

EMBARGOED – All the information in this document is under embargo until March 29, 2023.

## Drop jaws, not quality with robust tools in 3ds Max

3ds Max brings new capabilities and improvements to modeling, animation, and rendering tools so you can focus on being creative. The new Boolean modifier offers a modern and intuitive way to produce clean geometry while updates to Array enable you to create beautiful nature-like scenes procedurally. You can also confidently rely on Color Management to see colors consistently across the pipeline – from Viewport to final render. 3ds Max continues to add animation improvements to help you bring characters to life.

## Capabilities in 3ds Max

### Build complex designs with robust modeling tools

#### Boolean Modifier

Produce clean geometry with a modern and intuitive Boolean modeling workflow in 3ds Max. The new Boolean modifier within the trusted modifier stack enables you to edit and manipulate mesh output with ease and speed. This includes a new Boolean operand called Split as well as Mesh and VDB-based Boolean operations.

#### Array Modifier

Create beautiful and complex designs procedurally with new features and updates to the Array modifier.

- Generate spiral-based distribution patterns with the new Array modifier distribution type called *Phyllotaxis* which works from the center out and generates natural designs.
- Assign Material IDs to mesh data on a per-face and per-element basis using new methods like *random*, *ordered*, *first*, *middle*, and *last*. Additional controls for N times and Phase are also included.
- A new “progressive” option in Array’s Transform controls for *Radial*, *Spline*, and *Phyllotaxis* distribution types lets you alter transform data so you can progressively change from first to last mesh distribution.

#### Retopology Tools 1.3

Use the latest version of Autodesk ReForm with the Retopology modifier in 3ds Max.

## **Editable Poly & Edit Poly Modifier**

- Editable Poly and Edit Poly bring improvements to retriangulation of polygonal face data like Face splitting by insertion of edges, Slice, Cut, Bridging, Vertex extrusion, and Edge extrusion.
- Similar to the capabilities found within Editable Poly, Edit Poly now includes the same automatic retriangulating of polygon faces when a vertex, edge, or face component has been adjusted to cause edges and hidden faces to cross.
- When performing a Cap option on an Editable Poly or an Edit Poly modifier, the faces that are generated are now also applied to the same smoothing group so you can create beautiful results.

## **Symmetry Modifier**

When a new Symmetry modifier is applied, it will now operate on the X axis by default allowing you to better match the operate to how you create your art content.

## **Editable Mesh and Edit Mesh Modifier**

Improvements to AutoSmooth enable you to achieve better results when performing the operation on an Editable Mesh or Edit Mesh modified object.

## **Spline Vertex Welding**

Enhancements to weld operations of Spline objects enable you to generate complex assets with accuracy. Use the Spline vertex weld operation to bond a destination vertex to your target vertex with better precision and achieve predictable results when performing a Spline Extrude operation on Knot components and edge components.

## **Faster STL Import**

STL, a file format commonly used for 3D printing, can contain millions of triangles of data. You can now load STL files faster with improved performance to the File Import. The STL Import dialog UI also brings enhancements for better efficiency.

## **STL Check Modifier Processing**

Significant performance improvements to the STL Check modifier allow you to perform operations on dense polygonal meshes and objects with greater speed.

## **Material Modifier**

Applying the Material modifier to a Spline object that is renderable via settings of the Spline or the Renderable Spline modifier will preserve it as a Spline object type. The Material Modifier will also now retain explicit normals when applied to a Mesh based object.

## **Produce high-quality visuals with interactive rendering tools**

### **Color Management**

Effective color management tools built around the Academy Color Encoding System (ACES) and OpenColourIO (OCIO) are a must for today's modern pipeline for Film and TV production. You now have complete control over colors with Color Management in 3ds Max. From input to output, the viewport to final render - colors will be predictable and consistent, giving you the confidence that colors will match and fit in with the colors in the rest of your pipeline.

