Autodesk® 3ds Max® 2017
# Features and benefits

# Overview

Industry professionals rely on Autodesk® 3ds Max® software in their day-to-day, and our 2017 release is all about working more efficiently and creatively. The latest version gives artists the 3D tools they need to help create whatever their industry demands with speed and efficiency, with numerous updates and improvements to modeling, animation, and rendering tools, as well as streamlined workflows.

Artists can now manipulate and model objects faster than ever with object tool enhancements, simplified controls and UV mapping updates. Trackview improvements, improvements to the Motion Panel and animation presets have also been made for a boost in Animation Productivity, along with a new look and scale to the latest High DPI displays. Scene Converter will make moving from one renderer to another or to real-time engines near seamless and consistent, while the new Autodesk® Raytracer Renderer (ART) will allow users to achieve near photo-real images and videos. Finally, 3ds Max users will enjoy a tighter integration with their pipeline tools thanks to its extended and improved Python/.NET toolset.

# Top features and benefits

## New Look & High DPI Display Support

3ds Max 2017 will have a fresh new look and feel, and scale to the latest High DPI displays giving it the ability to successfully run on HDPI monitors and laptops while correctly applying Windows display scaling, making the UI more legible. This will also include a new Qt based skin that applies the modern appearance as defined in the new visual style guide, as well as modern multi scale icons.

## UV Mapping Updates

UVW Unwrap has been overhauled to help streamline the workflow and increase performance with dense geometry and high-res maps. It's now easier than ever to unwrap models by defining seams point to point while previewing the edge selection, cutting and unfolding the clusters in one simple mode. Peel is immediate, with vastly improved accuracy and symmetry. Distortion can be visualized in a shaded cluster view or with new checkered maps that provide more feedback on the model. This is useful for interactive adjustments made with the new Relax paintbrush. Additionally, support has been added for multi-tile layout, as well as many workflow improvements such as access to material IDs, and improved selection methods.

## 3ds Max Asset Library

At no additional cost to users of 3ds Max 2016 and higher, accessing and managing model libraries is easier than ever with the 3ds Max Asset Library. Installed from the Autodesk Exchange App Store, users now have quick access to their local and networked model libraries by simply searching assets and dragging and dropping them into a scene. Users will be able to easily add locations to assets for fast searching.

## Autodesk Raytracer Renderer (ART)

Create near photo-real images and videos with the new Autodesk Raytracer Renderer. ART is a fast, physically-based renderer, ideal for design visualization workflows used in Revit®, Inventor®, Fusion 360™, and certain other Autodesk applications. ART rendering in 3ds Max provides a familiar workflow and similar results for users moving data from these applications, featuring minimalistic settings, CPU-only operation, and excellent use of image-based lighting. ART helps provide quick, near photorealistic results for most industrial, product, and architectural exterior rendering. Thanks to support for IES and photometric lights from Revit, users will be able to create highly near accurate images of architectural scenes.

- Provides a fast, interactive workflow when combined with the ActiveShade window, allowing users to quickly manipulate lights, materials, and objects, all the while seeing the results refine progressively.
- Includes an image Noise Filter that can help reduce render times, and improve the quality of the rendering.
- Ideal for architectural, product, and industrial renderings and animations.

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## Fast Form Hard Surfaces

Create hard surface forms quicker and more efficiently with a new set of reliable modeling tools, such as updated Booleans which are now easier to work with and offer double precision and more reliable results. Adding and removing operands, as well as sorting or creating nested Booleans has also been simplified. The Bevel Profile Modifier has the same bevel controls introduced in the TextPlus tool, allowing for artists to create their desired bevel or use the same presets in TextPlus.

## Object Tool Enhancements

Selecting and manipulating objects has been enhanced to make modeling, animating and certain other tasks more efficient and creative with the help of several improvements:

- **Working Pivot** can now be accessed without having to go to the hierarchy panel. There is a new option called **Pin Working Pivot**, which when turned on, the Working Pivot stays in the same place while other objects are selected. When off, the Working Pivot resets its position once the artist makes a new selection. Edit Working Pivot has a new caddy that allows the artist to reset, accept or cancel the modifications to the Working Pivot placement.
- **Local Align** is a new feature found in the Reference Coordinate System dropdown on the main toolbar. Only applicable to the edit poly modifier and editable poly, this new axis align method allows the artist to get a more predictable result when applying different transforms to a sub object selection.
- **Sub Object Pick** simplifies the task of switching between different sub-object modes (vertex, edge, face and boundary) by making one hotkey shift between modes. This allows the artist to spend less time searching and more time focusing on their project. This is only for the edit poly modifier and editable poly.
- **Point to Point Selection** helps save users time by reducing the need to access hidden areas and modes to select sub object elements. They can now select point to point by holding the Shift key, whereas in previous releases of Max, the artist could hold Shift and select two adjacent elements to make a loop selection. If the artist selects non-adjacent elements, they'll be selecting point to point with a preview so that they can see exactly what is being selected. This is only for the edit poly modifier and editable poly.

