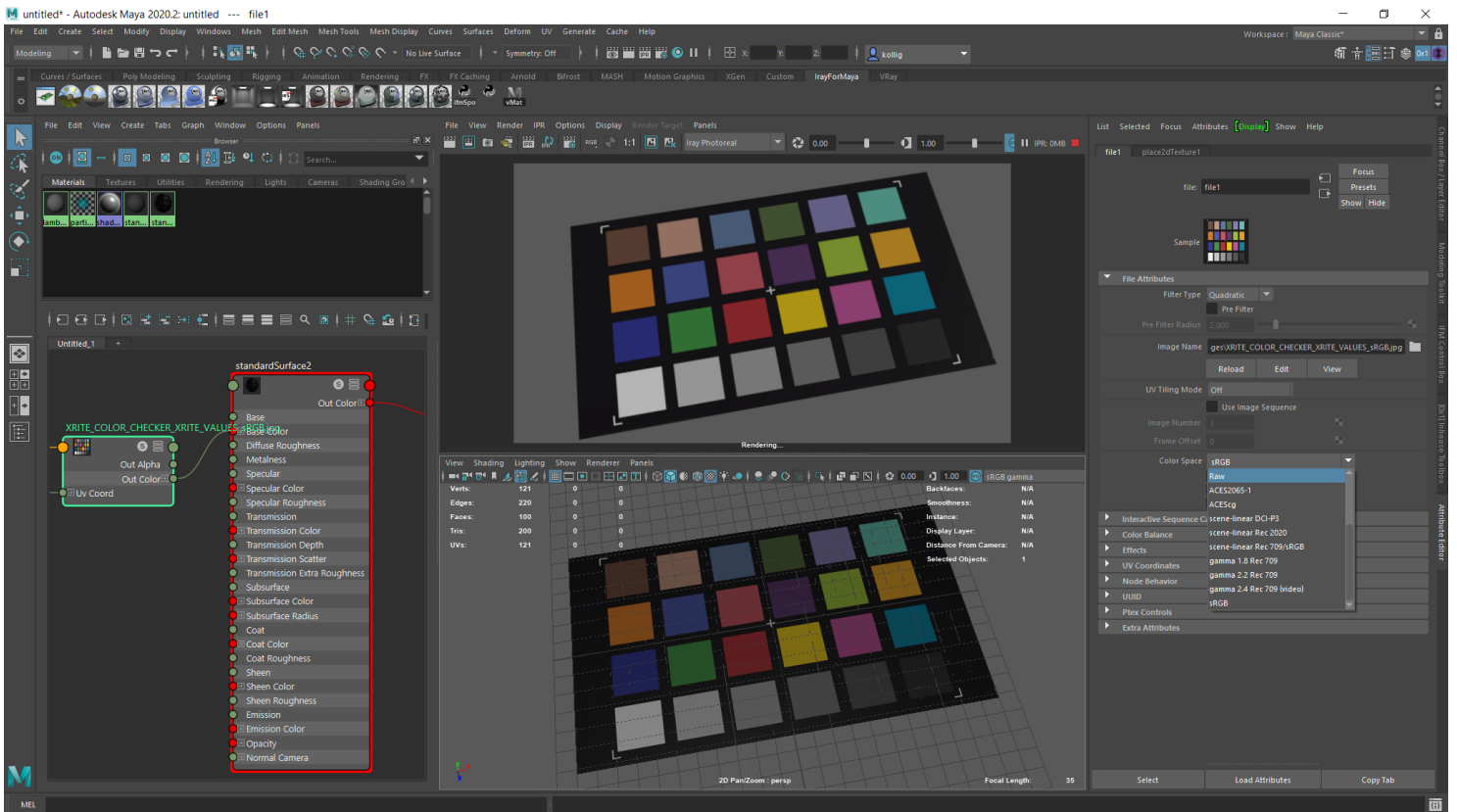
Iray for Maya 2.3 now supports the attribute *Color Space* in the *File*-node. In this version the selection of sRGB and Raw will effect the appearance of the texture. All other settings are not supported yet.

