CADfix 11 SP1 Data Exchange Change Notes

Release Status

Supported Platforms and Operating Systems

Windows Vista, 7, 8 and 10 64 bit

Linux RHEL 6 64 bit

Import/Export

Faster export of large assemblies

ABAQUS

New surface (only) mesh export to ABAQUS ABA format file

CATIA V5

Import of geometric sets and combined surfaces

CREO

Updated to version 4

DXF/DWG

Support for assemblies

– **Faster processing due to fewer entities (no exploding done)**

– **Significantly smaller DXF/DWG files exported**

NX

Updated to version 11

Solar

New mesh export to CGNS format file

SolidWorks

Updated to version 2017

STL

New preview quality checks to detect bad facets and faster binary export.

More robust faceting

Assembly Manager

- **Faster exploding and general handling**

Wizard Process

- **New Transform options for collapsing sliver faces and sharp edge angles**
- **Improved fix for zero-area faces so that any degenerate lines are better handled**
- **Add Boolean options (UNITE/SUBTRACT/INTERSECT) to list of fix methods for overlapping bodies**

Diagnostics

- **Faster diagnostic result browsing**
- **New problem non-tangent lines display**

Defeaturing/Simplification

- **More robust fillet removal**
  o **Now capable of handling complex split fillets**
  o **New incremental algorithm gives higher success rate**

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- **Improved chamfer detection and removal**
- **Faster hole removal**

Applications

- **STL (facet) manager**
  - Revamp of Merge 'Split' and 'Swap' actions into single action called 'Refine'. 'Split' (of adjacent facets) renamed to 'Divide' to remove confusion with main 'Split' action. Bring 'Decimate' and 'Smooth' options together under new 'Modify' tool.
  - Improved facet stitching
  - New Alpha shrink-wrapper (prototype) with improved feature refinement
    - Robust capture of thin regions and sharp edges, e.g. trailing edges and junctions.
    - Includes extra smoothing/fairing/massaging operations.
    - Recovery of geometry parency enables quality re-meshing with complex size controls
- **3D Printing**
  - **Improved slice generation (parallelised)**
  - **Improved curved facet slicing**
  - **Robust detection of multiple-loop slices**
- **Hatching tool path generation (prototype)**
  - **Control of pitch/width of tool path and orientation**
  - **Generate toolpaths within each slice**
  - **Export to CL format files**

CAE Geometry

- **Auto mid-surface tool (prototype)**
  - **3D Medial Object based automatic tool**
  - **Generates mid-surface geometry as mesh and/or CAD exact (NURBS-based) geometry**
  - **Mesh export with nodal thickness (NASTRAN & ABAQUS)**
- **Improved split quality from CFD splitting tool**
  - **Fewer narrow faces created**

Build tools

- **Improved welding of v-shaped gaps**
- **Common geometry for plate models**
- **Support for defining non-manifold bodies (adding internal faces)**

Morph

- **Improved matching and deformation quality**
- **Add PATRAN mesh import to the solid mesh import for morphing**

General

- **Faster screen selection**
  - **Faster picking when doing repeated picks of same entity type.**
  - **Box select cancels with Escape key**

CADfix

- o **Polygon picking now completes pick on double-click.**
- o **Escape key aborts current pick**

- **New smart selection method for tangential faces**

- **Various user driven improvements**

- **New oscillating "pulse" mode in the progress bar for functions that run a long time but** don't have a **percent complete estimate, e.g. new alpha shrink wrapper**