3D SYSTEMS

Dx Geomagic® Design X™

Release Notes

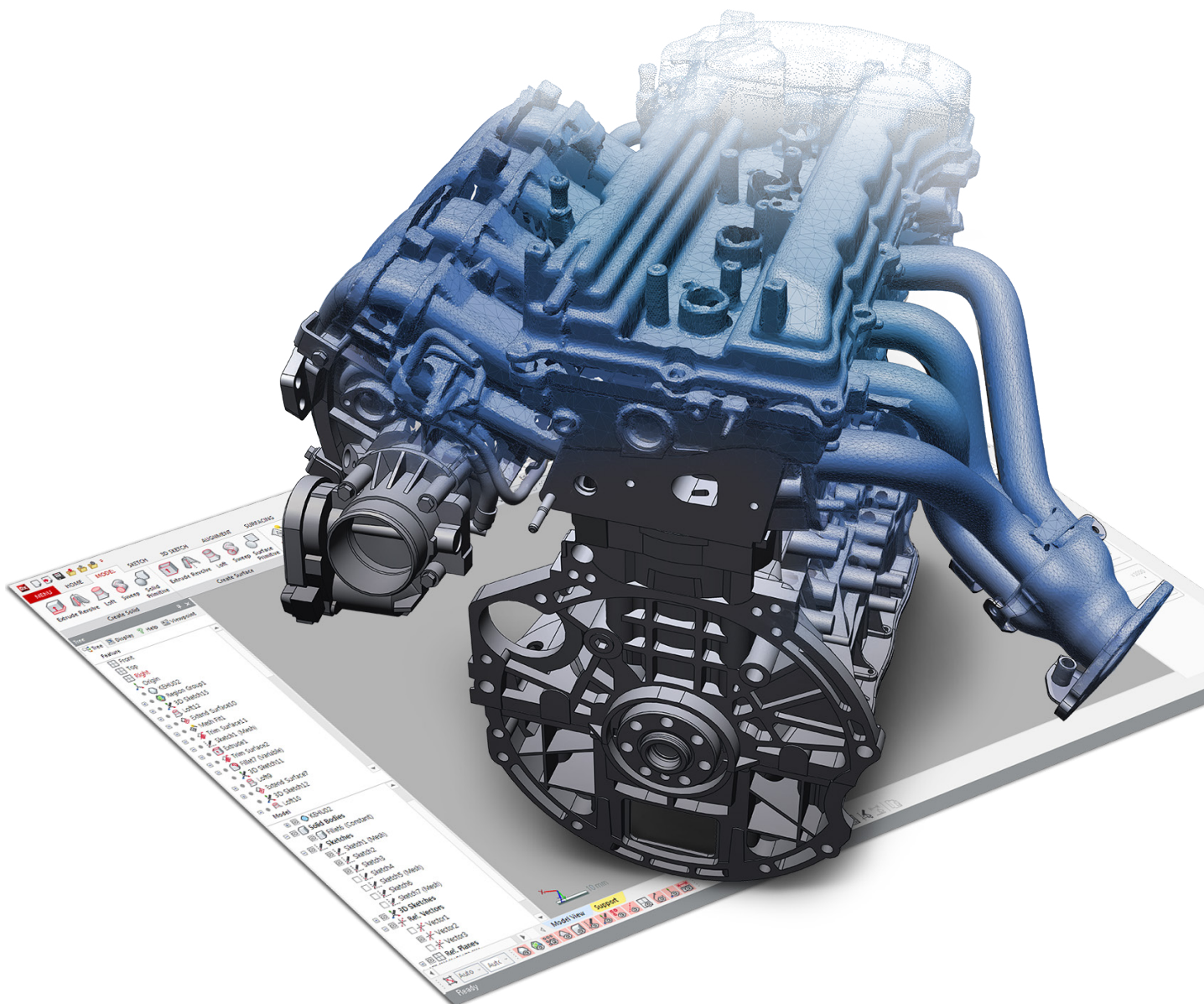Release Date: August, 2021

Software: **Geomagic Design X**
Version 2020.0.4

TABLE OF CONTENTS

1 INTRODUCTION

We are pleased to announce the availability of the new version of Geomagic Design X. Geomagic Design X is the only reverse engineering software that combines history-based CAD with 3D scan data processing so you can create feature-based, editable solid models compatible with your existing CAD software.

