

Getting Started with iray in 3ds Max 2014

iray is an intuitive, interactive, physically based, progressive, path tracing 3D renderer



iray balances ease of use and interactivity with high quality photorealistic rendering.....

iray 3 in 3ds Max 2014

Start Fresh!

Start thinking like a *photographer* with a new digital camera !!!

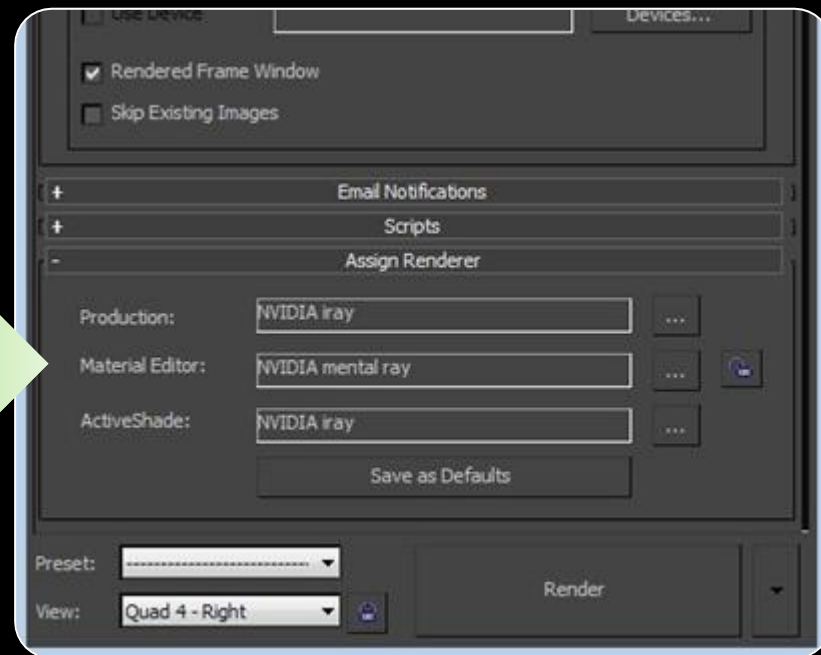


Visit blog.irayrender.com

iray 3 in 3ds Max 2014

Starting Fresh?

1. Open 3dsMAX 2014, open Render Setup, Assign Renderer, choose "Nvidia Iray"
2. Choose Iray for Production and ActiveShade.
3. Choose Mental Ray for Material Editor
4. If you have GPUs you can choose Iray for Material Editor
5. Start thinking like a *photographer* with a new digital camera !!!



Visit blog.irayrender.com

iray 3 in 3ds Max 2014

Starting Fresh?

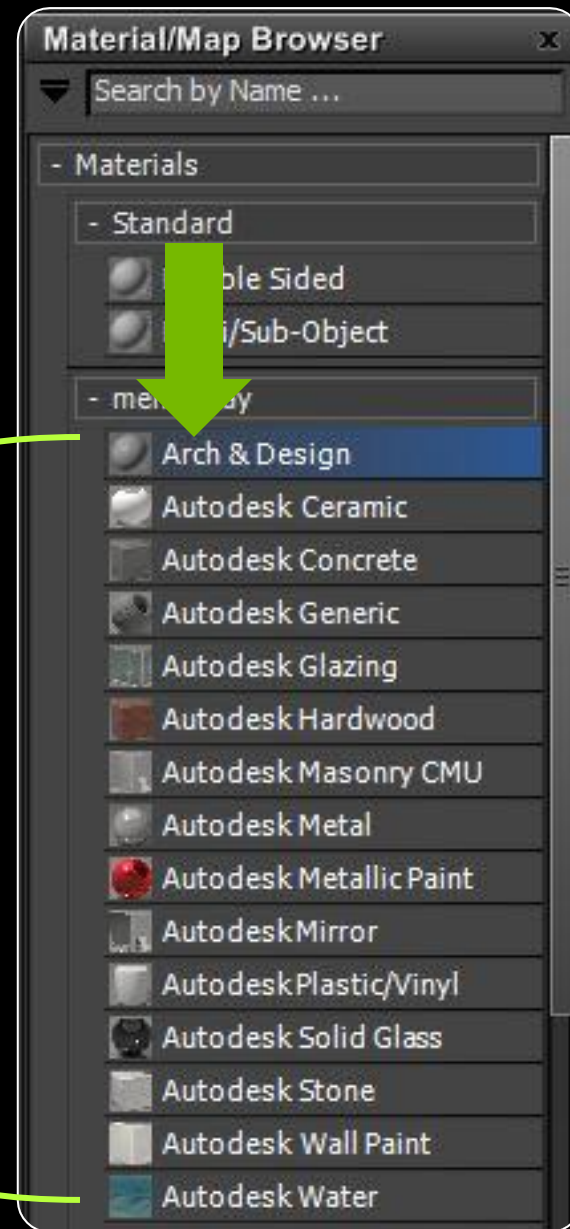
- Only the shaders compatible with Iray appear in the Material Editor.
- Use the MIA shader (Arch & Design) for most things.
- Autodesk Materials will work but are not as well optimized

OR

Converting an old scene to Iray?

1. Convert materials to Iray compatible shaders - MIA Arch & Design
2. Replace Standard lights with Photometric lights
3. Add MR Physical Exposure (tone mapper) control to environment

Visit blog.irayrender.com



Arch & Design Materials - the MIA shader

Don't Confuse with Autodesk "Architectural" materials !!