2.11 Improved ifmNormalMapping node
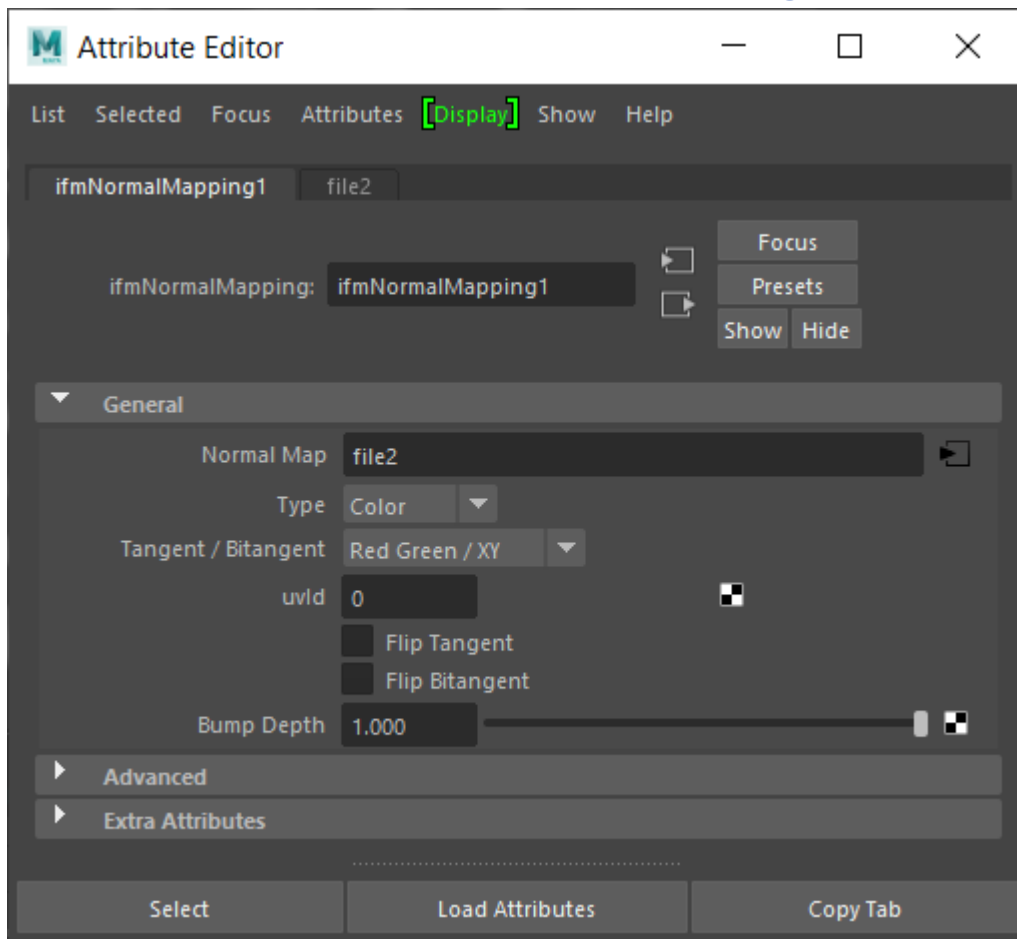
Iray for Maya 2.3 adds some improvements to the ifmNormalMapping node. It is now easy to flip tangent and bitangent. Also a texture space selection for tangent and bitangent calculation (uvID) is added.