New features in this release were made to deliver more efficient, and new workflows for complex designs. They also improve the speed of modeling of today's more common and challenging parts. This release also includes many more enhancements and some bug fixes.

For more information, please visit www.3dsystems.com/support/software.

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SYSTEM REQUIREMENTS

For the latest system requirements information and to learn about specific qualified system configurations, go to the System Requirements page in the Geomagic Support Center. Some users have had success running system configurations that deviate from the supported listed on our website. In such cases, these configurations are not officially supported by 3D Systems, Inc.

Additionally, we test a variety of hardware platforms in combination with the graphics subsystems. While we make every attempt to be as thorough as possible, hardware manufacturers change their products frequently and may be shipping newer products or have discontinued active support for others. Check the support section of the website for the latest system requirement information and specific qualified systems.

DOWNLOAD AND INSTALL SOFTWARE

You can download and install the software from support.3dsystems.com/s/software-support-3dsystems, select the Geomagic Design X product, then select to download Geomagic Design X.

In addition, automatic software updates are available if you set the **Update Product Automatically** option to **True** in Preferences and a valid maintenance code is activated, and your computer is connected to the Internet. The application will check if a newer version is available and will download it automatically for installation.

You can also manually check if a newer version is available by going to **Help > Check For Update**.

ACTIVATE LICENSE

Geomagic Design X requires license activation to run the application on your PC. You can choose to use an evaluation license for a 15-day period or activate a permanent license by using an Online Activation license or a physical dongle.

After you start your application, the License Manager window opens. The License Manager allows you to activate and use the Geomagic Design X software.

NOTE: When you launch the License Manager, you can click the Help [?] button found at the top right corner of the window to read the CimLM Licensing Guide**.**

You should have received an email from 3D Systems with your activation code. If you have not received an email from 3D systems, contact them at Geomagic.Support.Americas@3DSystems.com.

If you are an existing user and have already activated the license on your PC with the previous version of the application, you can run the newer version of the application without re-activating the license.

For more information, go to the Licensing section on the getting-started page.

WHAT'S NEW IN 2020.0.4

Updated Licensing System

The **CimLM Licensing System** has now been updated to the latest version of CimLM 3.2. CimLM 3.2 contains compliance related fixes that allow the user to enable trial licenses for Geomagic Design X.

LiveTransfer Updates

The following CAD applications are now supported in LiveTransfer:

- SOLIDWORKS 2021 (Now supported for SOLIDWORKS 2006 to 2021)

- Creo 7.0 (Now supported for Creo up to 7.0)

File Import

Native CAD File Import has been updated to support the following versions.

| CAD Application	File Extension	Version Supported	Comments
CATIA V5	.catpart, .catproduct	R8 - V5-6 R2021	Geometry and PMI
CATIA V6	.catpart, .catproduct	Up to V6 R2021x	Geometry and PMI
Creo (Pro/E)	.prt, .prt.*, .asm, .asm.*	Pro/E 16 – Creo 7.0	Geometry and PMI
Inventor	.ipt, .iam	V6 - 2022	Geometry Only
SIEMENS NX	.prt	11 – NX1953	Geometry and PMI
SOLIDWORKS	.sldpt, sldasm	98-2021	Geometry and PMI (2016-2021)
STEP	.stp, .step	AP203, AP214, AP242	Geometry Only

WHAT'S NEW IN 2020.0.3

Updated Licensing System

The **CimLM Licensing System** has now been updated to the latest version of CimLM 3.1. This update brings the user lots of fixes and improvements of security and stability.

WHAT'S NEW IN 2020.0.2

Normal Information Wizard

When generating point normals for a point cloud, you now have a new **Rolling Radius** option that controls the sensitivity of the function.