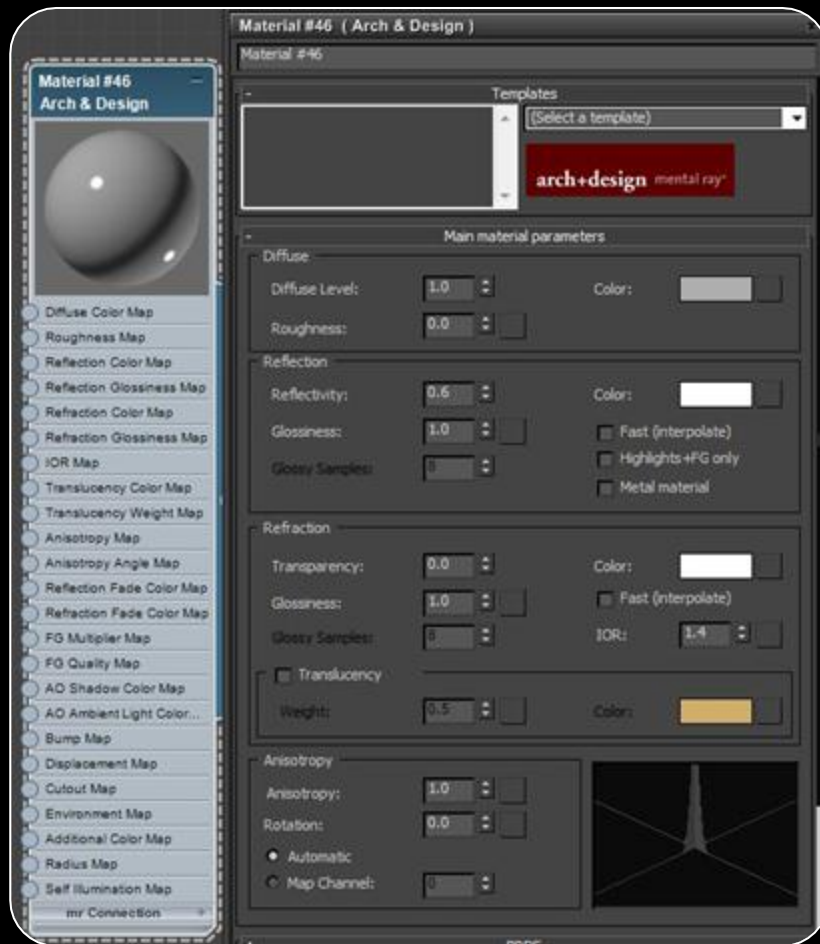
Choose a template to get started

- Pull-down above red "arch & design" banner
- Appearance
 - Matte, Pearl, Glossy.
- Finishes
 - Wood, Concrete, Plastic, Rubber, Leather, Ceramic, etc.
- Transparent Materials
 - Glass, Plastic, Frosted Glass, etc.
- Metals
 - Chrome, Copper, brushed metal, etc.

Convert material to Arch & Design

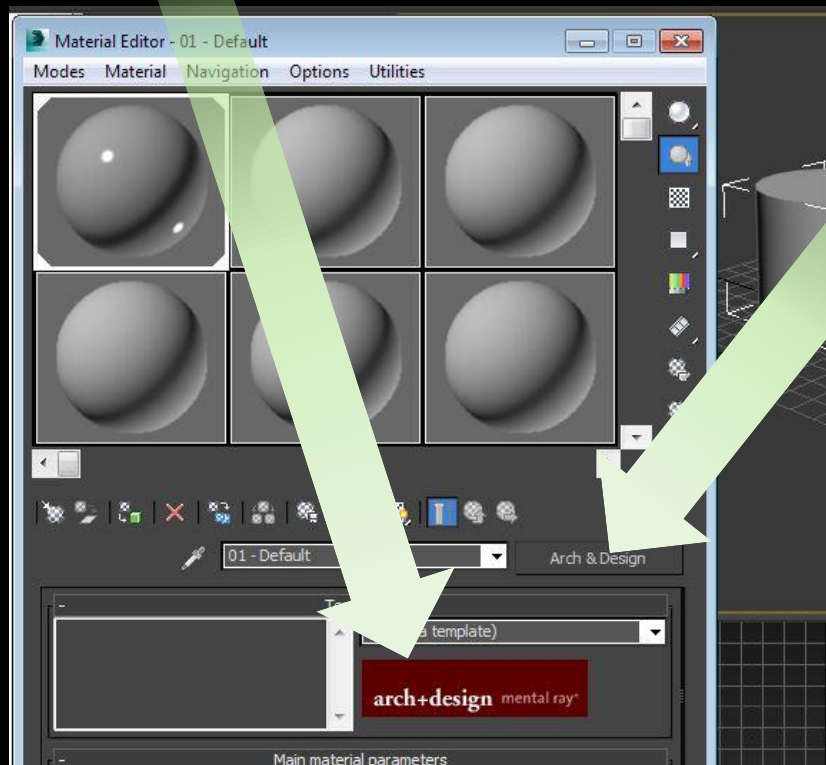
1. Select material in the Material/Map browser
2. In Compact editor select button to the right of the name
3. In Slate Editor create a new A&D material
4. Plug maps from old material into it
 1. For "Transparency" mapping use "Cutout" channel!
 2. Noise and procedural maps not yet supported.

