

3DEXCITE DELTAGEN RELEASE NOTES

R2021x RF1



DELTAGEN 2021x RF1 Release

The following lists the enhancements as well as minor version changes of the DELTAGEN 2021x RF1 maintenance release.

ENHANCEMENTS

- Stellar renderer allows to set up to 16 samples of hardware anti-aliasing
- The Illumination factor of IES lights can be set to a value higher than 1.0 in Stellar renderer
- Improved color space detection
- New option to save the Material ID pass into four channels (rgba) for .exr format
- Indication in yellow on local surrounding checkerboard textures that are too big and have been reduced automatically
- Enabled, but empty texture banks are highlighted in the viewport and in the material editor
- Newly created looks or materials in the look library are automatically selected
- Performance improvement on saving scenes with Substance materials: generated Substance textures are saved asynchronously to avoid long saving times of the scene
- JT 10.8.1 support
- Ampere graphics cards support

VERSION CHANGE AND COMPATIBILITY

X-Rite AxF 1.6. Volumetric Materials

Different interpretation resp. different visual appearance of AxF 1.6 volumetric materials, because of a fix in the specular parameters.

X-Rite AxF CarPaint2 Materials

Different visual appearance of X-Rite AxF CarPaint2 materials, because of a fix in the brdf_colors texture that negative values are clamped to 0 now.

DELTAGEN 2021x Release

The following pages list the new features and enhancements as well as minor version changes of the DELTAGEN 2021x release. In addition you can find the hardware requirements, support contact and licensing information in this document.

NEW FEATURES

AXF Material

- Support of version 1.7: EP-SVBRDF [GGX] and Volumetric material representations
- Actual size of the texture probe is respected

Stellar Rendering

- Physical light units for local surroundings and global surroundings; several presets for default lighting situations
- Camera exposure controlled by physical parameters (F-stop, shutter speed, ISO); Settings also supported by LNE and camera variants
- New physical glow post processing effect, supported by D-Stellar, LNE and camera variants
- Tweaking post processing effects does not restart accumulation
- Banding reduction supported by both "Export for batch rendering" and D-Stellar with post-processing on cluster
- New pixel sampler showing pixel info depending on render pass by hovering in the scene
- Quality-based sampling with improved adaptive sampling and D-Stellar support
- Quality-based sampling available for passes using the Render export
- Configurable luminance and Illuminance passes for lighting validation
- Enhanced 3DEXPERIENCE PBR material including additional sheen properties, subsurface anisotropy and translucency
- Configurable compression in D-Stellar to address low band widths to broker node
- Extended denoising support to address high quality and interactive use cases
- Extended statistics window to show faces, wires, rendered triangles and texture memory
- Drastically reduced texture memory consumption
- Improved multi sampling anti-aliasing quality in rasterizing mode
- Improved loading time and quality for lat-lon local surrounding IBLs

Camera (in Look and Stellar Renderer)

- Viewport of a camera can be closed without deleting the camera
- Display of clipping planes in viewport for each camera individually
- Selectable render mode (Rasterizer, Raytracer, GI) for each camera individually
- Choosable camera in Render export

Variants

- Search function to filter inside the variant configuration of code state sets for actors and values
- Indication of state for each action within a configuration
- Indication "Used in condition" per code state set
- Easier editing of variant set name, collection name and description
- Variant switcher column layout setup saved
- Option to reorganize the toolbar of the variant manager
- Code state set support for switch actions "show all" and "hide all"
- New function to apply the variant configuration from the standalone variant switcher to all connected gateways at once
- Performance improvements on models with complex variants

Polygon Reduction

- New option to define the target triangle count by percentage of original amount
- Quality improvements on polygon reduction process
- Support of multiple UV sets

Model Optimizer

New options for optimal 3DEXPERIENCE Platform import:

- Remove unused looks/materials
- Remove untessellated objects
- Remove broken file links
- Remove empty groups, bodies, shells and wire sets
- Remove B-sides
- New preset "3DEXPERIENCE deploy"

Voxel-Based Jacketing Configurator

- New, high-performance algorithm to execute jacketing on the whole model
- Support of DELTABATCH, Script editor and SDK
- Additional mode for interior jacketing
- Fully flexible group-based setup
- Sanity check functionality

HTC Vive Plugin now "HMD VR Plugin"

- OpenXR support, including basic controller functionalities
- High resolution focus area ("Quad view") support with OpenXR for Varjo devices
- HTC Vive tracker support with OpenVR

Script Editor (Preview Feature)

- Python 3.7 version support
- Smooth integration of external editors
- Creation of groups to organize your python script
- Drag and drop of code snippets into existing script
- API additions:
 - Creating, editing, accessing and switching of variants
 - Editing and accessing of basic camera parameters
 - Basic rendering with Look and Stellar
 - Support of new jacketing functionality
 - Read access for global and local bounding boxes
 - CAD-data import also in DELTAGEN
- Run custom script in DELTABATCH as post-processing step
- Run python script via SDK

Please note: Python scripting is currently a preview feature. 3DEXCITE cannot ensure full productive readiness, please save all data before testing. Contact 3DEXCITE support in case of any problems or missing features for intended workflows. We appreciate your interest and any feedback you provide.