Radius: Small ← → Radius: Large
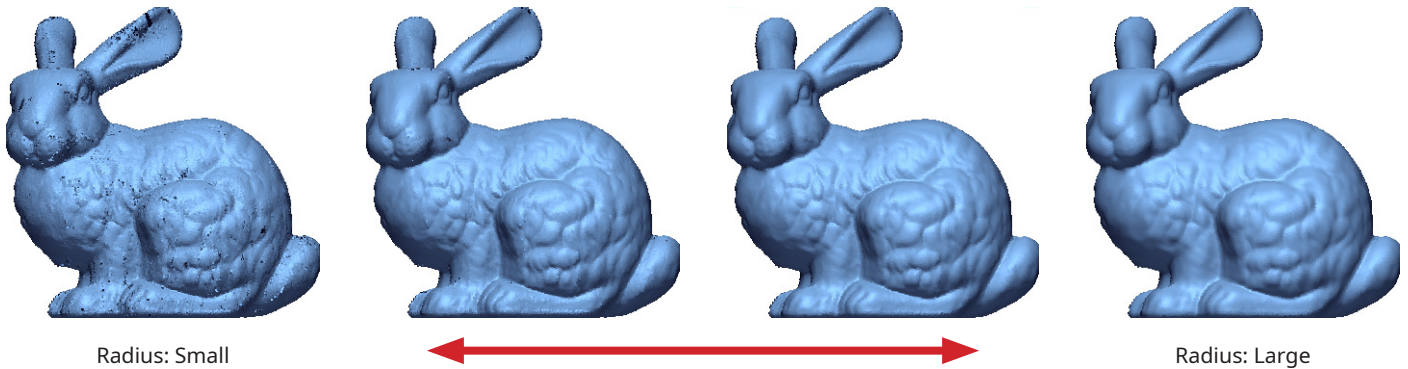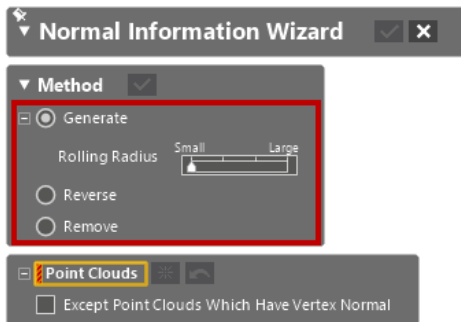
Scan Line Distance Filtering

As improved algorithm and internal workflows for scan post-processing, the Max. Point Distance and the Initial Angle Scan Filtering options in the ScanData tab of the LiveCapture Setting have been replaced with a new option named "**Scan Line Distance Filtering**."
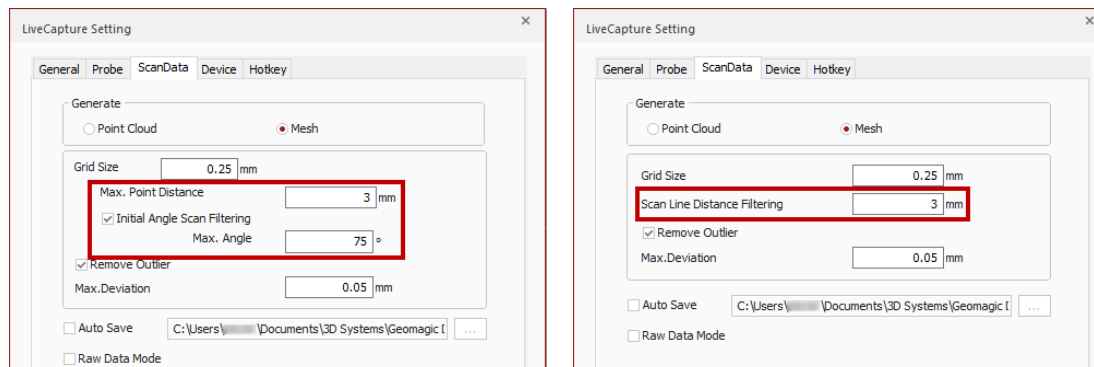
Geomagic Design X 2020.0.1

Geomagic Design X 2020.0.2

The Scan Line Distance Filtering option can now be used to specify valid range of distances between scan lines.