Visit blog.irayrender.com

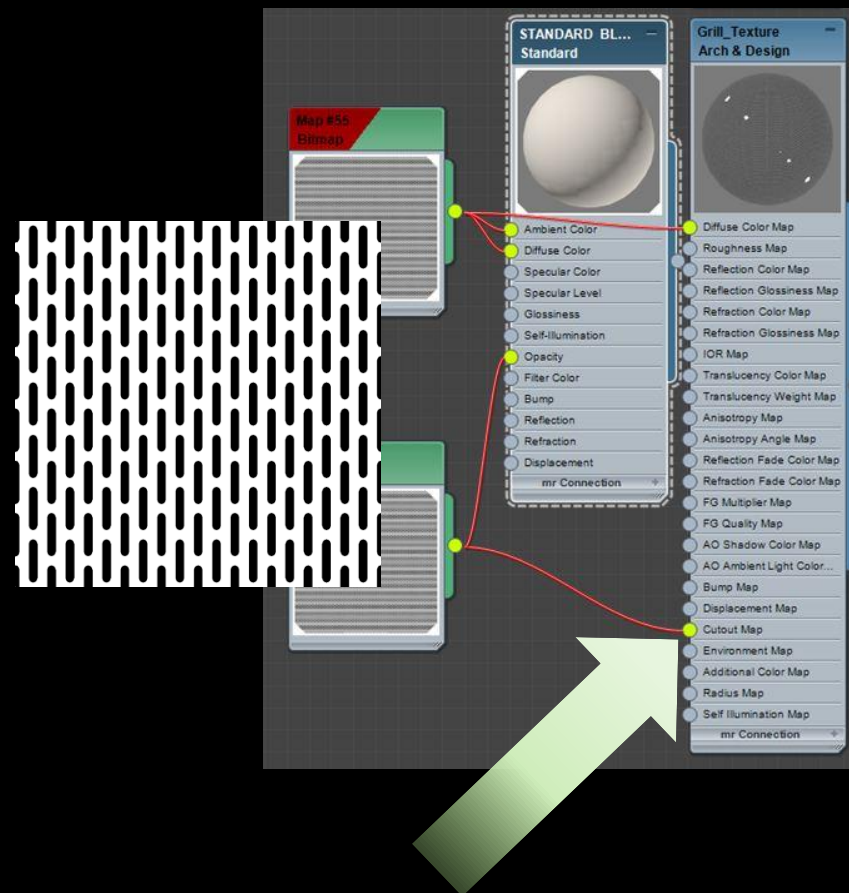


iray 3 in 3ds Max 2014 - Convert materials

Switch to MIA using this button.
MIA Material has the red flag



MIA has “Cutout” channel for “Opacity”

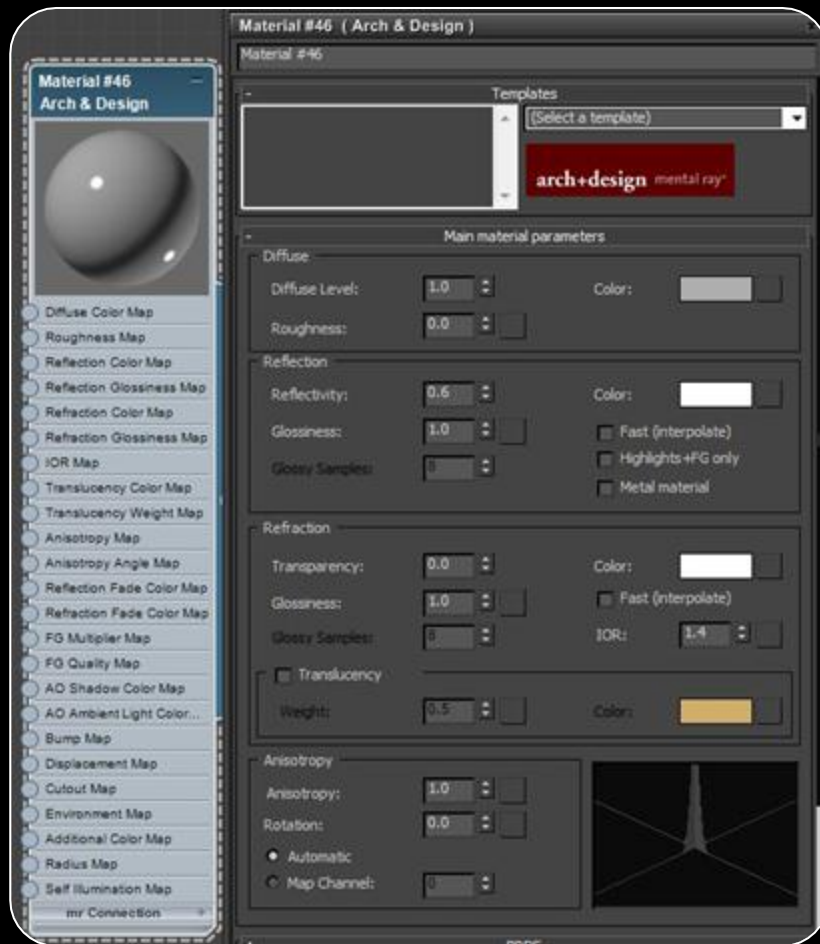


A & D Material - MIA shader features

MIA is a physically based BRDF material shader

Available controls and channels

- **Diffuse:** this is the base color of the object
 - Roughness give a more powdery look beyond lambert
- **Reflection:** controls color and fuzziness of reflected light
 - Glossiness of 1.0 means “shiny” specular
 - Glossy Sample controls quality
- **Refraction:** controls transparency
 - IOR
 - Glossy
 - Translucency
- **Anisotropy:** controls eccentricity of highlights for brushed metal type effects
- **BRDF:** controls reflectivity by angle of the surface
 - Fresnel for most things like glass
 - Custom for some real-world materials
- **Self-illumination:** controls light emitting materials, similar to light controls



Visit blog.irayrender.com

Lighting - Environment Maps

Environment Map Lighting

1. Drag and drop an HDR image to a viewport background
2. Add an 'MR Physical Exposure Control'
3. Material Editor -> Map node -> Output and boost "Output Amount"

