

# What's new in Autodesk<sup>®</sup> Opticore<sup>®</sup> Studio Professional 2012

Opticore<sup>®</sup> Studio Professional 2012 includes many exciting new features and improvements to image quality, performance and usability. Following are some of the new features and improvements in this release

## Features

### Linear workflow

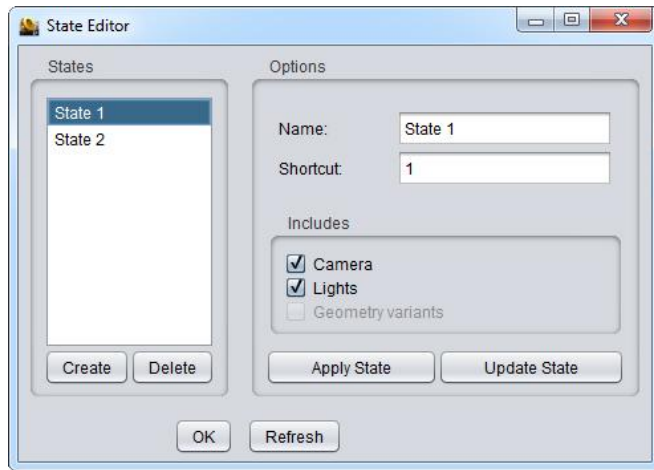
Linear workflow improves the quality of the resulting image by reducing calculation errors introduced thru the use of gamma-corrected images as an input to a multi-stage calculation such as Ray Tracing. It works by removing the gamma correction prior to running Ray Tracing on the image and adding the gamma correction back in just before displaying the image to the user. To read more about the process and value of linear workflows, we recommend reading Matt Gorner's The Beginners Explanation of Gamma Correction and Linear Workflow that can be found [here...](#)



Image courtesy of Renault Truck

### State manager

Switching between different lighting conditions, camera positions, and geometry variants is a frequent task for many users that can take significant amount of time. The new State Manager significantly improves user productivity by allowing the user to switch between different states of the scenegraph with the press of a single hotkey. States can be easily created by capturing a current state of the scenegraph, and can be easily manipulated through the new user interface or directly in the scenegraph where all the states are stored.



## ADLM

The installation, licensing and registration process in Opticore® Studio Professional 2012 has been revamped from the ground up to work with standard Autodesk business processes allowing our users to self-serve updates on subscription center and get access to advanced licensing options.

## Enhancements

### Direct Connect v. 2012

The new Direct Connect 2012 software is distributed with Opticore® Studio 2012 and is available directly from the tools menu in the installer. Direct Connect 2012 includes data converters for importing and exporting a variety of data types.

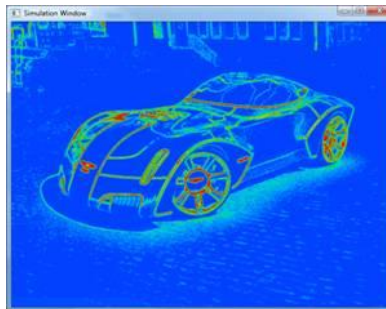
### New RapidRT version

The new RapidRT version included with Opticore® Studio Professional 2012 provides significant quality and performance improvements by using advanced algorithms for adaptive sampling, IBL lightning and more.

- Adaptive Sampling

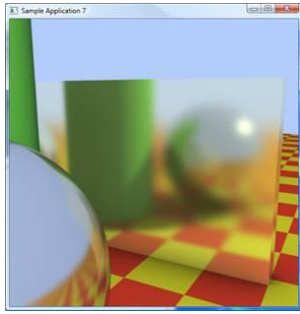


Paulin car model

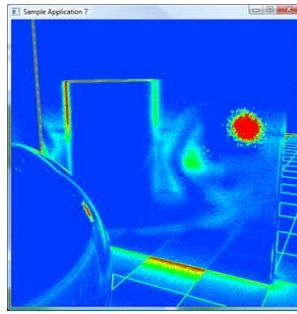


Sampling density

In this simple scene, most samples are focused on high contrast edges. There is also some increased sampling on the ground to remove the AO noise. Texture discontinuities and texture noise are also taken into account which helps with more difficult textures (e.g., detailed bump maps). This scene renders approximately 12X faster compared to the prior RapidRT release.