Gateways

DIRECT UNREAL ENGINE Plugin:

- Version Support: Unreal® Engine 4.19, 4.20, 4.24 and 4.25
- Import of material metadata for Unreal versions 4.24 and 4.25
- DELTAGEN scene tree import into world outliner

DIRECT MAYA Plugin:

- Version Support: The DIRECT MAYA Plugin 2021x supports the current Autodesk® Maya release as well as the previous 3 major releases:

| Qualified | Compatible |
|---------------------|---------------------------------------|
| Autodesk® Maya 2020 | Autodesk® Maya 2017, 2018 and 2019 |

Qualified: supported by the DIRECT MAYA Plugin and tested using extensive functional workflows.

Compatible: no functional workflows coverage, but no known technical limitations.

For questions regarding other Autodesk® Maya releases contact the 3DEXCITE Support.

ENHANCEMENTS

- 10 and 16 bit color depth monitor support
- Support of multi-selection for “Convert to linked file” function
- Multi-term search in all search widgets
- Option to hide all helper visuals during offline rendering
- Loading of linked files or parts from assemblies can be canceled
- New mirroring option for local surrounding HDRs
- DIRECT WIRE Plugin version support: The DIRECT WIRE Plugin 2021x supports the current Autodesk® Alias Studio release as well as the previous 3 major releases:

| Qualified | Compatible |
|-----------------------------|--|
| Autodesk® Alias Studio 2021 | Autodesk® Alias Studio 2018, 2019 and 2020 |

Qualified: supported by the DIRECT WIRE Plugin and tested using extensive functional workflows.

Compatible: no functional workflows coverage, but no known technical limitations.

For questions regarding other Autodesk® Alias Studio releases contact the 3DEXCITE Support.

- Further converter updates, such as SOLIDWORKS 2021, or CATIA V5-6R2021

VERSION CHANGE AND COMPATIBILITY

Camera Exposure

Exposure of color correction tab in the Object editor is applied as post processing effect after the clamping.

Updated Stellar PBR Material

When opening an old data sets containing 3DEXPERIENCE PBR materials, they are automatically converted into the new 3DEXPERIENCE PBR material version. Except when sheen was enabled on the old version of the material type. Visual consistency cannot be guaranteed in this case.

Old versions of the material are named "3DEXPERIENCE PBR 2020x" and can be manually switched to the new version. The 3DEXPERIENCE PBR material type in DELTAGEN 2021x corresponds to the „Dassault Systèmes Enterprise PBR Shading Model“, which will be available in the 3D Experience Platform as standard material with the name "3ds PBR Generic".

AXF Import

AXF import assumes by default 10 cm x 10 cm scale reference for unwrapping and adjusts the UV scaling of the material accordingly.

Far Clipping Plane in Stellar

Now always calculated automatically, no manual entry possible anymore.

IBL Sampling Setting

IBL sampling (Noise-free glossy IBL sampling) is removed from rasterizing and raytracing stellar render settings.

Glow Rename

Naming of glow parameters in Object editor and Logic network editor adjusted to distinguish the two glow modes "artistic glow" vs. "physical glow". Old networks are converted accordingly.

Local Surroundings

Texture filtering for local surroundings is disabled by default now, to improve the quality of surrounding textures.

Gauss Filter

Removed parameter "size" from stellar render settings and render export due to changed algorithm.

Clamping

Clamping is by default set to "On" with a value of 10.0 in render settings and render export for Look and Stellar renderer. Existing scenes are not affected.

Brighten in Source

"Brighten in source" is per default off for newly created local surroundings.

Distributed Stellar

Cleanup of dialog and option for streaming to a web browser dropped.

Jacketing

Tessellation tab placed before the jacketing tab in DELTABATCH configurator. Legacy jacketing groups can be imported, but only the target and occluder items are taken from the old groups.

Texture Paths for 3xf Files

Previously the texture paths were first taken from the embedded paths in the 3xf file. With DELTAGEN 21x the search order is reversed: First the texture paths from the 3xf.texturePath file are taken and after that the embedded texture paths are considered.

Python 3 Support

Script editor updated to Python 3.7, existing scripts need to be adjusted accordingly.

Preferences

The Title of the section called "Look" has been renamed to "Look library" and the "Rendering" section consolidated.

HTC Vive Plugin Renamed to "HMD VR Plugin"

Name of Plugin adjusted to reflect the general capability of supporting several HMD devices.

Help Menu Documentation Change

The help menu has been adjusted in order to be able to access all the PDF User guides from here.