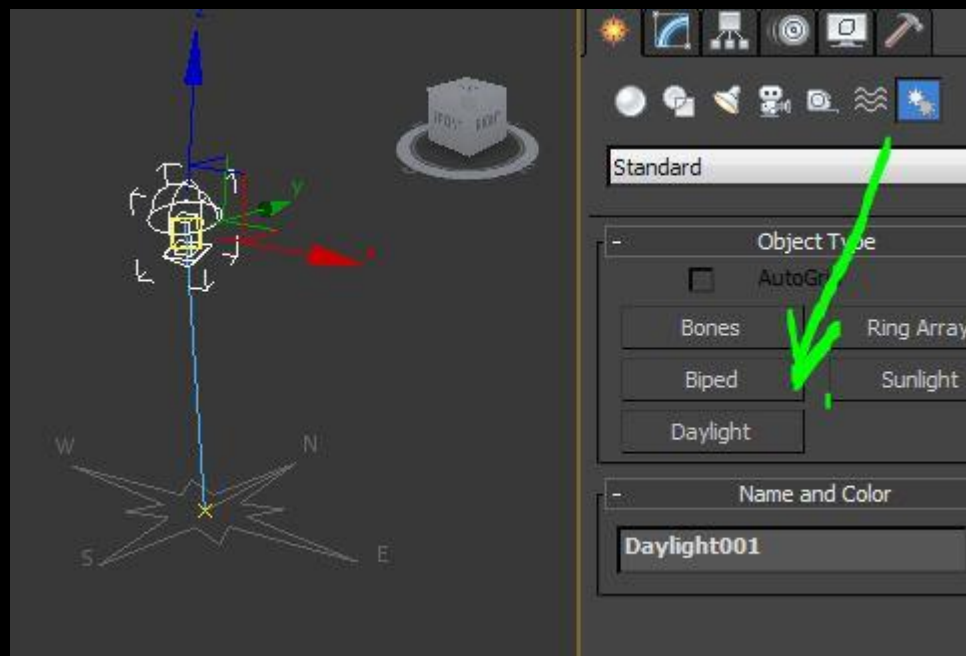


Visit blog.irayrender.com

Lighting - Sky

Physical Sky and Physical Sun

1. Create a Daylight system, answer “yes” to add ‘MR Photographic Exposure Control’
2. Daylight Parameters, select **MR Sun** and **MR Sky**, answer “yes” to connect ‘MR Physical Sky’
3. Change time of day with “Setup” dialogue

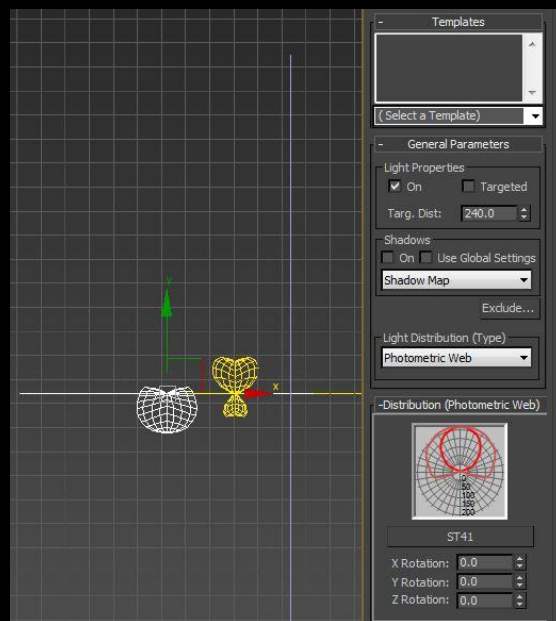


Visit blog.irayrender.com

Lighting - Environments and Lights

Photometric Lights

1. Choose **Photometric** from pull-down, create spot or target
2. Choose a template or select an IES file from **Light Distribution Type -> Photometric Web**
3. Illuminating Engineering society : **www.ies.org**
4. Download IES files for light bulbs, LEDs, light luminaires, etc. from manufacturers
5. **www.lightolier.com** **www.lumitron.com** etc.



Lytelcaster® Recessed Downlighting **1004F18ES**

Page 1 of 1 5" Aperture **Lyte~~light~~ning**® 1 Lt 18W Quad/Triple Tube Compact Fluorescent IC Frame-In Kit

Ceiling Opening 5 3/8" diameter

Complete Fixture consists of Reflector Trim & Frame-In Kit. Select each separately.

Frame-In Kit		Reflector Trims — See Individual Reflector Trim Specification Sheets						
Voltage	Lamp	Open Downlight					Enclosed Diffusers	Wall Washer
		Anodized Reflector	Anodized Cone	Satin Cone	Baffles	Basic White		
120V	18W Quad or Triple Tube	1045	1012	1008		1071	1021	1035
		1046	1012NM	1008NM	1005BNM	1005BNM	1024	1035WH
		1046CD	1013	1010	1005WH	1076	1078	1085
			1013BK	1010NM	1076WH	1177LX**	1095	1096
			1013BKNM				1096CD	
			1013CD					
			1013CDNM					
			1013NM					
			1013WH					

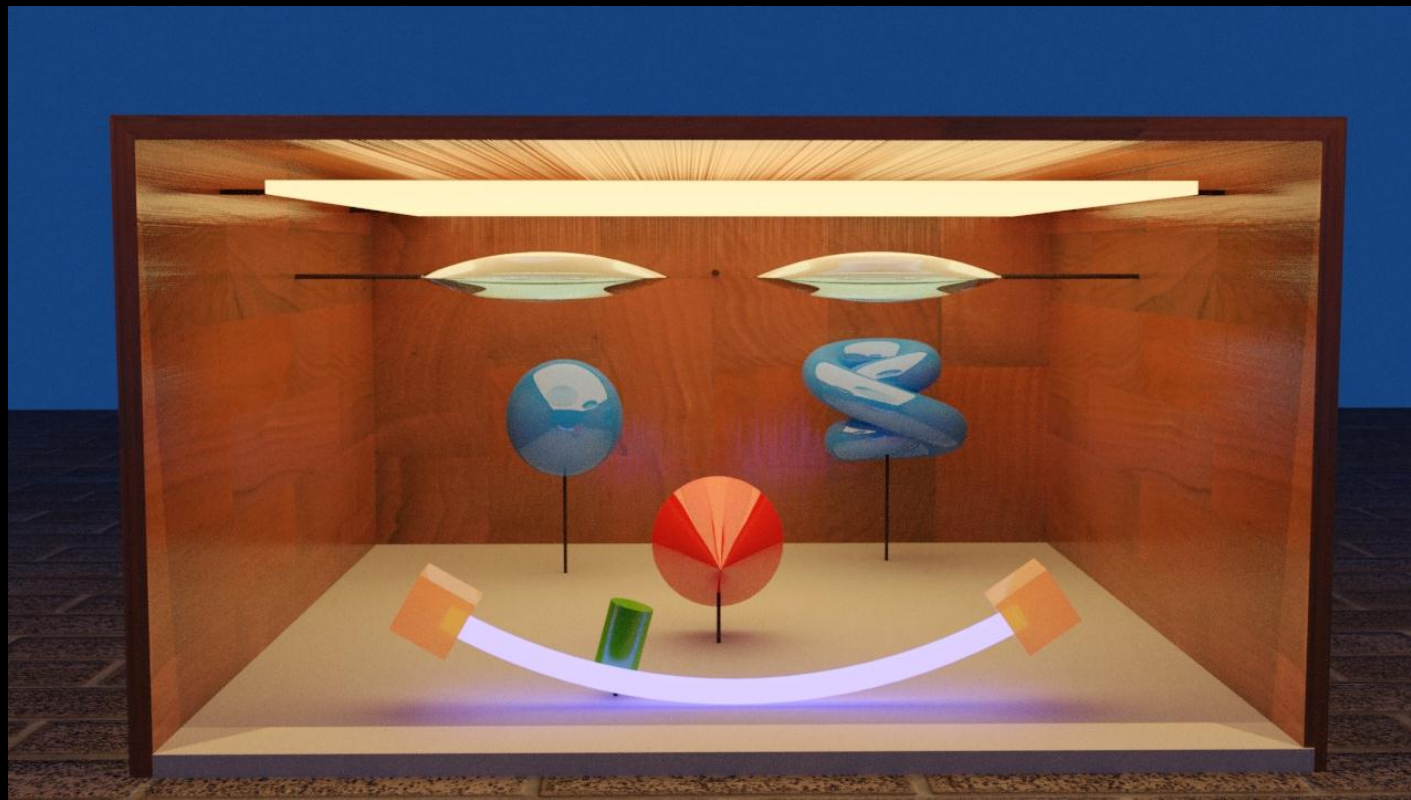
** Use Triple Tube Lamp Only.

