

Maxwell Render 1.5 complete list of new and enhanced features

- **Multiprocessor**

Maxwell Render can exploit all of the processors available on your system and can make them work simultaneously on the same render to provide faster renders. For example, on a multiprocessing platform with eight processors a user can expect up to an eightfold increase in render performance/speed.

- **Multiplatform: Linux version**

Maxwell Render is a standalone application compatible with Windows 32 and 64 bits, Mac OSX Universal Binary and now also Linux 64 bits.

- **Improved and new plug-ins:**

All our current plug-ins are compatible with Maxwell Render 1.5. Please refer to the table at the end of this document.

All our plug-ins have been improved in several areas.

- **XSI plug-in:hat**

Alongside the release of Maxwell Render 1.5, a new plug-in for XSI 6 for both Windows and Linux is available to all new and existing users.

- **Preview Engine:**

Maxwell Render's preview engine, RS0, has been improved in Maxwell Render 1.5.

- **Core Engine:**

Key parts of the RS1 engine have been rewritten, resulting in many fantastic improvements, bringing the quality of rendered images to a completely new level. Memory-intensive tasks such as glare, Multilight™ with a lot of emitters, large geometries and a lot of heavy textures are now easy to handle for an average computer. The MXCL interface has been improved, adding some new commands such as "selecting render priority".

- **Memory Handling:**

Memory handling has been greatly improved and is automatically managed by the core. Without using any kind of memory partitions, this version uses much less memory than version 1.1, making it possible to render at very high resolutions (for example at 6000 x 6000 with less than 2 GB of RAM) without losing quality.

- **Resume Render:**

As a consequence of the core enhancements and the new memory handling, MXI files can always be resumed, allowing users to refine the render even after it has been stopped, as many times as you want.

- **Smaller MXI files:**

The size of the MXI files is around 3,5 times smaller in Maxwell Render 1.5.

- **Log System:**

Maxwell Render 1.5 has an improved log system with more information, warnings and error messages to keep track of your renders. You can view a full log in the console window of the Maxwell Viewer.

- **File Management System:**

There have been several improvements in the way Maxwell Render manages external files needed for the render, such as images, IOR files, r2 files, and MXI. Some of the improvements include more options for default paths, automatic handling of missing paths and files, detecting low size on disk to save MXS and MXI files, fixed issues with long paths, and more.

- **Environment:**

Using Maxwell Render, the user can choose from three different types of environments: Sky Dome, Physical Sky and Image Based Sky. Many improvements have been made in this area, including the ability to rotate the north direction of the physical sky.

- **IOR data:**

The calculation of IOR data has been improved and provides the possibility for users to use IOR data files directly measured in laboratories. This allows for easier rendering of real life materials.

- **Normal mapping:**

It is now also possible to set the intensity of Normal mapping with bump value.

- **Matte Material and Shadows Channel:**

Mattes are used to combine two or more image elements into a single, final image. This is now also possible inside Maxwell Render 1.5 with the new Matte Material "flag" which turns the assigned material into an invisible object, directly showing the environment. This is very useful for compositing rendered images with photos. Furthermore, the Shadow Channel is very useful for compositing as it shows the cast shadow of the material with the "Shadow Flag" enabled.

- **Material Editor Rewritten:**

The Material Editor has been rewritten from scratch. Performance, usability and stability have been further enhanced in all areas. Among the many improvements are:

- Texture Bin: A small panel inside the material editor allows you to quickly see all the textures in your scene, and drag & drop a texture from the panel into one of the texture slots.
- New Texture Editor: The texture editor has been improved, giving you the option to view the loaded texture at full resolution.
- Drag and Drop functionalities: You can now copy textures and colors by dragging and dropping on other texture or color chips (even from different BSDF or coatings).

- **Plug-ins interpret native shaders:**

The new generation of plug-ins is able to interpret the 3D platform's native shading to a greater or lesser extent.

- **Motion blur:**

Some improvements in this area have been made for this version and now motion blur computes Clip Maps and Opacity Maps perfectly.

- **SimuLens™:**

Maxwell's SimuLens™ system allows the user to define a pattern to simulate the shape of the camera diaphragm that will model the pattern of light reaching the film, creating realistic lens diffraction effects (glare). Glare has been improved in Maxwell Render 1.5. Furthermore, users can now add a second pattern which defines 'obstacles' in the lens such as dust, fingerprints or eyelashes adding to a more realistic diffraction effect. Maxwell Render's SimuLens™ system is also compatible with Multilight™.

- **Lens Scattering (part of SimuLens™):**

This simulates the scattering of light inside a lens system. This effect is typically called "bloom". These advanced controls bring a new level of quality and realism to computer graphics. Users can now have control over Diffraction, the frequency of Diffraction, and Lens Scattering to simulate blooming effects.

- **Vignetting (part of SimuLens™):**

Vignetting is the darkening effect that happens on real-world lenses, especially wide angle lenses. The amount of vignetting is controllable from the MXCL interface.

- **Z-Clip Planes:**

You can cut your rendered object with far and near planes and the render will show the interior of the object, without the need to model the edges. Excluding desired objects from Z-clip is also possible. Very flexible and useful.

- **Shift Lens:**

This new camera parameter allows you to shift the film plane up/down and left/right, without rotating the camera. This is very useful in architectural rendering for keeping a 2 point perspective while capturing the entire building in the image.