## Animation Productivity

With improvements to 3ds Max software's Animation Productivity, we have focused on facilitating the experience for animators. Day to day tasks such as key framing, selection and key manipulation have been enhanced to help animators focus on the character's performance rather than the tool. We have re-designed the default layout and no matter which layout you use, it will persist between Max sessions. The Motion panel, which represents the control center of the animation rig, has been enhanced to allow direct activation of controllers in a list, controller reset, and copy/pasting between tracks. Custom Attributes have also been enhanced to allow the saving and loading of preset values, allowing the animator to quickly jump between poses.

## Scene Converter

With more rendering technology being available, the Scene Converter will make moving from one renderer to another as well as to real-time engines near seamless and consistent. Easily migrate scenes between rendering technologies or quickly prepare for real-time engines including properly setting lights, materials and certain other features with the Scene Converter. Users can easily customize and fine-tune the existing conversion scripts via a simple UI to help create Source to Target batch conversion rules. As more rendering technologies become available, Scene Converter capabilities can be easily extended via new presets from Autodesk and the user community, and the script-based converters can be fine-tuned to meet individual needs.

## Pipeline Tools Integration

3ds Max enjoys a tighter integration with several pipeline tools with the help of its newly extended and improved Python/.NET toolset. Integrating the use of this industry standard programming language as an alternative script language for Max users helps open doors to Python developers to certain create 3rd party plug-ins, making new pipeline tools more extensive and accessible.

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# Other Key Benefits and Features

3ds Max 2016 software's extension releases introduced us to a few big features that will of course be included as part of 3ds Max 2017.

## Max Creation Graph

Max Creation Graph (MCG) is a new procedural content creation tool which a visual node based programming environment; users can create new geometry and extend 3ds Max, all without writing a single line of code. This provides users with new animation capabilities to author animation controllers in MCG, which will help open the door to a new generation of animation tools that users can create, modify, package and share. Also included is the Bullet physics engine that has been partially integrated into MCG to help create physically-based simulation controllers.

## Skin Weighting with Geodesic Voxel and Heatmap Skinning

With Geodesic Voxel and Heat Map solvers, artists are able to generate better skin weighting at a fraction of the time as compared with traditional skinning methods. These new skinning methods can be run outside of the bind pose, and even on selected areas, which helps make it easier to refine weighting in particular spots. Geodesic Voxel Skinning can handle complex geometry that is not watertight and can contain non-manifold or overlapping components—as is frequently the case with real-world production meshes.

## Text and Shape Tools

Adding data-driven information to scenes with the new 3D text tool has never been easier. With global controls and local editing capabilities, artists can now choose the exact level of control they need for their work, such as editing text objects and manipulating individual letters. 3ds Max also retains text information such as font theme, font style, and glyphs when copied from Microsoft Word documents, helping simplify the 2D to 3D workflow. Add to that an extremely powerful preset system, including bevel and animation presets. Font changes, content revisions and shape updates will be reflected automatically with this new functionality.

## Near Seamless Art-to-Engine Workflows

The **Game Exporter** allows users to transfer different types of data from 3ds Max into game engines: Unity, Unreal Engine and the Autodesk Stingray engine, using FBX interchange technology: models, animation takes, character rigs, textures, materials, LODs, lights, and cameras.

Users who download Stingray will benefit from a new **Live Link** between 3ds Max and the Stingray engine. For design visualization specialists who want to use an engine to bring their designs to life, Stingray offers a tool interaction that helps reduce time spent in scene creation, iteration, and testing. Live linking enables geometry and cameras to be connected between Stingray and 3ds Max, allowing artists to assess and review 3D assets and scenes in an interactive 3D environment. Modifications can also be made in 3ds Max and updates will appear in Stingray right away with a one-click workflow.

**ShaderFX** has also been enhanced to better support the physically-based shaders when working with Stingray. Materials created in ShaderFX can easily be transferred between 3ds Max and Stingray with visual consistency in both tools.

## Creative Market Integration

Creative Market is an online marketplace featuring high-quality 3D and 2D assets that artists can license and use in their own projects. Assets that have been created by other community members can be used to get started quickly, or artists can even set up their own storefronts to sell original content and earn extra money. A Creative Market search window has been added into 3ds Max, making it easier to quickly search 3D assets in-software. Users can also set a download location and access it directly from the Creative Market dialog box in 3ds Max.

## Send to Print Studio

Users can now 3D print a design asset or creation by simply launching Print Studio directly from Autodesk 3ds Max with a single click. If the user doesn't have Print Studio already installed, the new functionality will prompt them to install it.

## Simulation Data (CFD)

Engineering users can now visualize their simulation data in a whole new way. Ideal for nonprogrammers, the Max Creation Graph can be used to help animate simulation data in CFD, .CSV, or OpenVDB formats, apply rendering styles, apply CFD velocity fields, and animate airflow splines to make accurate data come to life. Visualize how data changes over time with the power of 3ds Max.

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# What's New with 3ds Max Since 2013?

If you haven't seen Max lately, you've got some catching up to do! In just the last year, we've introduced several user-requested features such as Color Map, Sun Positioner and Physical Sky, as well as the ability to hold SHIFT to switch between painting weights and blending weights - all user-requested features.

The biggest changes users can expect are:

- Procedural workflows with Max Creation Graph (MCG)
- A path to creating VR content with a live link to the Stingray engine
- Stability and performance are greatly improved
- A dedicated team working on user-requested features

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