2.12 Improved ifmState node
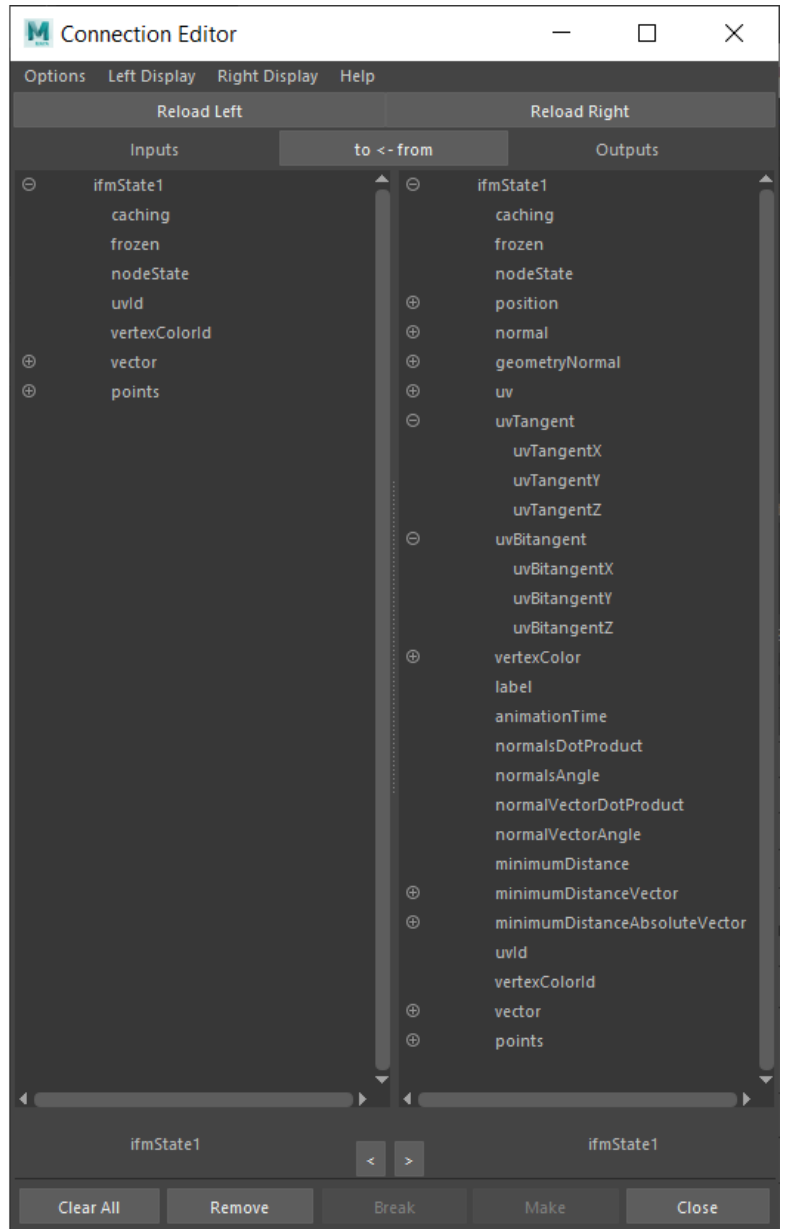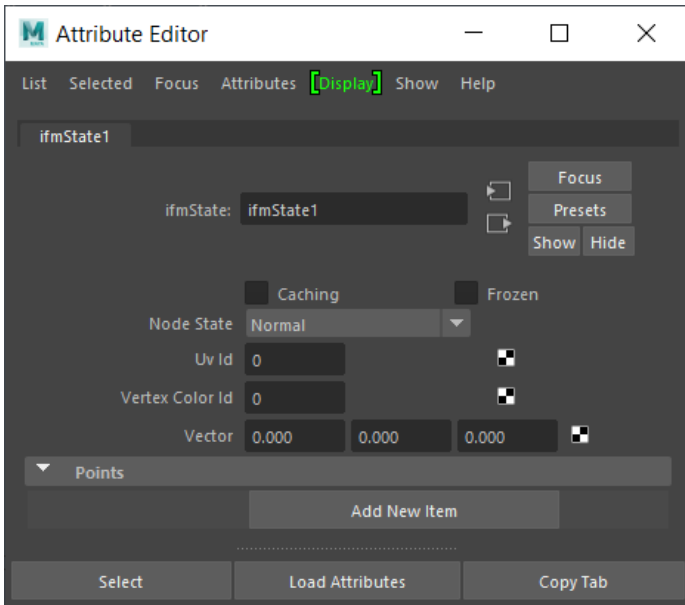
Iray for Maya 2.3 adds some improvements to the ifmState node. An output of tangent and bitangent and texture space selection for uv, tangent, and bitangent calculation (uvID) was adeed.

3 Limitations

3.1 General

Geometry Types

Iray for Maya does not render NURBS or SubdivisionSurface objects.
Workaround: Convert NURBS and SubdivisionSurface objects to Polygons before rendering.

Inherit transform

Iray for Maya does not support the Inherit Transform attribute.

Usage of multiple UV sets

Using multiple UV sets might cause problems in other areas where Object Ids are involved. This can happen when using *Object Id -> Set* in the Attribute Editor or using the multipleSwitch nodes. Another problem might appear when Object Ids are used in custom MDL materials.

Usage of multiple shadingSwitch nodes

Using the multiple shadingSwitch nodes — singleShadingSwitch, doubleShadingSwitch and tripleShadingSwitch — might cause problems in other areas where Object Ids are involved. This can happen when using *Object Id -> Set* in the Attribute Editor or when using multiple UV sets. Another problem might appear when Object Ids are used in custom MDL materials.

3.2 Interface

Attribute Editor

Due to a bug in Maya on Windows OS the color field beside Object ID->Set is getting dark grey after setting the color in the RGBA Color Chooser.
Workaround: You need to switch the Object ID attribute once and then go back to Object ID->Set to see the correct color in the color field.