### **Compound Notes**

Managing complex shader graphs can be difficult due to the large number of nodes and connections that can be employed. With Slate Material Editor (SME) Compounds, you can collect any number of graph nodes into a single compound representation in the Material Editor, enabling a method to reuse a collection of nodes in other shaders and simplifying the representation of this data.

### **Material Switcher**

The Material Switcher is a new node in the Material Editor that enables a simple control method for you to manage the display of multiple material variants that can be applied to objects and USD data in your 3ds Max scene. It will allow you to organize and store thousands of materials in one convenient Switcher material. You will also be able to swap the assigned shader of your objects easily and quickly. These changes will be updated in the viewport and your render.

### **Slate Material Editor**

The Slate Material window has been improved using QT, a cross-platform software for creating graphical user interfaces. The window can now be docked anywhere inside the 3ds Max UI, letting you optimize and customize the interface the way you like.

Additional updates have been added such as a new SME Element under the Colors preferences that gives you total control on how the different maps and materials appear in the SME. An option to draw the connecting wires behind nodes has been introduced, helping you keep your shader graph cleaner and more readable.

### **MaxtoA**

MaxtoA and Arnold now support Color Management workflows if you choose OCIO mode inside of 3ds Max.

- Arnold now enables the automatic generation of optimized TX textures from source textures as part of the rendering process. Using optimized textures is critical for rendering speed and memory usage and having the TX conversion as part of the core rendering will help users without a dedicated TX workflow to achieve faster renders.
- Arnold and the Arnold Render View have been updated to work with Color Management in 3ds Max 2024.
- MaxToA now passes all color information from 3ds Max to Arnold for rendering by handing over the entire OCIO configuration for rendering.

## **Seamless workflows with USD 0.4.0**

### **USD Export SDK**

Plugin developers can now wrap USD Export extensions into a context that consolidates all the necessary settings for the plugin to properly run. You can choose which plugins are being used at export-time. This helps you better control how the plugin works when exporting data reduces the checkboxes to check when exporting USD with specific plugins.

### **USD Skel Support**

The USD Exporter now supports exporting Skin modifiers into USD Skel. There are preferred when re-using skeletal animations across many characters, scenes, and projects. USD Skel creates much smaller USD files than vertex animations.

## **Bring characters to life with enhanced animation capabilities**

### **Transform List Controller**

The Transform List allows for multiple Transform controllers to be added to an object as layers of blended animation data. A new method enables you to easily refine and iterate upon your work through unique animation data for each layer and controls how and when the layer of data can blend together.

- **Mix Transforms:** Previously, only nodes could have a transform controller. With the Transform List, you can now blend node transforms directly without additional scripting or complexity.
- **Isolate Isolation:** You can now choose to iterate on options and edit list entries in isolation for better control.

### **Updates to Motion Paths**

Motion Paths now support a larger set of position controllers enabling animators to have a wider range of support to manipulate animation data directly in their viewport.

## **Artist-friendly updates**

### Mesh & MNMesh Changes

Experience improved stability and performance gains with an updated. The internal structure of Mesh and Poly data has been updated to offer improved stability and performance gains.

### Search in the Modifier List

Navigate, find and apply your desired modifier with a new search capability in the Modifier List. You can now type in the modifier you want to apply to filter a search to those results.

### MAXscript Improvements

Based on community requests, improvements to MAXScript include an option to not show scripts on error, the ability to enable/disable change handlers via code, the ability to set a spinner control scale at runtime, and other small changes.

### Substance and ATF

Substance comes installed with the latest version of 3ds Max. NX import now supports NX 2206.

### Revit/Inventor Importer

The RCE and Inventor Server installers have been removed from initial download bringing a faster install experience. They will remain downloaded from your account portal or included in deployments. They will also install when you attempt to import this type of data into 3ds Max when needed.

## RESOURCES

- Consult the [3ds Max 2024 Release Notes](#) for more information
- Check out [What's New in 3ds Max](#) to see how 3ds Max has evolved since 2016
- Visit the [3ds Max Learning Channel](#) for the latest how to's
- Learn how customers around the world are using 3ds Max today on the [AREA by Autodesk](#)