Welcome to Simcenter 3D

April 2020

Dear Customer:

We are proud to introduce the latest release Simcenter 3D 2020.1 v1915 of our product development solution. With this release, we continue to provide innovative ways to deliver solutions that meet the next generation of your product design, development, and simulation challenges. The new version of Simcenter 3D is robust and powerful, and it delivers advanced technologies for product design, development, and simulation in a single, multidisciplinary platform. It preserves best-in-class customer deployment readiness and builds on the productivity and stability achievements of the previous release.

Sincerely,

Simcenter 3D Release Team
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NOTE

The release notes provide information about updates, fixes, and enhancements that are included in Simcenter 3D Release Series.

For a specific Siemens Digital Industries Software product updates, please refer to the products’ release notes provided along with its release version at the Siemens Support Center.
SIMCENTER 3D 2020.1-1915

2020.1-1915 FIXED PROBLEM REPORTS (PR)

Please see the table below for a summary of the PR updates included in this release.

<table>
<thead>
<tr>
<th>Application</th>
<th>Count of PR Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIMCENTER</td>
<td>15</td>
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<tr>
<td>KDA</td>
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</tr>
<tr>
<td>SYSENG</td>
<td>9</td>
</tr>
<tr>
<td>CAM</td>
<td>5</td>
</tr>
<tr>
<td>NXMANAGER</td>
<td>3</td>
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<td>PMI</td>
<td>3</td>
</tr>
<tr>
<td>SHIP_DESIGN</td>
<td>3</td>
</tr>
<tr>
<td>TRANSLATOR</td>
<td>2</td>
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<tr>
<td>ASSEMBLIES</td>
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<td>DESIGN</td>
<td>2</td>
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<tr>
<td>ARCHITECTURE</td>
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<tr>
<td>ROUTING_GENERAL</td>
<td>1</td>
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<tr>
<td>AUTOMATN_DESIGN</td>
<td>1</td>
</tr>
<tr>
<td>MECHATRONICS</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>59</strong></td>
</tr>
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</table>

For a cumulative list of PR fixes, see Fixed_Problem_Reports.csv included with the release documents.

2020.1-1915 ENHANCEMENTS (ER)

No Enhancements specific to Simcenter 3D is included in this Maintenance Software Fix Releases.
2020.1-1911 FIXED PROBLEM REPORTS (PR)

Please see the table below for a summary of the PR updates included in this release.

<table>
<thead>
<tr>
<th>Application</th>
<th>Count of PR Number</th>
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<tbody>
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<td>ASSEMBLIES</td>
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<td>CAM</td>
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<tr>
<td>GATEWAY</td>
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<tr>
<td>ROUTING_GENERAL</td>
<td>1</td>
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<td>DESIGN</td>
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<tr>
<td>NXMANAGER</td>
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<tr>
<td>PMI</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
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</table>

For a cumulative list of PR fixes, see Fixed_Problem_Reports.csv included with the release documents.

2020.1-1911 ENHANCEMENTS (ER)

Please see below for a list of enhancements included in this release.
SIMCENTER 3D 2020.1-1907

2020.1-1907 UPDATES

Simcenter 3D 2020.1-1907 Caveats

Bolt Connection Element Error

An error will be raised upon attempting to create a Bolt Connection Element from the Connection Element Manager dialog under these conditions.

1. A new FEM/AFM file is created and saved in Simcenter 3D 2020.1 version 1907 and it is opened in Simcenter 3D 2020 version 1899
2. A Bolt Connection element is created in Simcenter 3D 2020.1 version 1907 FEM/AFM file, when opening the file in Simcenter 3D 2020.1 version 1899, editing the Bolt Connection Element can trigger the error and obstruct the edit operation

The influence of the errors raised in the above-mentioned cases on further operations in the Simcenter 3D is not known, so for safety reasons it is recommended to close the session and reopen Simcenter 3D after the error is triggered.
2020.1-1907 FIXED PROBLEM REPORTS (PR)

Please see the table below for a summary of the PR updates included in this release.

<table>
<thead>
<tr>
<th>Application</th>
<th>Count of PR Number</th>
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<tbody>
<tr>
<td>SIMCENTER</td>
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<td>DRAFTING</td>
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<tr>
<td>KDA</td>
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</tr>
<tr>
<td>CAM</td>
<td>4</td>
</tr>
<tr>
<td>ROUTING_GENERAL</td>
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<td>SYSENG</td>
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<tr>
<td>NASTRAN</td>
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<tr>
<td>NX_SHEET_METAL</td>
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<tr>
<td>VOLUME</td>
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<td>TRANSLATOR</td>
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For a cumulative list of PR fixes, see Fixed_Problem_Reports.csv included with the release documents.

2020.1-1907 ENHANCEMENTS (ER)

No enhancements were included in this release.
2020.1-1904 FIXED PROBLEM REPORTS (PR)

Please see the table below for a summary of the PR updates included in this release.

<table>
<thead>
<tr>
<th>Release</th>
<th>PR Number</th>
<th>Description</th>
<th>Application</th>
<th>Function</th>
<th>Sub_Function</th>
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<tbody>
<tr>
<td>1904</td>
<td>8441216</td>
<td>Internal error when using delete template</td>
<td>AUTOMATN_DESIGN</td>
<td>PAGE</td>
<td>BASIC_CAAPABILIT</td>
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For a cumulative list of PR fixes, see Fixed_Problem_Reports.csv included with the release documents.

