What's New in Autodesk 3ds Max 2015

1

Autodesk® 3ds Max® 2015 software software delivers efficient new tools, accelerated performance, and streamlined workflows to help increase overall productivity for artists and designers working with the complex, high-resolution assets required by today's demanding entertainment and design visualization projects.

With the ability to import, visualize, and render massive point cloud datasets; enhanced viewport performance; and new scene management workflows, 3ds Max 2015 helps artists and designers handle greater complexity without slowing down. In addition, a more responsive ActiveShade interactive rendering workflow that now supports the NVIDIA® mental ray® renderer, and a new artist-friendly node-based visual shader editor for creating and previewing complex real-time shaders help increase efficiency for lighting, shading, and rendering tasks. Meanwhile, with new support for Python® scripting, 3ds Max 2015 offers a robust core toolset that is more easily extended and customizable to meet each studio's unique requirements.

NOTE This section lists all significant new features, but does not include every change in 3ds Max. As you proceed through the documentation, keep an eye out for the

icon, which indicates a new feature, and the

icon, which indicates a change to an existing feature.

You can also search for information about new or changed features. For topics that describe new program features, search for **"new feature"**. For changes in existing features, search for **"changed feature"**.

TIP The 3ds Max help features a number of short, embedded how-to videos, or *viewlets*. When you open a topic that contains a viewlet, there's a brief delay, while the video loads, before the page appears. If you encounter this, be sure to check out the viewlets in the topic for extra help in learning the software.

What's New in Ease of Use

Undo and Redo on the Main Toolbar

(Undo) and

(Redo) buttons on the main toolbar give you another way to access the Undo/Redo feature.

Small Annoying Things

With the understanding that small things can make a big difference, 3ds Max 2015 addresses up to ten minor workflow obstacles identified as high priority by customers. Among these are the ability to preserve UVs for Inset Polygons; the ability to slide partials loops in Swift Loops; and adaptive viewport navigation for smarter zooming, panning, and orbiting. Customers can suggest their own workflow improvements and vote on current suggestions using the *Small Annoying Things forum*.

What's New in Scene Management

Combined Scene Explorer / Layer Explorer

Dealing with complex scenes is now easier, thanks to new layer-management features within Scene Explorers that help artists and designers better organize data. In addition, a number of other enhancements have been made to the usability of Scene Explorers, contributing to an overall productivity improvement for scene management. Highlights include support for docking and Workspaces, and customizable quad menus.

State Sets Improvements

State Sets have been improved to accelerate performance, enhance usability; and to streamline interoperability workflows between 3ds Max and Adobe® Photoshop® and Adobe® After Effects® software.

What's New in Scripting

3ds Max Python API

The 3ds Max Python API provides a bridge between MAXScript and Python libraries and Python tools. You can execute Python scripts from MAXScript and the 3ds Max command line. The Python SDK is built on top of the 3ds Max C++ SDK, and you can access a subset of the 3ds Max API from Python scripts, including the ability to evaluate MAXScript code.

For more information, see the Extension for Autodesk 3ds Max 2014 Python SDK Documentation at *http://www.autodesk.com/me-sdk-docs*.

What's New in Data Exchange

IGES Export

Export to IGES files has been upgraded to use a new exporter that converts objects to Body objects before exporting them.

# What's New in Modeling

Placement Tool

Artists and designers can now more easily position and orient content relative to other content within their scenes, with new Placement tools that feature intuitive auto-parenting and aligning behaviors. Objects can be moved along the surfaces of other meshes as though magnetically attracted and quickly rotated to the desired orientation as part of the same operation.

Quad Chamfer

Modelers can use the new Chamfer modifier to create quadrilateral-based chamfered or beveled edges between two surfaces. This can help eliminate pinching, and produces better results when used in conjunction with the TurboSmooth modifier. Quad-based chamfering is also newly available in the Editable Poly object.

