June 2015

CADFIX 10/SP1

ITI *TranscenData*

CADfix 10/SP1 Summary

- Import/Export
  - CAD version updates
    - NX10
    - CATIA V5 – 6 R2015 (R25)
    - SW2015
  - Improved PLMXML export
  - Improved multi-file STL export
- Wizard
  - Auto-load of system specific .cwc
- Assemblies
  - Browser shows parts in components
  - Selected parts can be moved between components
- Morph
  - Much improved mesh->Brep matching stage
  - More import formats supported
- 3D Printing
  - Improved and more robust slicing

- Facets
  - Facet solid to BRep upgrade tool
  - Improved segmentation and parameterisation
- Join/Split/Offset
  - Improved quality for joined faces
- Build
  - Improved face splitting tool
  - Improved sweep creation tools
- GUI
  - Framing and centring in assembly mode now fully supported
  - Auxiliary part display short-cuts
  - Miscellaneous improvements
- Misc.
  - Extended CFI api
  - New PLUGIN/XCMND extensions
  - Bugfixes.

Import/Export

- CAD version updates
  - NX10
  - CATIA V5 – 6 R2015 (R25)
  - SW2015

- Improved PLMXML export
  - JT part files now named with part name
  - .plmxml file structure contains PartNumber and Nomenclature fields

- Improved multi-file STL export
  - Grouping options for multi-file STL export now

Wizard

- Auto-loading of target system specific .cwc files
  - New user/site config option to specify a .cwc to be loaded automatically when a target system is selected.
  - Useful as currently a .cwc file can only configure one target system
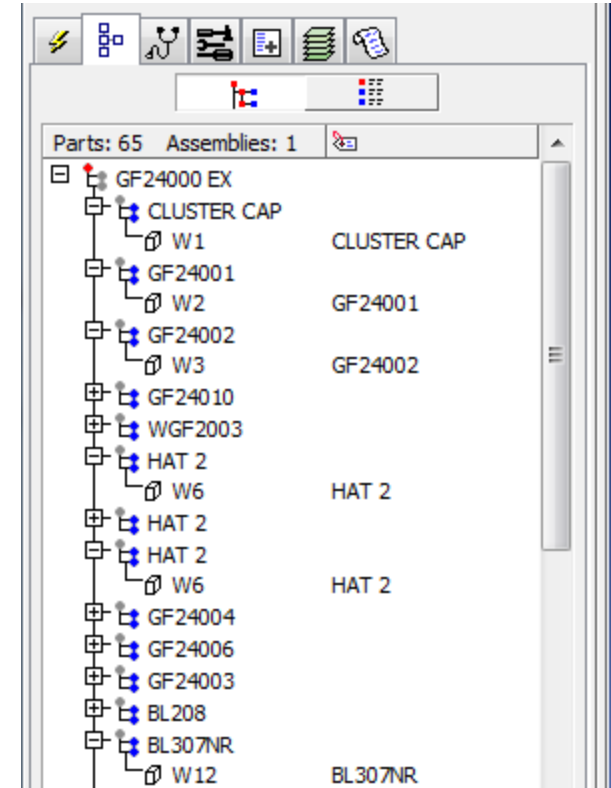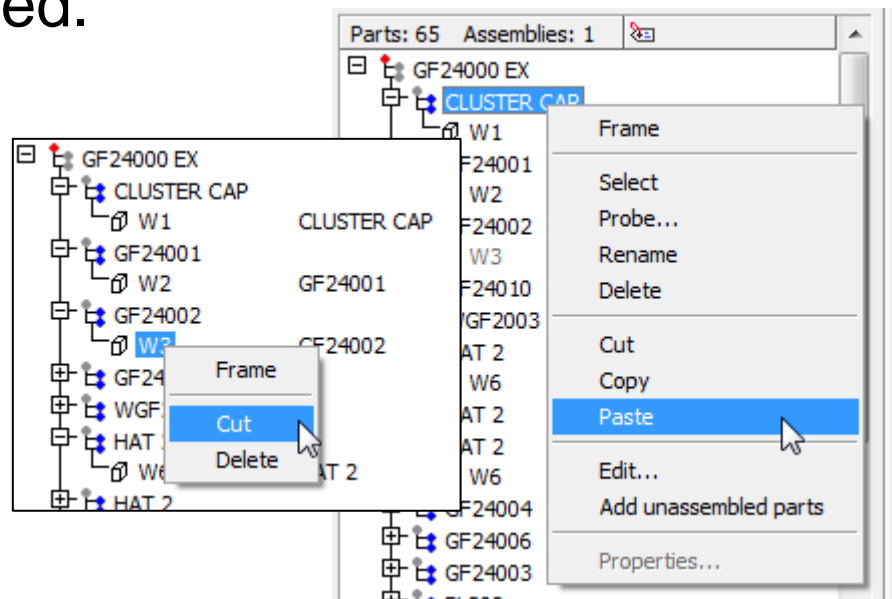 - Example: In user's .CADfix1000 config file:

  ```
  *famgui.wizardConfig(CATIA4): C:/myCWC/toCATIA4.cwc
  *famgui.wizardConfig(CATIA5): C:/myCWC/toCATIA5.cwc
  ```