Visit **blog.irayrender.com**

Lighting - Environments and Lights

Self illumination

- Controls are similar to a Photometric Light



Visit blog.irayrender.com

Render Settings

Iray has settings for quality and performance

Time or Iterations (*or forever.....*)

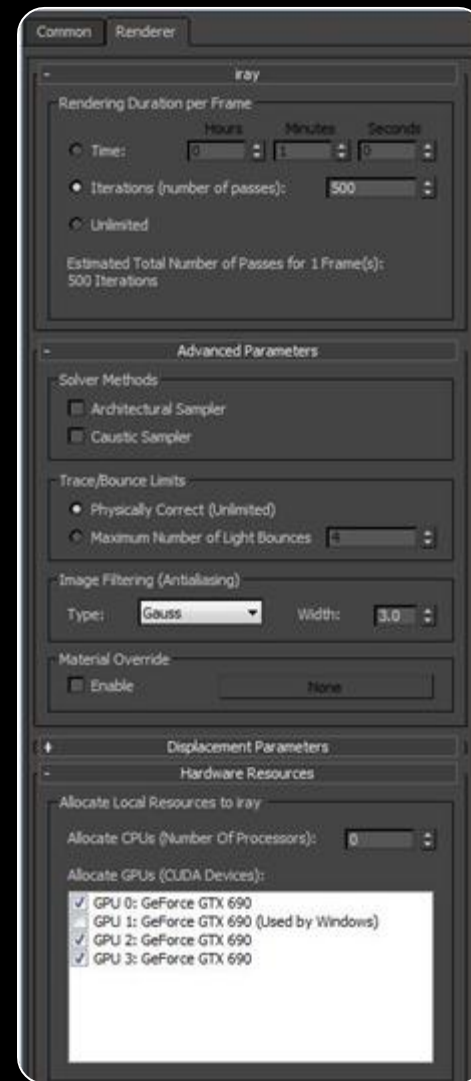
1. Fixed time per frame : use for test animations
2. Number of iterations : use to ensure a known quality

Hardware Resources

1. CPU cores (turn them to zero for best interactivity)
2. GPU (CUDA devices) : assign them all for render speed
3. GPU (CUDA devices) : reserve the Windows one for interactivity

Advanced Parameters

1. Physically correct : Unlimited bounces
2. Trace/Bounce limits : speed up complicated scenes
3. Displacement, Motion Blur



Visit blog.irayrender.com

New Shader Features for iray 3

Matte/Shadow/Reflection - Combine Iray CG with photography

- Allows objects to render only reflection of objects and environment images
- Allows objects to “catch” shadows while remaining invisible
- Allows roto-ed objects to generate a matte while invisible
- Allows roto-ed objects to render only refraction
- Makes it possible to use Iray rendered elements in a tradition film pipeline
- Download: ftp://ftp.nvidia-arc.com/pub/iray_matte_environment.mi



New Sampler Features for iray 3

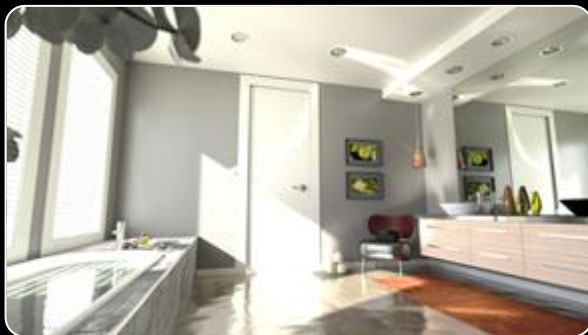
Iray has new performance features and new shaders

Architectural Sampler

1. Employs Metropolis Sampling
2. Makes interiors and dark scenes converge faster. Useful for:
 1. *Interior scenes lit by exterior light through small windows*
 2. *Light passing through Translucent or Glossy surfaces*
 3. *Bright light reflected from Glossy and Specular surfaces*
 4. *Sub-surface Scattering*