Point Cloud

The Point Cloud feature lets you create precise, three-dimensional models from real-world references by importing large datasets captured from reality as point clouds. 3D modelers can view point clouds in true color in the viewports, interactively adjust the extent of the cloud displayed, and create new geometry in context by snapping to point-cloud vertices.
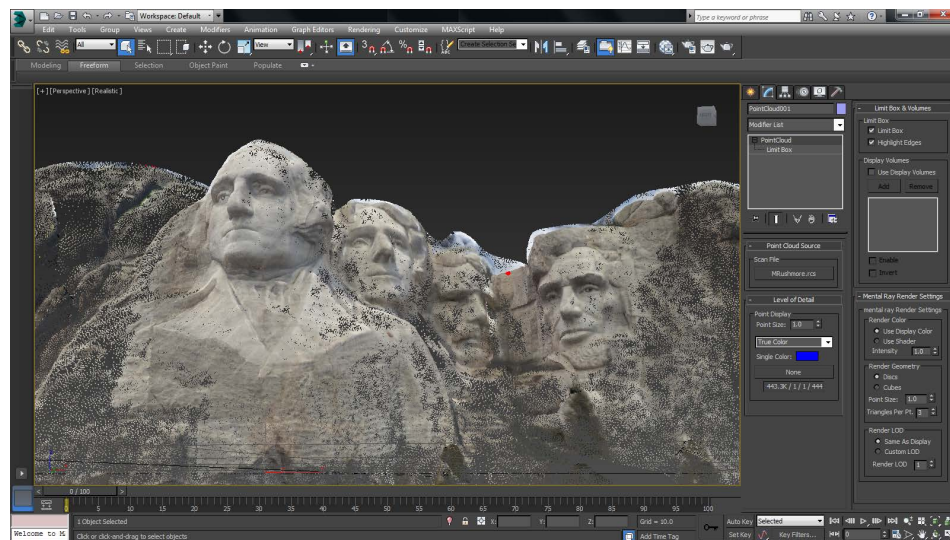
The Point Cloud toolset consists of the following components:

■   Point Cloud object

- Autodesk Point Cloud material
- Autodesk Point Cloud shader
- Point Cloud vertex snapping

What's New in Character Animation

Populate

The powerful Populate crowd animation feature set now offers increased artistic control, better realism, and improved usability. Designers and artists can give their characters more convincing walking, jogging, passing, turning, and seated behaviors; control more aspects of how their characters are generated to influence the outcome; save textures for customization, sharing, and network rendering; and bake animation for editing and export. In addition, studios can customize Populate through exposure of the functionality in an SDK (software development kit).

What's New in Particle Flow

Particle Flow User Interface

An updated UI for the Particle Flow Graph Editor offers a closely unified experience with using the Slate Material Editor.
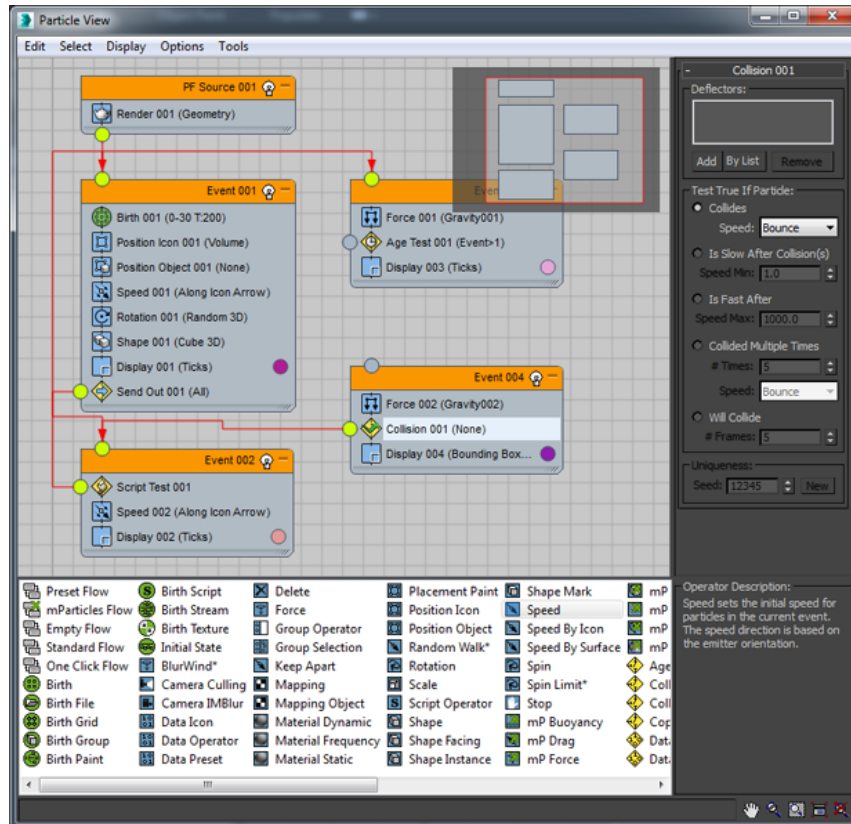
What's New in Hardware Shading