New ZEISS T-SCAN and T-Point device

The LiveCapture now supports new ZEISS portable laser scanning and proving devices, **ZEISS T-Scan** and **T-Point**.

Fitting Accuracy in Unroll/Roll Curves
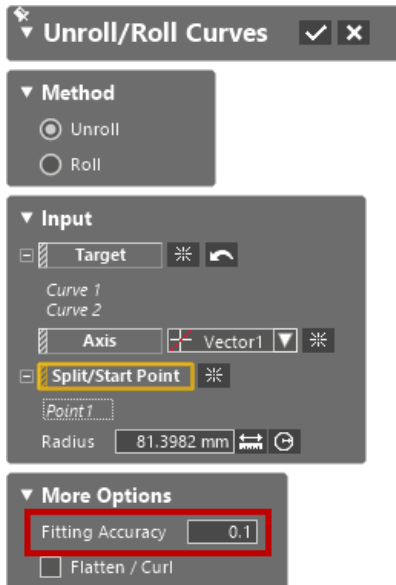
The Allowable Deviation / Fitting Accuracy option has been renamed to "**Fitting Accuracy**" and its input method has also been changed by entering values.

The Fitting Accuracy option can be used to define the resolution of input curves and maintain a high fitting accuracy of the curves even after transforming.

WHAT'S NEW IN 2020.0.0

New Workflow for 'Hybrid' Models

Typically parts for castings, medical implants, as well as results from topology-optimized designs combine both prismatic and organic shapes. With the new **Selective Surfacing** feature, you can easily create organic shapes in a particular region of your model from the following two selection methods. This feature also allows you to use an efficient hole-filling operation for a target surfacing region.

By Boundary Curves

This helps you select target region from pre-defined curves and create surfaces providing control over the surface boundary's shape and accuracy.
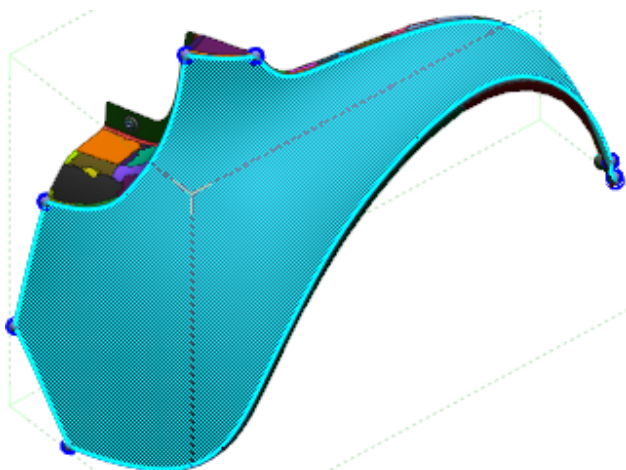
Target region selected by boundary curves
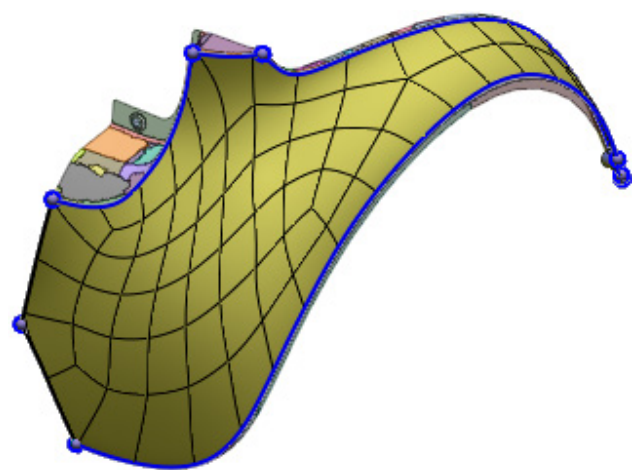
Freeform surfaces generated from the selection