- **Maxwell Studio rewritten:**

Maxwell Studio has been rewritten from scratch. The performance, usability and stability have been further enhanced in all areas. Among a lot of improvements we highlight:

- Open GL® performance: The improvements in this area are huge. It is incredibly faster from previous versions to load and edit geometry. Thanks to this optimization, big scenes with lots of textures are now easy to handle. Other special features have been incorporated like the transparent shading of dielectrics in the viewports.
- New Material Editor: The new material editor is now integrated in Studio and the plug-ins.
- Blow Up: This new feature allows the user to choose a region of the viewport and render it at the final resolution chosen. It is ideal for rendering details without having to set a new camera.
- UV mapping interaction: UV mapping interaction has been enhanced, avoiding disturbing wireframes over objects when mapping.
- New exporting options: Users have the option to export selected geometry like MXS or obj. Exporting as MXS will also export the material(s) attached to the object(s). Export to obj and MXS is protected by the user who created the MXS from the corresponding plug-in by a tag in the plug-in interface.

- Complete History: Maxwell Render Studio now keeps track of all scene changes and shows them listed in a history panel. Users can scroll through the history list to undo/ redo changes. The history list can also be purged.

● **Improved Maxwell Studio UI :**

Maxwell Render Studio’s user interface has been improved with an overall better organization.

We can highlight the following improvements:

- Customizable shortcuts: Object panel now displays applied materials to the right of the object name, inside the object list for a faster overview of applied materials.
- Object parameters panel: has been fused with triangles and projectors panels. Parameters panels have been redesigned for collapsing and expanding groups of settings individually.
- New graphics, icons and the possibility to change layout aspects have been added.
- Icon size in object list and material list can be switched between small/medium/large.
- MXI/HDR textures can be dropped from one slot to another. Settings for one slot can be quickly copied to all slots.
- A “City” list has been added to Physical Sky, which loads a list of cities from a text file. Cities can be added/ removed easily from the list by editing the text file.
- Automatic GMT – when setting a certain location, Studio automatically sets the correct GMT for that location.
- Ability to rotate the Physical Sky system for easier positioning of the sun.
- Ability to rotate and scale the entire scene, along with the cameras.
- Texture paths and searching for missing textures greatly improved.
- Ability to lock objects or cameras to prevent accidental movement

● **32 bits output:**

It is now possible to set the output image format to HDR directly inside Maxwell Render.

● **Supported texture formats:**

These have been greatly expanded to allow many different image formats to be used as textures. The following table describes which formats are supported:

v1.5		Bits Per Channel				Features			Compression			
		8-bit	16-bit	32-bit	1-bit	Alpha	Trans	Interlace	RLE	LZW	ZIP	JPG
JPG	RGB	+						+				
	Greyscale	+						+				
	CMYK	+						+				
PNG	RGB	+	+					+	+			
	Greyscale	+	+					+	+			
	Indexed	+			N/A			+	+			
TGA	RGB	+				+				+		
	Greyscale	+				+						
	Indexed	+				+						
TIFF	RGB	+	+	N/A		+	+			+	+	+
	Greyscale	+	+	N/A		+	+			+	+	+
	CMYK	+	N/A			+	+			+	+	+
	Indexed	+			+	+	+			+	+	+
BMP	RGB	+				+						
	Greyscale	+				+						
	Indexed	+			+	+						
HDR	RGBE			+								

● **Networking:**


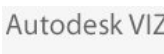









Maxwell Render’s networking has been vastly improved and optimized, making it more stable and faster. We can highlight the following improvements:

- It is possible to set the networks components like servers or managers and to display them more quickly by clicking on the new icons from the Maxwell Render root program.
- Job queue now includes more information to track your renders, so that you know exactly at which point a job is. This includes SL, more status info, rendering time, next update, target SL, and more.
- Displaying jobs: One of the most powerful features of the Job Queue window is the Display function. While servers are rendering you can select any of them and when you press the Display button it will automatically reveal the image being rendered on that node. Display button also supports instantaneous viewing of a cooperative job as merged during the render progress.
- Redesigned UI: the Maxwell Render engine (MXCL) interface has been redesigned so that Network rendering is more comfortable for the user.
- Selection of servers: Selection of servers has also been improved, and it is now possible to select machines by name or IP.
- MXI merging improved: MXI merging has been improved when it is saved and loaded again, making it more stable.

May 22nd, 2007

Next Limit Technologies



Platform (version)		Win 32	Win 64	MacOSX	Linux 64
 3ds Max	7	✔	✔	-	-
	8	✔	✔	-	-
	9	✔	✔	-	-
 Autodesk VIZ VIZ	07	✔	-	-	-
	08	✔	-	-	-
 Cinema 4D	9.6	✔	✘ (*)	✔	-
	10	✔	✘ (*)	✔	-
 formZ ⁵ FormZ	5.5	✔	✘	✔ (**)	-
	6	✔	✘	✔	-
 GRAPHISOFT ARCHICAD ArchiCAD	9	✔	-	✔	-
	10	✔	-	✔	-
 Lightwave	8	✔	-	✔ (+)	-
	9	✔	✔	✔ (+)	-
 SOFTIMAGE XSI [®] Xsi	6	✔	✔	-	✘
 Rhino	4	✔	-	-	-
 SolidWorks	2006	✔ (old)	-	-	-
	2007	✔	✔	-	-
 SketchUp SketchUp	5	✔	-	✔	-
	6	✔	-	✔	-
 Maya	6	✔	-	-	-
	7	✔	-	✔ (**)	-
	8	✔	✔	✔ (**)	✘ (*)
	8.5	✔	✔	✔ (**)	✘ (*)

(*) In development

(**) About to be released

(+) New plug-ins also supporting UB about to be released