ShaderFX Editor

Game artists and programmers can now easily create advanced HLSL viewport shaders with the ShaderFX real-time visual shader editor. Shader networks are created by connecting different nodes together using an intuitive click-drag workflow; artists can select from a powerful array of floating-point values, mathematical operations, texture maps, normal maps, and color nodes. The resulting materials, even those with animated values, can be visualized in real time in 3ds Max viewports. An advanced mode enables more technical artists to drill down deeper into the inner workings of each basic node.

With this feature, artists and programmers can design shaders that match those of their game engine. Using your game assets and textures inside 3ds Max viewports is now made easier.


To access ShaderFX, use the DirectX Shader material.

What's New in Cameras

Stereo Camera

Artists and designers can now create more engaging entertainment content and design visualizations with the addition of a new Stereo Camera feature set. Exclusively available through the Autodesk Exchange application store (*apps.exchange.autodesk.com*), the Stereo Camera plug-in (available in English language only) enables artists and designers to create stereoscopic camera rigs. Multiple display modes offer left eye, right eye, center, or anaglyph views in Nitrous viewports, while in-scene 3D volumes help with the adjustment of valid stereo zones. In addition to a passive stereo viewing mode, customers with a recent AMD FirePro™ graphics card and a supported HD3D Active Stereo monitor or equivalent can take advantage of Active Stereo viewing.
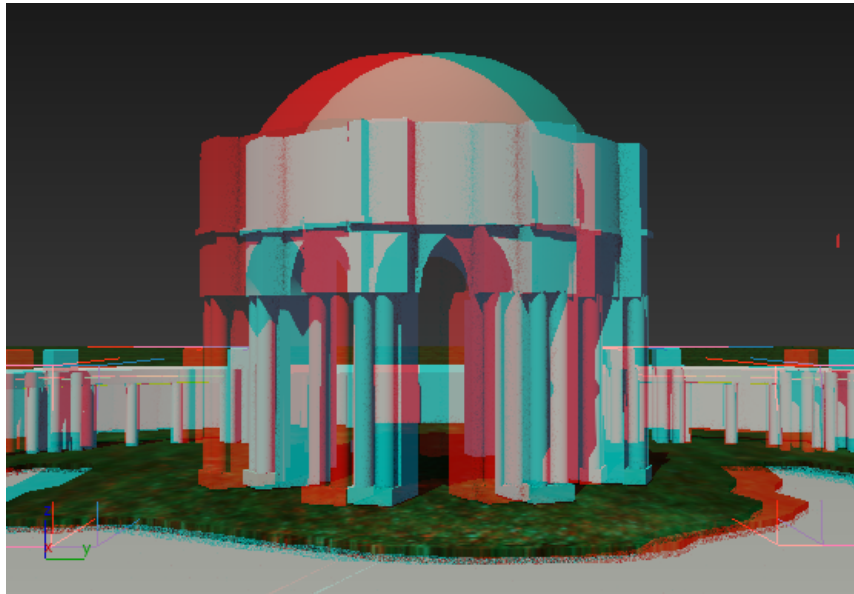
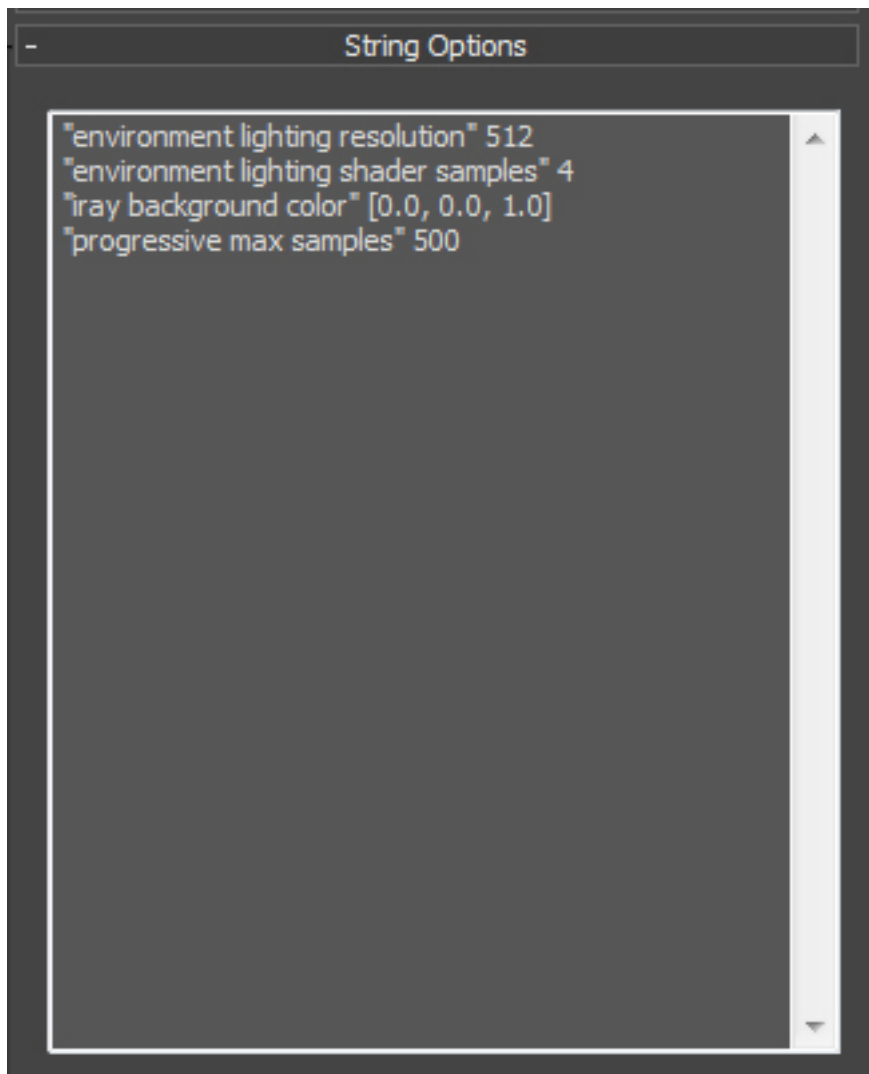**Anaglyph mode**