By Mesh Selection

This selection method helps you select target region with manual interaction and create surfaces from the selections, providing an efficient and convenient workflow for modeling hybrid parts.
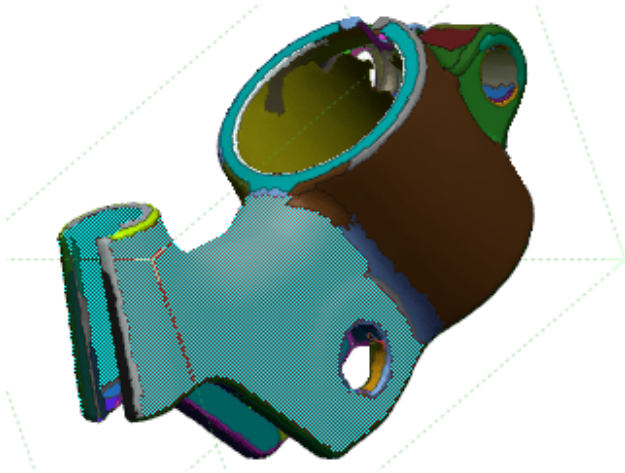
User-defined target region

Freeform surfaces generated from a hole-filled region

New Unroll / Roll Tools

New **Unroll / Roll** tools provide you the capability of creating design-intent models from intricate parts that have shapes like non-constant helices, or 3D profiles. By using the combination of the tools below, previously difficult designs can be captured and redesigned with ease.

Unroll/Roll Scan

Point clouds and Meshes can be unrolled and rolled around an axis. This can simplify complex 3D designs into a 2D design space.

Target Mesh
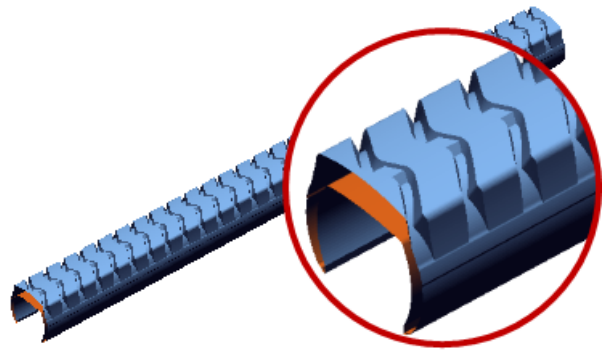
Unrolled Mesh

Unroll/Roll Curves

2D sketches from the cross-sections of previously unrolled scans can be rolled back into 3D space. Conversely, extracted 3D curves can be unrolled onto a 2D Plane.
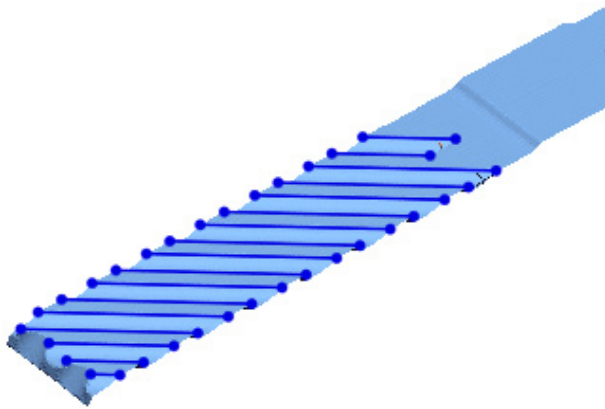
Target Curves
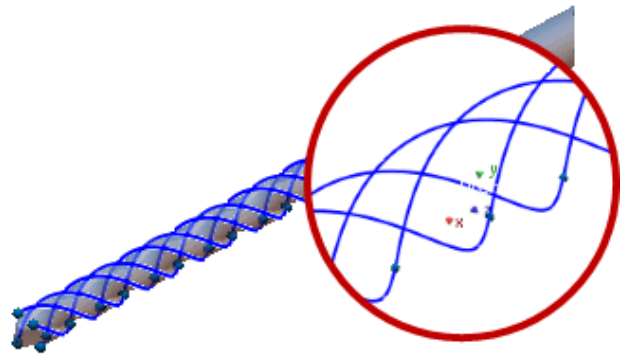
Rolled Curves

Flatten and Curl

In both methods above, the user can add an additional degree of modification by flattening (unroll) or curling (roll) based on a 2D profile of arcs.