Terminology Change

The terms "master", "slave" and "white list" have been replaced in the software as well as in the documentation as follows:

- "Master" --> "host" in terms of distributed rendering with Scale and D-Stellar
- "Master" --> "parent" in terms of camera linking
- "Slave" --> "child" in terms of camera linking
- "White list" --> "Allowed addresses" in terms of external commands

SYSTEM REQUIREMENTS

The following quotes the required setup specifications for running DELTAGEN and DELTAVIEW and for processing the 3D scenes that are loaded.

Only NVIDIA® graphic cards are capable of displaying all visual effects and shaders created with our software. This cannot be guaranteed with graphic cards from other manufacturers. Visit our Software Services website for constantly updated information.

Hardware Requirements

| Type | Recommended | Minimum |
|------|-----------------------------|-----------------------------|
| RAM | 16 GB | 64 GB |
| CPU | 2 * Intel® Xeon® E5-2680 v4 | 2 * Intel® Xeon® Gold 5120T |

Graphics Cards

| Qualified | Validated | Compatible |
|---|---|--|
| NVIDIA® Quadro RTX6000, P6000, GV100, M6000 | NVIDIA® Quadro RTX5000, P5000, P4000, GP100, M5000, M4000 | NVIDIA® RTX A6000, NVIDIA® Quadro RTX4000, M2000 |

Qualified: tested using extensive functional workflows.

Validated: tested using basic functional workflows.

Compatible: no functional workflows coverage, but no known technical limitations.

Recommendation for VR experiences: 2 x Quadro RTX6000 in SLI mode (NVLink Bridge required).

Operating System

| Component | Recommended | Minimum |
|------------|----------------------------|----------------------------|
| DELTAGEN | Windows® 10 x64 Enterprise | Windows® 10 x64 Enterprise |
| DELTABATCH | | |
| DELTAVIEW | | |

Monitor Resolution

| Component | Recommended | Minimum |
|------------|-------------|-------------|
| DELTAGEN | 1920 x 1200 | 1280 x 1024 |
| DELTABATCH | | |
| DELTAVIEW | | |

Recommended Drivers

| Component | NVIDIA driver | Certification document |
|------------|---|------------------------|
| DELTAGEN | 442.50; | Available upon request |
| DELTABATCH | For Ampere graphics cards, contact our support team | |
| DELTAVIEW | | |

Additional Software

| Component | Minimum requirements |
|------------|--|
| DELTAGEN | Adobe® Flash Player |
| DELTABATCH | (PICTUREBOOK Connector, XPLORE) |
| DELTAVIEW | Apple QuickTime Player (for QuickTimeVR export) Microsoft® Internet Explorer 10 or higher |

SUPPORT CONTACT

Visit 3ds.com/support or have a look into our knowledgebase on support.3ds.com/knowledge-base for helpful information.

In case you have further questions, our support team is happy to help you:

Customers who purchase their software via media order (MO) and obtain their licenses via the Key Management Center (KMC), can report incidents to DS by using the 3DSupport App: <https://www.3ds.com/support/contact/call-us/submit-a-request/>

All other customer should report incidents per e-mail to: 3DEXCITE.Support.Global@3ds.com

DASSAULT SYSTEMES LICENSE SERVER SUPPORT

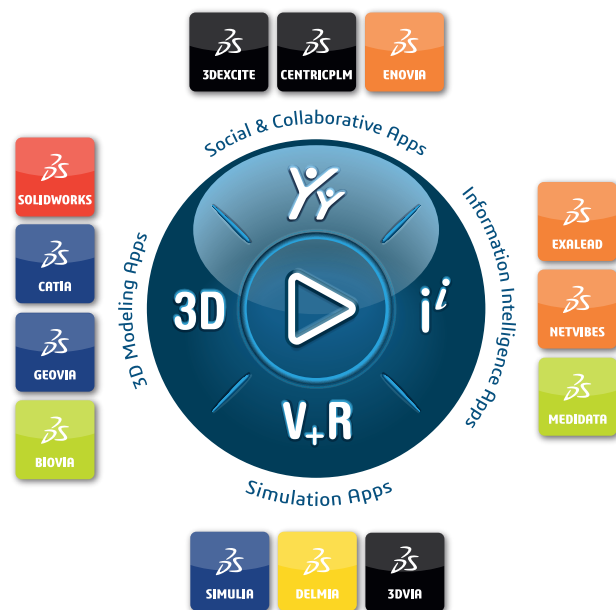
In addition to FlexLM, the DS License Server (DSLS) is supported for licensing DELTAGEN. This allows easier maintenance of your systems, especially if other software packages are running with the DS License Server. During the installation process you can choose your preferred license server.

- Please contact 3DEXCITE.Support.Licensing@3ds.com if a FlexLM license is needed for 3DEXCITE products.
- For DSLS licensing please refer to [Software License Keys terms](#). Here you can obtain your new DSLS license directly.

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