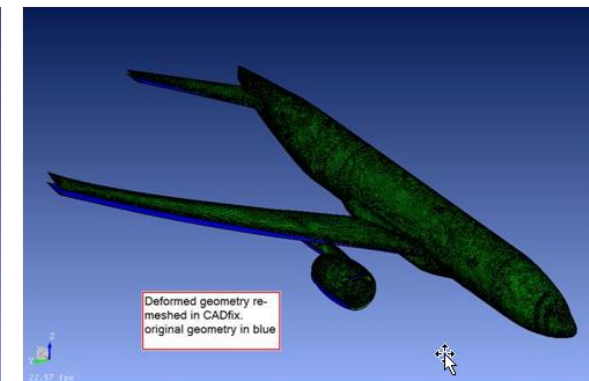 - Target system ID must appear inside the () after wizardConfig.
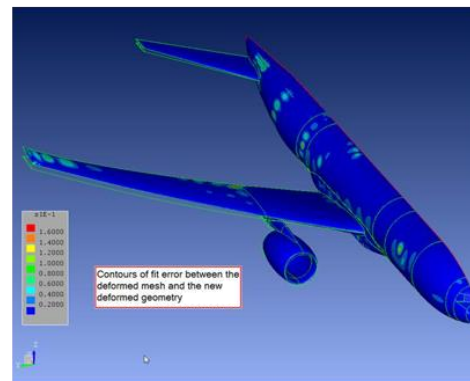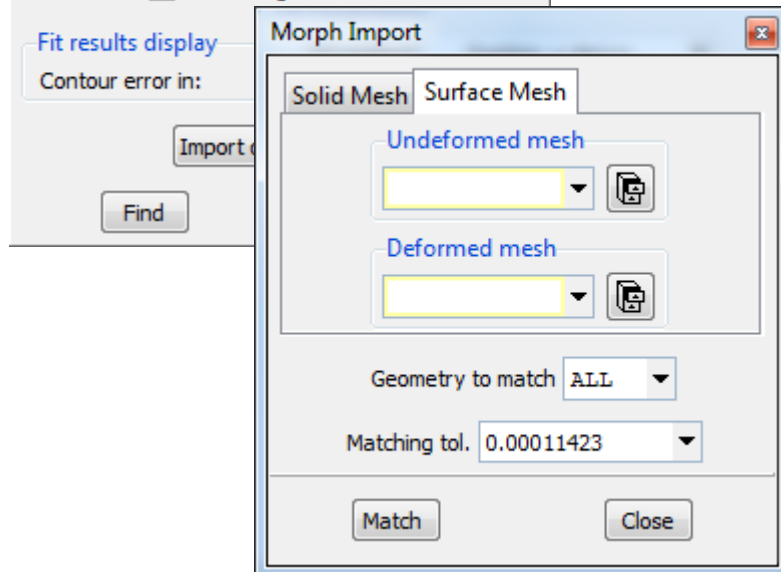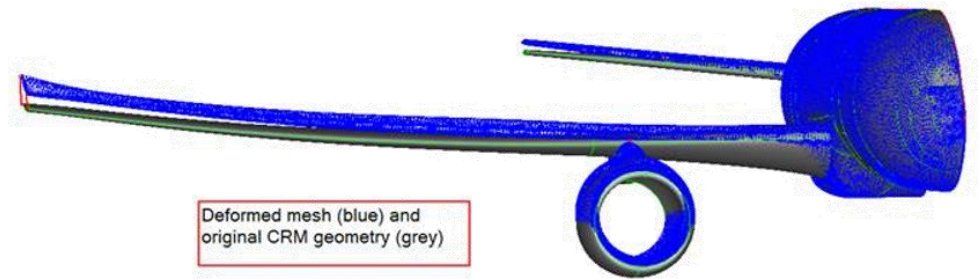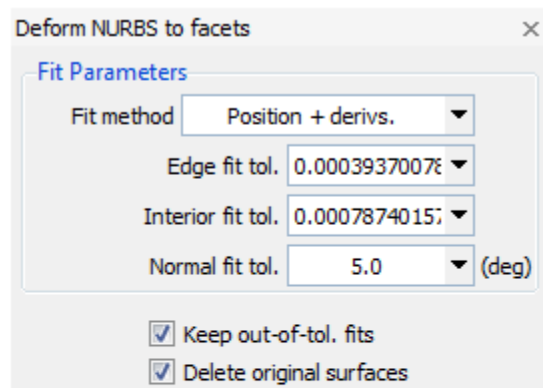
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Assemblies