Ability to Preview Upcoming Functionalities

You can now preview and gain access to upcoming functionalities with a valid Maintenance Subscription. With retaining your Maintenance Subscription, you can get not only updates and access to technical support, but now also gain early access to new functionalities being developed for Geomagic Design X. These new functions can be found in the **Add-In** menu.

Additional Enhancements

Separate Mesh

You can now separate a single mesh object composed of multiple clusters easily.

A single Mesh

Individual Meshes

Transform Body

When using the **Use Local Coordinate** option, transformation information is provided from both the local and global coordinate system.

Improvements to Exact Surfacing

You will notice a general improvement to performance and stabilities when using Exact Surfacing tools. Additionally, 3D Curves created from the **Extract Boundary** command are now automatically designated as "**Boundary Curves.**"

Side-by-Side Installation

Starting with Geomagic Design X 2020, you can have multiple versions of Geomagic Design X installed simultaneously.

New 3D Systems Licensing System

A new licensing management tool has been implemented providing additional security and stability.

LiveTransfer Updates

The following CAD applications are now supported in LiveTransfer:

- Support for SOLIDWORKS 2020
- Support for Inventor 2020
- Support for NX 1872
- Support for Creo 6.0
- Support for SolidEdge 2020
- Support for CATIA V5-6 2019

BUG FIXES IN 2020.0.4

This section lists issues that have been resolved since Geomagic Design X v2020.0.3:

- **GDX-15165:** Geomagic Design X created bad face topology or lost some faces when exporting modeled bodies as IGES format.
- **GDX-15160:** Having an older version of the Dongle driver caused Geomagic Design X to crash when starting it up.
- **GDX-14522:** The "Sampling Ratio" option didn't work for meshes when performing the Global And File method in the Align Between Scan Data command.
- **GDX-14655:** Geomagic Design X crashed when the user tried to drag a command into a custom toolbar.
- **GDX-14407:** When running LiveCapture or LiveGeometry with a FARO arm, the overlay menu sometimes didn't work for the arm.
- **GDX-14334:** LiveTransfer to Creo 6.0 sometimes didn't work for a certain file.
- **GDX-14051:** The wrong download URL for FARO LS Software Development Kit (SDK) was displayed in the notification message while importing FLS files saved in a newer version of FARO Scene. The latest FARO LS SDK can be downloaded at : https://knowledge.faro.com/Software/FARO_SCENE/SCENE/SDK_File_Download_and_Installation_for_SCENE
- **GDX-13461, GDX-11521, GDX-2437:** The Face Fillet created redundant faces for a solid body once it was applied to faces of a surface body without the "Trim And Merge Result" option.
- **GDX-13447:** A PTX file that was generated from a Leica scanner failed to import into Geomagic Design X.
- **GDX-13445:** When importing corrupted files, Geomagic Design X became hang and unresponsive.
- **GDX-12555:** The Sampling Ratio in the Import dialog didn't work for a E57 file.
- **GDX-12271, GDX-15223:** The Auto Surface command created surface bodies whenever the user clicked Preview, and it caused Geomagic Design X to crash when deleting the surface body or undoing.
- **GDX-10452, GDX-3080, GDX-2692:** When importing IGES or STEP into Geomagic Design X, it failed to import or some faces in the files lost.
- **GDX-9476:** A MODEL file that was generated from CATIA V4 failed to import into Geomagic Design X.

BUG FIXES IN 2020.0.3

This section lists issues that have been resolved since Geomagic Design X v2020.0.2:

- **GDX-12245, GDX-12255, GDX-12953, GDX-14390:** Fixed licensing issues that caused the software to close unexpectedly or by failures in the license file management.

BUG FIXES IN 2020.0.2

This section lists issues that have been resolved since Geomagic Design X v2020.0.1:

- **GDX-8848:** The units would be always set to meters when creating a 3D PDF.
- **GDX-10442:** The graphical performance of deviation for body would be slow.
- **GDX-10876:** The software would not connect with the ZEISS T-SCAN or T-POINT devices.
- **GDX-12735, GDX-13003:** The License Utility would display in English regardless of the software language settings.
- **GDX-13134:** The software would crash during installation because of an incompatible Windows 10 HASP driver.
- **GDX-12936:** The software would crash when launching the software after connecting the dongle license.