Hypershade

Quickly changing the MDL type in an ifmMDLMaterial node, while the material is graphed and visible in the hypershade node editor window, can cause a crash.
Workaround: To stop Maya from crashing, close/minimize the hypershade window, or reduce the display mode of the ifmMDLMaterial node to "2" as shown in the following image:
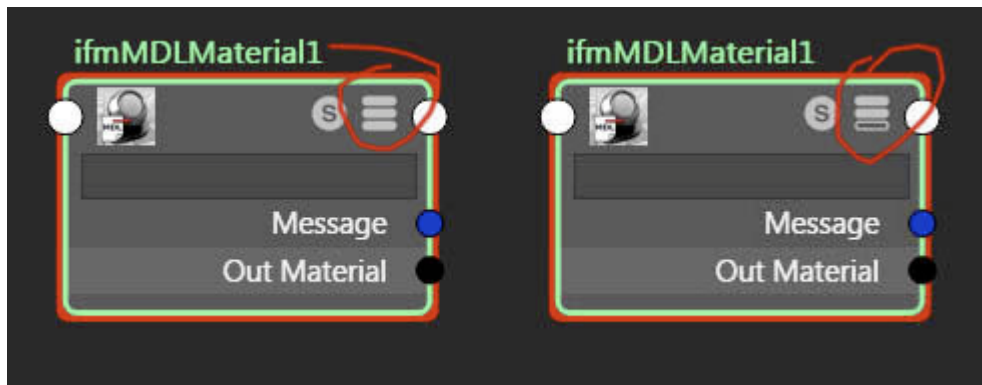
Reducing the display level of the ifmMDLMaterial node

Hardware texturing

In viewport hardware texturing mode, errors may occur when Iray for Maya materials are assigned to objects. It is recommended to use only wireframe or smooth shaded mode in the viewports when working with scenes using Iray for Maya.

3.3 Rendering

IPR: Motion Blur

Adjustments to the motion blur attributes in the Render settings don't trigger IPR updates.
Workaround: You need to re-render the current camera to see attribute adjustments in the rendered image.

IPR: Environment nodes

Display and Render Layer changes of environment nodes (ifmImageBasedLighting and ifmHosekSkylight) or their parents aren't handled correctly and may crash during IPR.
Workaround: Turn off IPR while assigning environment nodes to Display Layers or Render Layers.

Motion Blur

Iray only supports motion blur for transform nodes. This means, for example, that time varying material attributes or textures will not produce motion blur effects.

Image naming

Iray does not write images when no file extension is added to the file name. This will happen when the setting name.# or name.ext.# of the Frame/Animation ext attribute in the Render Settings window is chosen.

Iray Interactive restrictions

Iray Interactive has the following rendering limitations:

• No volumetric effects except volume attenuation by Beer's law.
• Emissive geometry is not illuminating the scene, but it is considered when the geometry is hit directly.
• Non-specular refraction is rendered black.
• No motion-blur.
• No custom matte objects.
• The number of elemental BSDFs per material are restricted to a maximum of 16.
• The number of procedural texture functions per material are restricted to a maximum of 32.
• The material volume properties are ignored, for example, no volumetric effects, except for volume attenuation in glass-like materials.
• Fractional cutout opacity is not supported. For values less than 0.5, the object is fully transparent; otherwise, the object is fully opaque.
• The rounded-corners feature is not supported.

Hard shadows when using Maya standard lights

Using Maya standard lights with Iray for Maya only supports hard shadows.
Workaround: Use light emissive geometry instead.

Texturing Maya Area Lights in Iray Interactive

Maya Area Light using a texture map is ignored when rendering with Iray Interactive.
Workaround: Use Iray Photoreal instead.

Texturing Maya standard lights

The other Maya standard lights — Spot Light and Directional Light — do not allow the use of a texture map to modify the Color attribute when using Iray for Maya.
Workaround: Use light emissive geometry instead

3.4 Shading

Material assignment

Per-face material assignment on polygon objects may slow down Iray.
Workaround: If possible, split the geometry in parts and assign materials per object.