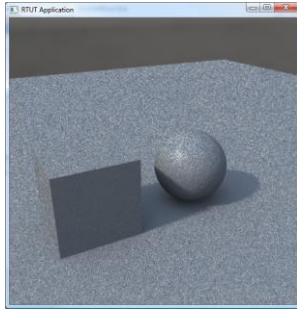
Glossy reflections and AO



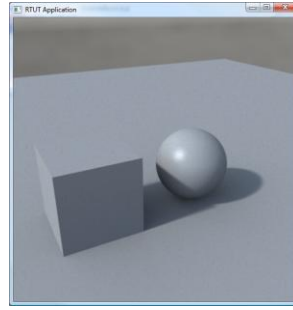
Sampling density

Notice the intense sampling of the (otherwise noisy) highlight and also the higher sampling on the yellow tile compared to the red tile due to higher contrast (hence, more visible AO noise). This scene renders approximately 15X faster compared to the prior RapidRT release.

- IBL light mode.



Old [build 2.7.1.3] (16 iterations)



New [build 2.7.1.4] (16 iterations)

Improved IBL light algorithm significantly reduces noise in the images even while improving performance.

## Display snapshot area in Snapshot dialogue

Added ability to preview the boundaries of the resulting image before starting the rendering.

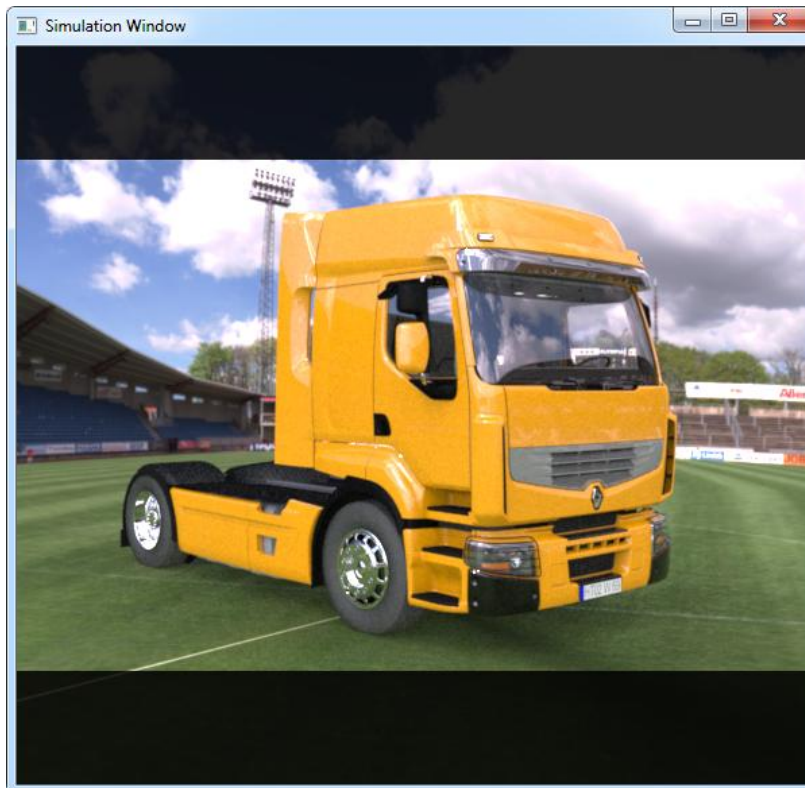


Image courtesy of Renault Truck

## Autodesk Real Time Ray Tracing Cluster

To simplify licensing and improve value to our users the new Autodesk® Real Time Ray Tracing cluster is licensed on a per CPU basis rather than the prior per CORE basis. In addition the software is now distributed separately and is available for download directly from Subscription center for subscription customers