- **GDX-13020:** The software would crash when scanning to a point cloud or mesh and pressing the "B" button to exit LiveCapture.
- **GDX-12684:** The FARO laser would not initialize unless a clipping plane would be first scanned.
- **GDX-9723:** The Paint Brush and Smart Selection would not work correctly when selecting target meshes with Improve Curvature Flow Method in Optimize Mesh command.
- **GDX-13221:** Updated Normal Information Wizard command with new GUI
- **GDX-11784:** The LiveTransfer to Creo/Pro-E would fail on a simple sketch with a build error message.
- **GDX-12789:** Changing the Grid Size Parameter value would affect the Max Point Distance parameter value.
- **GDX-12908:** Removed the Initial Angle Scan Filtering option in the LiveCapture command as it is no longer necessary.
- **GDX-12784:** Some scan data would not appear on the screen when scanning with RS6 scanner.
- **GDX-12749:** The notch of Fitting Accuracy in Roll/Unroll Command would be outside of the slider bounds when starting the software for the first time.
- **GDX-11964:** The Fitting Accuracy of spline in minimum level would not be enough for Unroll/Roll curves.
- **GDX-8963:** The Split command would not properly split all poly-faces.
- **GDX-11848:** After unrolling a rolled mesh, the result might contain incorrect boundaries and non-manifold vertices.
- **GDX-11729:** Mesh direction would be flipped when unrolling the closed mesh.

BUG FIXES IN 2020.0.1

This section lists issues that have been resolved since Geomagic Design X v2020.0.0:

- **GDX-12648:** The software would crash when scanning with a FARO device.
- **GDX-12692:** The software would not get the backup path when installing.
- **GDX-12653:** An error message with "ErrorCode 4294967295" would be shown when validating a license.
- **GDX-12651:** The "CultureNotFoundException" error would occur when activating a license.
- **GDX-12646:** An error message would be shown in the Support tap when failing to connect to the support link during the execution of the software.
- **GDX-12610:** An error message with ErrorCode 1001 would be shown when executing Geomagic Design X 2020.0.0.
- **GDX-12575:** The Autoupdate installation to Geomagic Design X 2019.0.3 would be guided when executing Geomagic Design X 2020.0.0.
- **GDX-12321:** The heartbeat check would not work when using a floating dongle license.

BUG FIXES IN 2020.0.0

This section lists issues that have been resolved since Geomagic Design X v2019.0.3:

- **GDX-10879:** The LiveTransfer Error List would be inconsistent with actual result for the Primitive Wizards.
- **GDX-10007:** Application got hung when deselecting regions with the Ctrl key by painted brush selection mode.
- **GDX-10929:** Imported points from CAD file would be scaled incorrectly.
- **GDX-10636:** The Extrude would fail in SOLIDWORKS when the "up to surface" and "up to body" would be both enabled in LiveTransfer.
- **GDX-10417:** The Transform Values would not be shown as components in the selected coordinate system when assigning local coordinate.
- **GDX-10008:** 3D Sketch's Spline would not work in the space.
- **GDX-9761:** Mesh Sketch Polyline would not be visible after the user would make Interactive Alignment.
- **GDX-9571:** The Auto segment via the Run Scan Process would create only freeform regions.
- **GDX-8998:** Fit Surface Patches would fail in some area despite working in the previous version.
- **GDX-8798:** Moving the Red Corner Balls in Shuffle Patch Groups would not work anymore in Exact Surfacing.
- **GDX-7806:** The user could not select poly-faces by Regions as input in the Offset Command.

- **GDX-4091:**   The mesh would be broken when using the Global Remesh.
- **GDX-3551:**   The Merge Tangent Faces option would not behave correctly in the Sweep command.
- **GDX-3527:**   The input value at the time of creation would be reset when editing the Transform Body.
- **GDX-2176:**   The curves would disappear when the user would enter the Shuffle.
- **GDX-10133:**   The software would be stopped very often or crash when scanning with a Kreon scanner.

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