Caustic Sampler

3. Adds caustic reflections coming off of specular and glossy surfaces
4. Works well with the Architectural Sampler



Visit blog.irayrender.com

New Sampler Features for Iray 3

Architectural Sampler



Visit blog.irayrender.com

New Sampler Features for Iray 3

Caustic Sampler

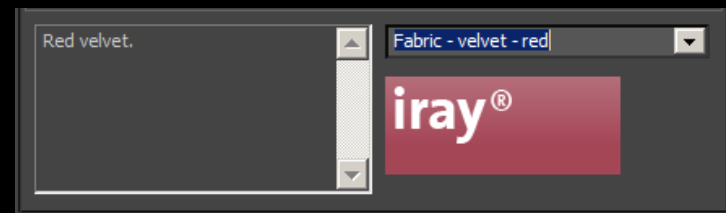


Visit blog.irayrender.com

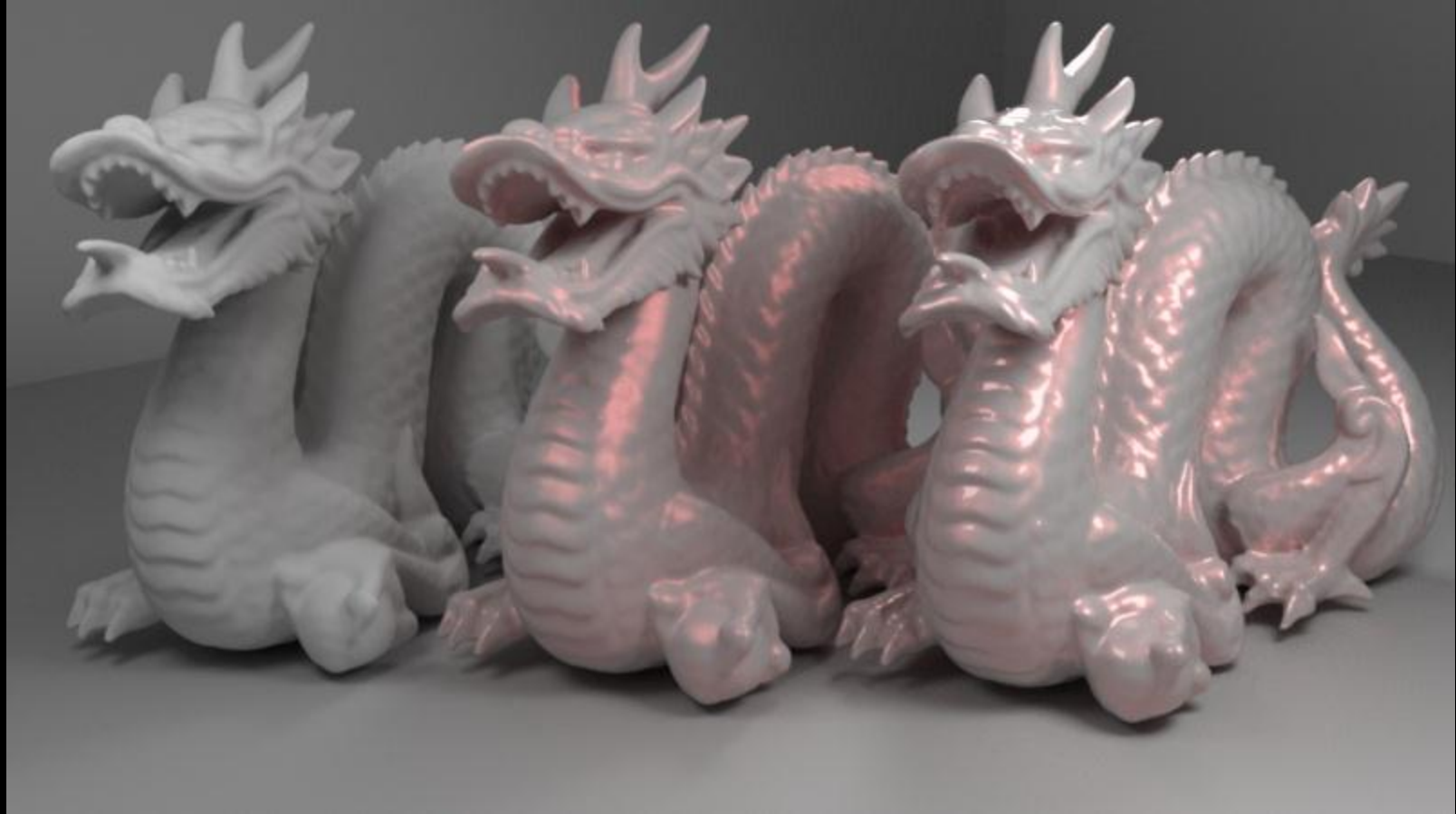
New Shader Features for Iray 3

Iray Layered Material - Three layer physical material for new material effects....

- Base layer + Metal Flakes layer + Reflective Coating layer
- Comes with a selection of presets for car paints, fabrics, anodized metal, wax, etc.
- Has capabilities of MIA plus :
 - Backscattering
 - Spectral Dispersion (chromatic aberration)
 - Thin Film on each layer
 - Procedural textures - noise
- Download <http://forum.nvidia-arc.com/forumdisplay.php?156-mental-ray-iray> OR ftp://ftp.nvidia-arc.com/pub/iray_material_plugin_1.2.zip