- Assembly tree now shows parts listed for each component, with label attribute

- Selected parts can be moved between components. 3D position in assembly preserved.
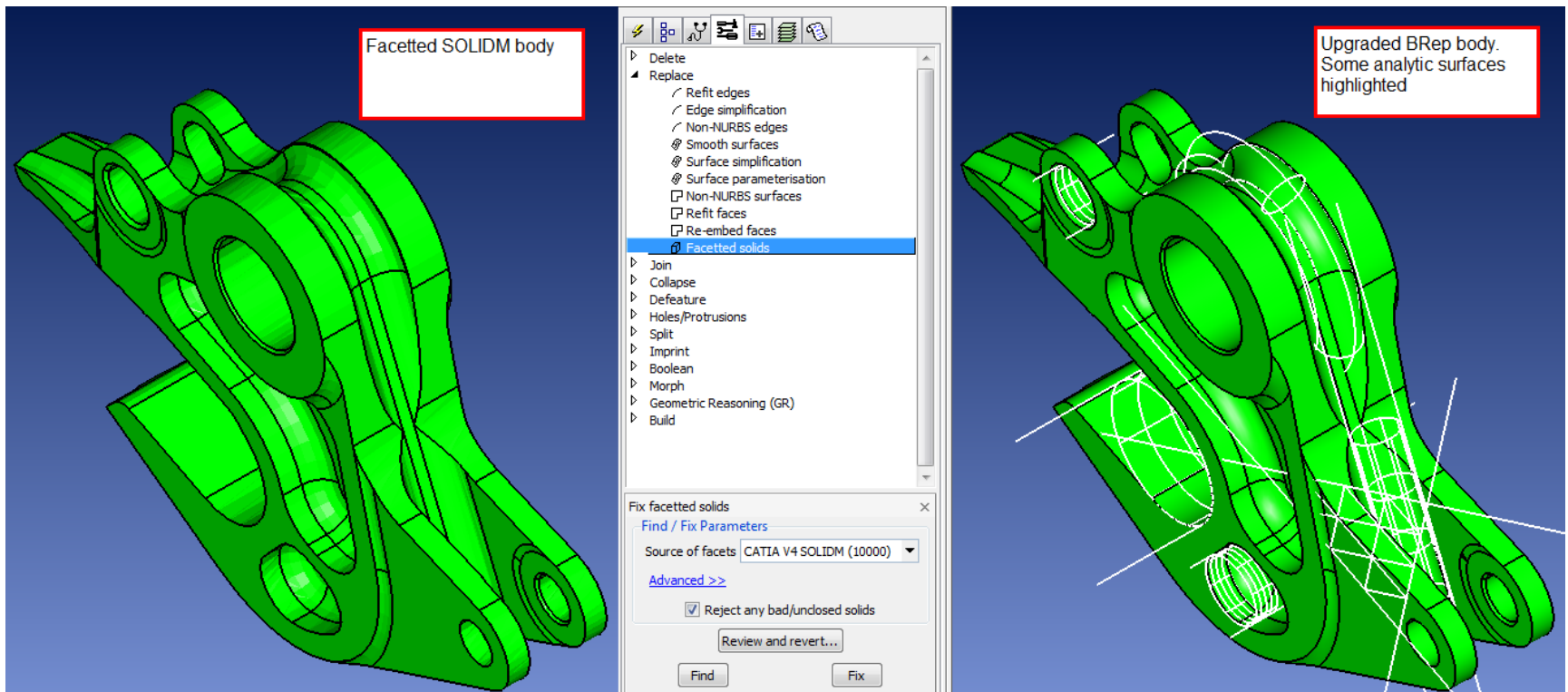

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Morph

- Much Improved Robustness and Speed
- Expanded support for external mesh import

Deform NURBS to facets

Fit Parameters

Fit method: Position + derivs.