What's New in Rendering

ActiveShade Improvements

ActiveShade preview renderings now support the NVIDIA® mental ray® renderer, in addition to the NVIDIA® iray® renderer and scanline renderers previously supported. With ActiveShade, artists and designers can see the effects of changing lighting or materials interactively, helping them more easily refine their work—the ability to match the final renderer helps artists more accurately preserve creative intent. For both iray and mental ray, interactive updates are now faster, while viewport navigation and switching, adjustments to light parameters, and certain other scene changes—creating, moving, or deleting objects—are captured more frequently, offering finer grain updates.

For information about changes to the ActiveShade interface, see iray and mental ray ActiveShade.

NVIDIA® iray® Renderer

The iray renderer now supports Rendering Elements Separately. See iray Render Elements and Light Path Expressions.

The String Options rollout lets you enter options as you would in a iray MI file.

```
-                       String Options

"environment lighting resolution" 512
"environment lighting shader samples" 4
"iray background color" [0.0, 0.0, 1.0]
"progressive max samples" 500
```

The iray renderer now supports the Blend material, and support for map types has been improved.

State Sets Improvements

State Sets can help manage rendering as well as interoperability between 3ds Max and Adobe® Photoshop® and Adobe® After Effects® software. They have been improved to accelerate performance, enhance usability, and to streamline the interoperation with the Adobe applications.

What's New in Viewports

Accelerated Viewport Performance

Working in 3ds Max viewports is faster; a number of improvements accelerate navigation, selection, and viewport texture baking, resulting in greater interactivity, especially with dense meshes and scenes with many texture maps. In addition, antialiasing can now be enabled with minimal impact on performance—so artists and designers can work in a higher fidelity environment without sacrificing speed.

See also:

What's New in Help

Help is now published in a new format, consistent with the help for other Autodesk applications.