

5.3.0.6

25 May 2022

MAXtoA 5.3.0 is a minor feature release, updating to [Arnold 7.1.2.0](#)

Installation

1. Download [Arnold for 3ds Max](#).
2. Follow the [installation instructions](#).

System Requirements

- Autodesk 3ds Max 2021, 2022, 2023.
- Windows 10 or later, with the Visual Studio 2019 redistributable.
- Linux with at least glibc 2.17 and libstdc++ 4.8.5 (gcc 4.8.5). This is equivalent to RHEL/CentOS 7.
- macOS 10.13 or later.
- CPUs need to support the SSE4.1 instruction set. Apple Mac models with M series chips are supported under Rosetta 2 mode.
- GPU rendering works on Windows and Linux only and requires an NVIDIA GPU of the Ampere, Turing, Volta, Pascal, or Maxwell architecture.
- Optix™ denoiser requires an NVidia GPU with [CUDA™ Compute Capability 5.0](#) and above.



- We recommend using the **511.09 (Quadro)**, **511.09 (GeForce)**, or higher on **Windows** and **495.46** or higher drivers on **Linux**. See [Getting Started with Arnold GPU](#) for more information.
- **The driver type must be set to DCH.**

NVIDIA Driver Downloads

Quadro New Feature Driver Search

Product Type:

Product Series:

Product:

Operating System:

Windows Driver Type: ?

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Name	Version	Release Date
NVIDIA RTX / Quadro Desktop and Notebook Driver Release 510 ^{WHQL}	R510 U2 (511.65)	February 1, 2022

In the driver page select "Windows Driver Type:" DCH



The cache will also need to be re-populated after installing a new Arnold version, **updating to a new NVIDIA driver**, or changing the hardware configuration of GPUs on the system. More information can be found [here](#).

USD Enhancements

- **Mesh Lights:** Geometry lights are now supported in the render delegate ([usd#1080](#))
- **Color Management:** When a usd file is loaded, the color manager node is set based on render settings parameters ([usd#946](#) [usd#1042](#))
- **Motion Blur from Render Settings:** A usd scene with Render Settings primitive can be rendered with motion blur ([usd#1089](#))
- **Varying topologies and motion blur:** Support velocity motion blur on geometries with varying topologies (mesh, curves, points) on both the procedural and the render delegate ([usd#1090](#))
- **Support arnold primvars in instances:** When an instancer has a primvar for an arnold builtin attribute (e.g. matte), we now propagate it to its instances ([usd#1100](#))
- **Support UsdPreviewSurface displacement output:** scenes where UsdPreviewSurface is used as a displacement shader, through its attribute displacement are now supported. This is needed to render the Alab scenes ([usd#1130](#))

- **Support light linking on instances:** We can now support setting a point instancer, or an instanceable prim, in light linking ([usd#1128](#))
- **Optimize nested instances in the render delegate:** The memory consumption for nested instances (point instancer having another point instancer as a prototype) has reduced dramatically in Hydra ([usd#1124](#))
- **Render NurbsCurves as UsdGeomCurves:** Usd Nurbs Curves were previously ignored by Arnold. They are now rendered as basic UsdGeomCurves ([usd#1120](#))
- **Support instanceable prims with variant overrides:** It is now possible to render an instanceable prim referencing another primitive, and override its variants ([usd#1127](#))
- **Support per-instance velocity blur:** The Arnold render delegate now supports point instancers with varying amount of instances, where it's the velocity blur that drives motion blur ([usd#1092](#))
- **Usd Writer reuses eventual existing material primitives:** This is needed for MayaUsd exports, so that the original mayaUsd material is kept, and Arnold shaders are assigned in the "arnold" context ([usd#1139](#))
- **Support shader connections to lights in Hydra:** Using an ArnoldNodeGraph primitive, the Arnold render delegate now supports connecting arbitrary shading trees to light's colors ([usd#1141](#))
- **Support lights filters in Hydra:** Similarly to shader connections, arnold light filters (gobo, etc...) can now be assigned to lights, through an ArnoldNodeGraph primitive ([usd#1141](#))
- **Improve shader dependency graph in the render delegate:** The tracking of shader connections (for materials, lights, light filters, etc...) is now more robust, and fixes crashes when disconnecting or reconnecting shaders ([usd#1158](#))

Incompatible Changes

- **Connection priority in MaterialX document:** Setting both a value and a connection as input of a node is undefined behavior in MaterialX. Arnold will now prioritize the connection over the value when both are defined. (ARNOLD-11198).

Bug Fixes

- Volume in viewport : not possible to switch from bounding box mode, combo is greyed out (MAXTOA-1401)
- ARNOLD-12299 - Crash when writing .ass file expanding procs without a render session
- ARNOLD-12232 - Memory leak when rendering deep EXR layers
- ARNOLD-11809 - Random crash when rendering multiple scenes in parallel
- ARNOLD-12211 - [GPU] Optix denoiser memory leak when creating and destroying render sessions successively
- ARNOLD-12177 - [GPU] Crash with ramp shader after aborting due to an error
- ARNOLD-12166 - [GPU] Texture memory leak when creating and destroying render sessions successively
- ARNOLD-12165 - [GPU] Incorrect volume bounds

- ARNOLD-357 - [Licensing] Licensing error "[clm.v1] product key not found
- ARNOLD-12144 - [maketx] Unwanted log messages
- ARNOLD-12171 - [MaterialX] Crash when exporting a volume shader to MaterialX
- ARNOLD-11198 - [MaterialX] Connection is ignored when a node input also has a defined value
- [usd#1073](#) Resolve node attributes from referenced files
- [usd#1093](#) Fix instanceable references in the same USD file
- [usd#1104](#) Compute visibility until the eventual root prim
- [usd#1129](#) Support UsdUvTexture relative paths with udims
- [usd#1133](#) Set outputs layer names only if required
- [usd#1136](#) Fix uninitialized UV coords with leftHanded meshes