Iray Layered Material - presets



Left: diffuse, Center: red metal flake, Right: white clear coating

Iray Layered Material - presets



Left: car paint, Center: anodized aluminum, Right: silk

Iray Layered Material - diffuse weight



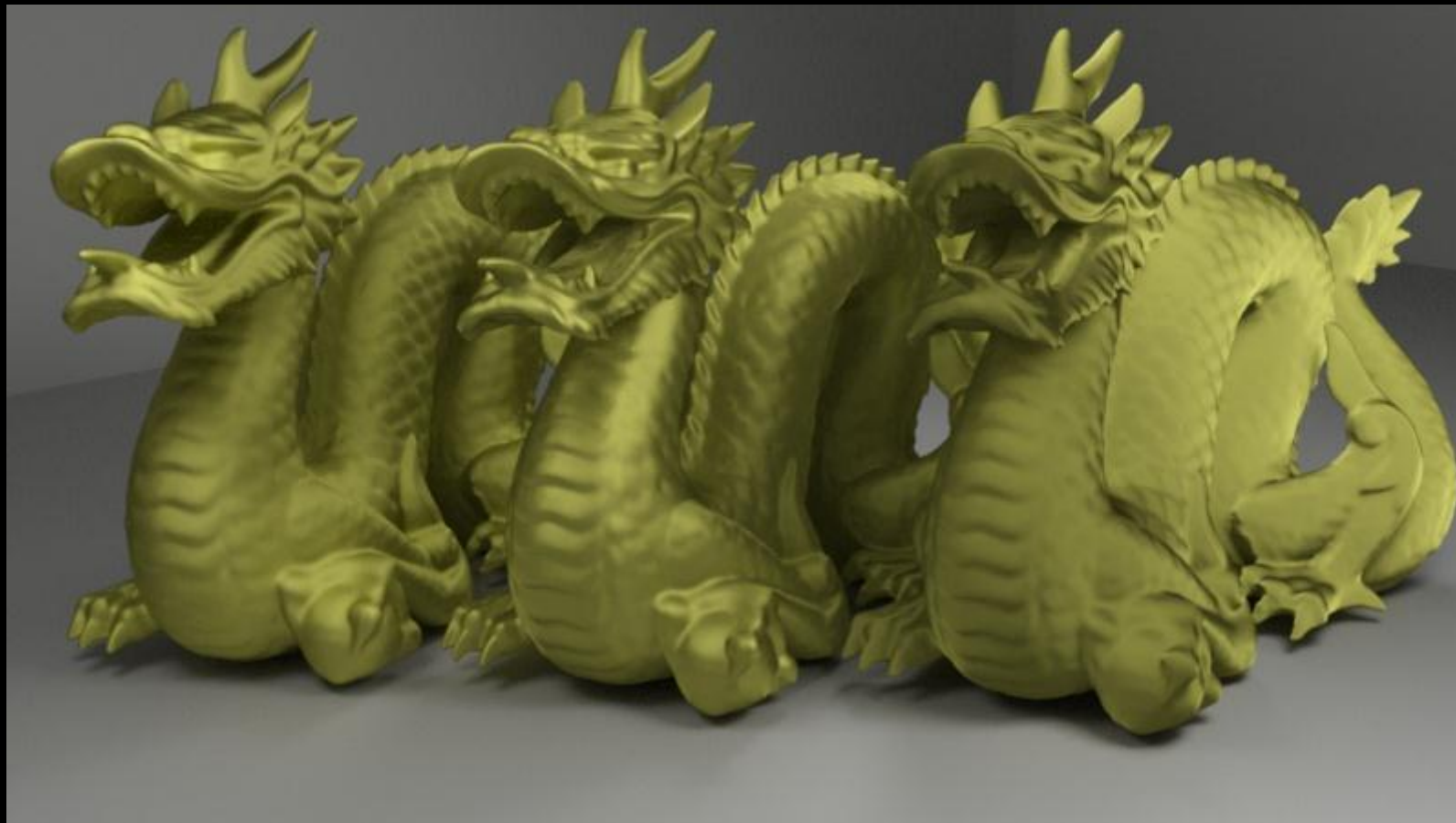
Left: diffuse, Center: 50% diffuse+50% glossy, Right: glossy

Iray Layered Material - translucence weight



Left: translucency 0, Center: 50% glossy, Right: 100%

Iray Layered Material - Back Scattering



Left: backscatter 0%, Center: 50%, Right: 100%

Iray Layered Material - volume absorption



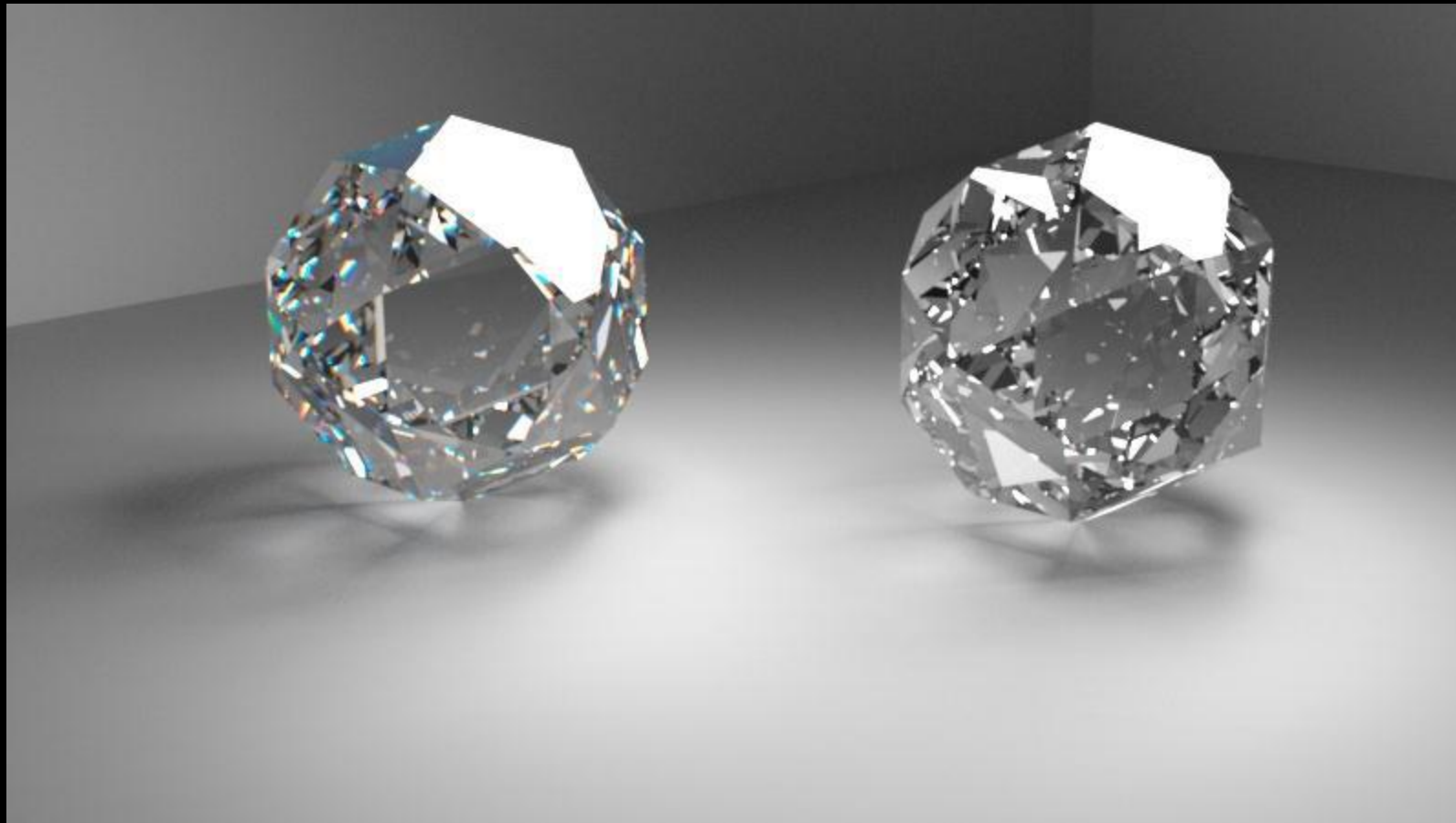
Left: absorption 0, Center: some, Right: high