2020.1-1904 ENHANCEMENTS (ER)

There are no enhancements included in this release.
2020.1-1903 FIXED PROBLEM REPORTS (PR)

Please see the table below for a summary of the PR updates included in this release.

<table>
<thead>
<tr>
<th>Application</th>
<th>Count of PR Number</th>
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<td>SIMCENTER</td>
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<td>SYSENG</td>
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<td>SHIP_DESIGN</td>
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<td>TC_FEATURES</td>
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<td>DESIGN</td>
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<td>NXMANAGER</td>
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<td>CORRUPTED_PARTS</td>
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<td>DRAFTING</td>
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<tr>
<td>FLEXIBLE_PIPE</td>
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<td>MECHATRONICS</td>
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<td>NASTRAN</td>
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<tr>
<td>TRANSLATOR</td>
<td>1</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>89</strong></td>
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</table>

For a cumulative list of PR fixes, see Fixed_Problem_Reports.csv included with the release documents.

2020.1-1903 ENHANCEMENTS (ER)

Please see below for a list of enhancements included in this release.

- ER8562281 - Enhancement Request for Simcenter 3D Motion TWR
CAE: Pre/Post for Ansys

Introduction

Importing All KEYOPTs as User Defined KEYOPTs

Many ANSYS element types have key options (KEYOPTs) that you can specify. Each KEYOPT is identified by its number and may have different values. For example, in ANSYS version 19.1, SHELL181 has 7 KEYOPTs: KEYOPT (1), (3), (5), (8), (9), (10) and (11). The value of KEYOPT (3) could be 0 or 2. The KEYOPT numbers and its values are defined in the XML. They can be changed, removed or added in ANSYS from release to release.

When a specific KEYOPT is supported by Pre/Post, but one of its values is unsupported, this value is lost on import, and Pre/Post uses the default value instead. You can now select a new Customer Default, “Import all KEYOPTS as user defined KEYOPTS”, to ensure that unsupported KEYOPT values are imported.

Accessibility

You can select this new option from the Customer Defaults dialog box as follows: Customer Defaults → Simulation → Pre/Post → ANSYS → Import → General Options (see the image).

Image: Toggle of “Import all KEYOPTS as user defined KEYOPTS” in Customer Defaults

Import behavior

How Pre/Post imports KEYOPTs in an ANSYS input file depends on whether the new customer default is selected:
• When the new default is turned off, Pre/Post imports KEYOPTs into Pre/Post as in previous releases.
• When the new default is selected, Pre/Post imports all KEYOPTs as User Defined KEYOPTs.

The following images illustrate these two behaviors:

**Image:** KEYOPTs numbers and values example for SOLID186 with an unsupported value in the input file

```
/COM, Solid(l)::3d_mesh(1)
ET, 3, SOLID186, 1
KEYOPT, 3, 15, 1
KEYOPT, 3, 16, 1
KEYOPT, 3, 17, 4 ← unsupported value
/COM
```

**Image:** SOLID186 ET modeling object with the loss of unsupported value when the customer default is turned off

**Image:** SOLID186 ET modeling object when the customer default is selected
**Note:** This support applies to all element types accept the Legacy Elements that are not supported as user defined KEYOPTS. The Legacy Elements are BEAM4, BEAM44, LINK8, LINK10, CONTAC12, CONTAC52, PLANE42, PLANE82, SHELL63, SHELL57, SHELL91, SHELL93, SHELL99, SOLID45, SOLID92, SOLID95, SOLID191. Pre/Post always imports the KEYOPTs for these Legacy Elements as standard KEYOPTs regardless the status of the new default.

**Image:** SOLID95 ET modeling object (Legacy Element)
### SIMCENTER 3D 2020.1 SERIES PRS WITH ISSUED SOFTWARE FIELD BULLETIN (SFB)

<table>
<thead>
<tr>
<th>SFB</th>
<th>SFB Short Description</th>
<th>PR</th>
<th>PR Status</th>
<th>PR Fixed Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFB-Simcenter-8016272</td>
<td>Nodal Force Report is incorrect if reference CSYS is cylindrical or spherical</td>
<td>9597058</td>
<td>Fixed</td>
<td>v1903</td>
</tr>
<tr>
<td>SFB-Simcenter-8016273</td>
<td>SOL402 parabolic plane strain elements display wrong results at mid-side nodes</td>
<td>9581295</td>
<td>Fixed</td>
<td>v1903</td>
</tr>
<tr>
<td>SFB-Simcenter-8016733</td>
<td>Issue with shell composite elements in SOL402</td>
<td>8413746</td>
<td>Fixed</td>
<td>v1907</td>
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<tr>
<td>SFB-Simcenter-8016735</td>
<td>Issues with Bolt pre-load results for SOL402</td>
<td>9622841</td>
<td>Fixed</td>
<td>v1903</td>
</tr>
<tr>
<td>SFB-Simcenter-8016934</td>
<td>Issue with Post Processing Combination command for Elements with &quot;no results&quot;</td>
<td>9637335</td>
<td>Fixed</td>
<td>v1903</td>
</tr>
<tr>
<td>SFB-Simcenter-8016952</td>
<td>Issue with Moments computed for Free Body Diagram and Nodal Force Report</td>
<td>8436289</td>
<td>Fixed</td>
<td>v1903</td>
</tr>
</tbody>
</table>
SIMCENTER CUSTOMER SUPPORT

**Installation assistance**
For additional installation assistance, or to report any problems, contact the Simcenter Customer Support.

**Website:**