Material connection

Looping material connections will crash Iray
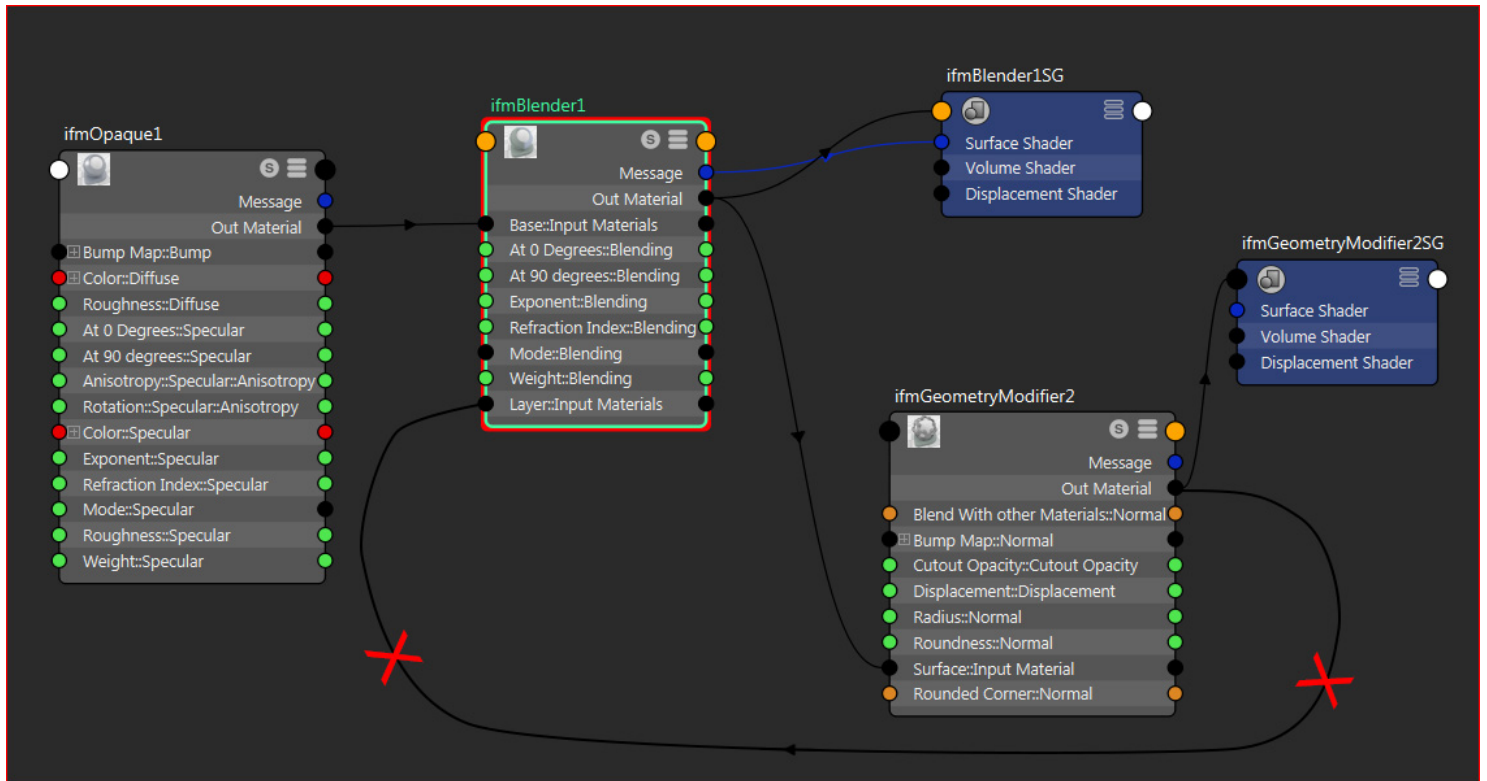Workaround: Avoid looping connection in material networks.

Illustration of a material looping connection

3.5 Texturing

Image naming for file textures

Iray does not understand images as texture maps when no file extension is added to the file name.
Workaround: Use the following syntax to name your files before opening them as texture map:
filename.extension, for example, background_1.png.

Bump mapping

Iray for Maya doesn't support Tangent Space Normals and Objects Space Normals in the bump2d node.
Workaround: If you want to use normal maps use the ifmNormalMapping node instead.

3D textures

Not all Maya's procedual textures are supported. Refer to the chapter Supported Maya Materials for a list of
supported textures.
Workaround: Try to use one of Iray's procedural 3d textures if possible.

Projection node

• Bump mapping is not supported when using the Projection node.
• The attributes Fit Type and Fit Fill in the Camera Projection Attributes section are not supported.

3.6 LPE

User-defined LPEs

Some combinations of user-defined LPEs can trigger a slowdown due to syntax checking, resulting in extended render times.

Workaround: If you have more than 10 canvases and experience a slowdown due to LPE input, open another render layer.

3.7 Queue Manager

File format mismatch

Iray for Maya uses a different technique to save image formats than Iray Server. This can lead to differences when rendering the same scene with, for example, the command line renderer using a third-party render manager and Iray Server.

Workaround: Don't mix command line rendering and Iray Server when splitting an animation in one scene file.