Iray Layered Material - SSS (with absorption)



Left: scattering 0, Center: 0.3, Right: 0.99

Iray Layered Material - Spectral Dispersion



Left: enabled , Right: disabled

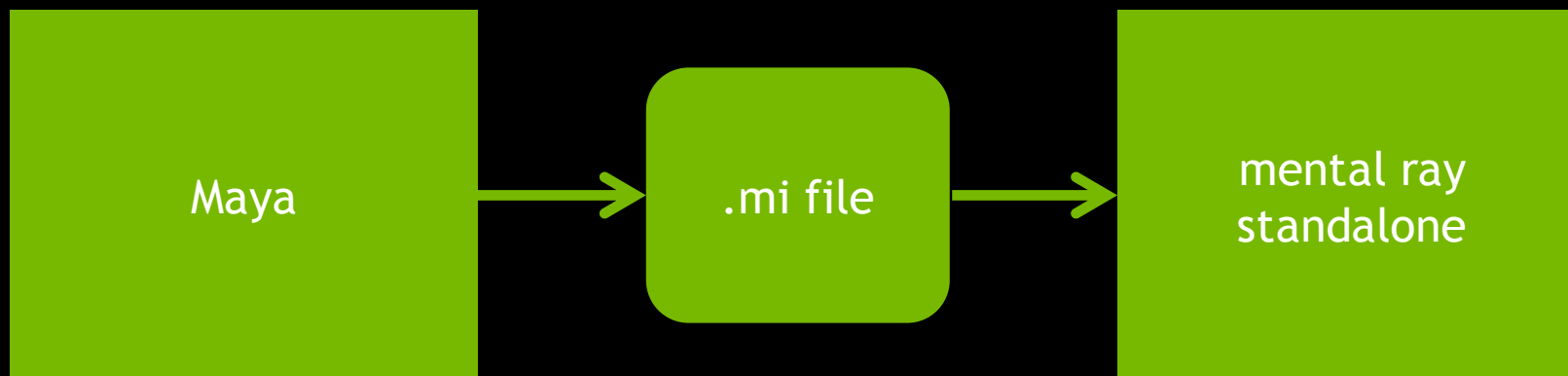
Iray Layered Material - Thin Film



Left: 300nm+IOR 25, Center: 225nm+IOR2.5, Right: Noise Thickness

Using Iray in Maya 2013

Iray can be run by exporting a Maya scene to a mental ray .mi file and rendering that scene using the iray rendering option



Iray balances ease of use and interactivity with high quality photorealistic rendering.....

Iray in Maya 2013

What is required?

1. Maya 2013
2. mental ray standalone
3. Script to make it easier available at the NVIDIA mental ray forum:
<http://forum.nvidia-arc.com>.
 1. Look in *mental ray Application Specific - Maya* forum under sticky post, *Python scripts for mental ray advanced production*



NVIDIA ADVANCED RENDERING FORUM

NEW POSTS PRIVATE MESSAGES FAQ CALENDAR COMMUNITY FORUM ACTIONS QUICK LINKS

NVIDIA Advanced Rendering Forum ▸ mental ray ▸ mental ray - Application Specific ▸ mental ray - Maya

+ Post New Thread

Threads 1 to 20 of 1586 Page 1 of 80 1

NVIDIA Advanced Rendering Forum: mental ray - Maya
Maya specific mental ray topics

Title / Thread Starter	Replies / Views	Last Post By
Sticky: Maya 2011, 2012, 2013 and mental ray iray Started by steve, May 28th, 2010 04:42 1 2	Replies: 16 Views: 39,685	Remydrh May 25th, 2012
Sticky: Maya 2011 and mental ray with MetaSL Started by steve, October 5th, 2010 12:44 1 2	Replies: 13 Views: 10,431	igoredosgore January 18th, 2013
Sticky: Python scripts for mental ray advanced production Started by bart, August 2nd, 2011 17:08	Replies: 1 Views: 5,068	bart August 2nd, 2011
Sticky: report problems to Autodesk? Started by subaqua, May 22nd, 2007 02:29	Replies: 7 Views: 6,223	Remydrh June 21st, 2010
mip_matte_shadow feature request Started by rlevne, Yesterday 11:30 1 2	Replies: 17 Views: 128	fatjulio Today, 17:51
Ptex Texture not visible through transparent shader Started by DavidUrwin, February 12th, 2013 04:15	Replies: 7 Views: 346	steve Today, 11:40
Unified Sampling, Maya 2k12 + Passes = clamp Started by nuki, March 15th, 2013 08:45	Replies: 7 Views: 111	nuki Today, 11:29

Visit blog.irayrender.com

Iray in Maya 2013

Use same light, material recommendations as 3ds Max, although the names and terminology slightly different

- Use the mia_material/mia_material_x shader for most things.
 - Don't use mia_material_x_passes, as it doesn't translate effectively
- Use physically-based lights with falloff, like mia_photometric
Or mia_physicalsun/sky
- Any environment should work ok for environment lighting, so basic use of Maya IBL is fine

Visit blog.irayrender.com