Autodesk® 3ds Max® & Autodesk® 3ds Max® Design
2012
Dynamic Simulation System Update

Questions and Answers

This document is intended for Autodesk employees and channel partners only.

Contents

Autodesk®

1. Introducing MassFX and mRigids

1.1 What is Reactor? What is mRigids?
Reactor and mRigids are two dynamic simulation systems, helping Autodesk® 3ds Max® software and Autodesk® 3ds Max® Design software users create animated content using real-world forces, behaviors, and properties in an intuitive and automated way, instead of creating them manually.

Reactor is the dynamic simulation system previously available in 3ds Max 2011 and 3ds Max Design 2011 and prior releases. It was developed by the company Havok.

As part of the XBR initiative, 3ds Max 2012 and 3ds Max Design 2012 introduce the MassFX unified system of simulation solvers, and delivers its first module: mRigids rigid-body dynamics. With mRigids, artists can leverage the multi-threaded NVIDIA® PhysX® engine to create more compelling, dynamic rigid-body simulations directly in the 3ds Max viewport. mRigids supports static, dynamic, and kinematic rigid bodies (the latter for rag doll simulations), and a number of constraints: Rigid, Slide, Hinge, Twist, Universal, Ball & Socket, and Gear. Animators can quickly create a wide range of realistic dynamic simulations, and can also use the toolset for modeling, such as creating a randomly placed landscape of rocks. Assigning physical properties— friction, density, and bounciness— is as simple as choosing from a set of initial preset real-world materials and tweaking parameters as required.

1.2 Why did Autodesk make the decision to replace Reactor with mRigids?
The 3ds Max development team made the decision to replace Reactor with mRigids to provide 3ds Max and 3ds Max Design users with an enhanced dynamic simulation system that is more accessible and tightly integrated into 3ds Max workflows. NVIDIA and Autodesk are developing this simulation framework – something that wasn't possible in the past.

1.3 What are the differences between Reactor and mRigids?
In many situations, mRigids provides a faster and better quality dynamics simulation than Reactor. Unlike Reactor, the simulation occurs directly in the 3ds Max viewport – providing a more integrated user experience. mRigids is also more accessible and follows workflows that 3ds Max users expect. While NVIDIA has demonstrated a future version of PhysX that can leverage hardware acceleration for certain parts of the simulation, 3ds Max 2012 and 3ds Max Design 2012 are not currently hardware-accelerated.

Here are the modules available respectively in Reactor and mRigids:

		Reactor	mRigids
Objects	Rigid Bodies	X	X
	Soft Bodies	X	Use existing 3ds Max cloth feature
	Cloth*	X	Use existing 3ds Max cloth feature or APEX Cloth available under certain conditions*
	Ropes	X	Use existing 3ds Max cloth feature or APEX Cloth available to NVIDIA PhysX beta users
	Ragdolls	X	Can be manually created with mRigids
Constraints		X	X
View simulation results in viewport			X
Physical material library			X
Forces		Gravity and Wind	Gravity only

* The Cloth objects in Reactor were of limited use and capability. 3ds Max and 3ds Max Design still provide a complete cloth and garment maker feature for precision work. Customers are currently able to apply to the NVIDIA beta program to gain access to the APEX Cloth and other APEX modules.

2. Important Notes for Autodesk Employees and Channel Partners

2.1 What are the potential impacts of this change?
Our analysis shows that only 3% of 3ds Max and 2% of 3ds Max Design customers use Reactor in their projects. As a consequence, the replacement of Reactor should have limited impact with the positive attributes of mRigids.

Some customers may complain that they no longer have access to soft objects, ropes and rag dolls. Most of these concepts can be duplicated using other techniques and features in 3ds Max and 3ds Max Design as identified in the section on differences.

2.2 What should I do if my customer contacts me about this change?
The information contained in this FAQ is meant to assist you in handling any customer conversations that arise over this feature change. Autodesk channel partners should feel free to share any of the information contained here with their customers.

mRigids rigid-body dynamics is the first module of the MassFX simulation framework. We intend for this to be an ongoing area of research and development with NVIDIA, although we cannot comment on the possibility of future features that might be derived from this R&D effort.

For those customers that wish to keep using Reactor and are on Subscription, 3ds Max 2011 and 3ds Max 2012 can be run on the same machine using the “save to previous version” feature. For more information, please review the Previous Version benefit section in the license rights document for Subscription users at:

http://download.autodesk.com/us/subctr/pdfs/tutorials/welcome_program_tutorial_extending_your_license_rights_en.pdf

Where a customer or channel partner requires further information, your Autodesk sales and support teams are available to assist as necessary.

2.3 What is the external communication plan?
The 3ds Max page on autodesk.com will include mention of the change from Reactor to MassFX technology under What’s New in 3ds Max 2012 and 3ds Max Design 2012.

Autodesk and 3ds Max are registered trademarks or trademarks of Autodesk, Inc., and/or its subsidiaries and/or affiliates in the USA and/or other countries. All other brand names, product names, or trademarks belong to their respective holders. Autodesk reserves the right to alter product and services offerings, and specifications and pricing at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document.

© 2011 Autodesk, Inc. All rights reserved