Edge fit tol. 0.00039370078

Interior fit tol. 0.0007874015

Normal fit tol. 5.0 (deg)

☑ Keep out-of-tol. fits
☑ Delete original surfaces

Fit results display

Contour error in:

Import

Find

Morph Import

Solid Mesh | Surface Mesh

Undeformed mesh

Deformed mesh

Geometry to match ALL

Matching tol. 0.00011423

Match | Close

Deformed mesh (blue) and original CRM geometry (grey)

Contours of fit error between the deformed mesh and the new deformed geometry

Deformed geometry re-meshed in CADfix. original geometry in blue
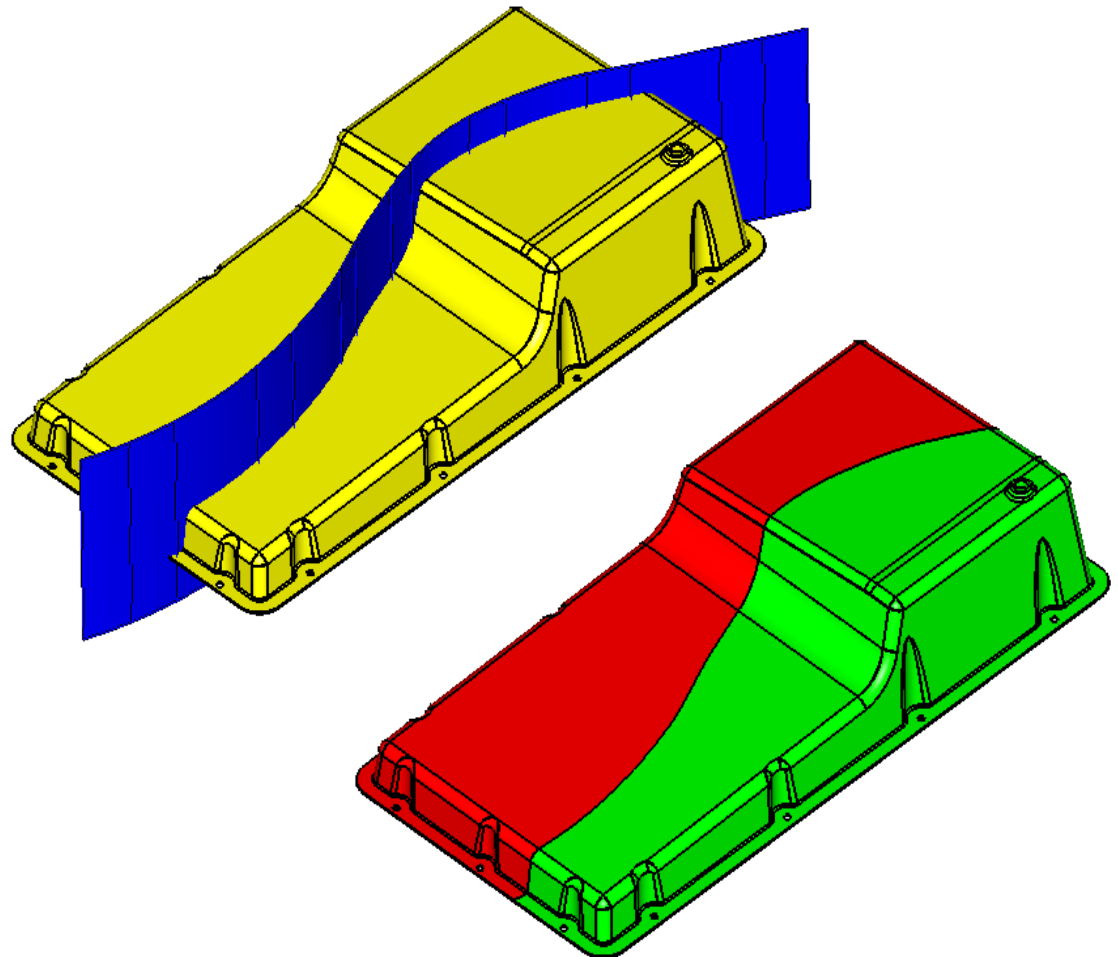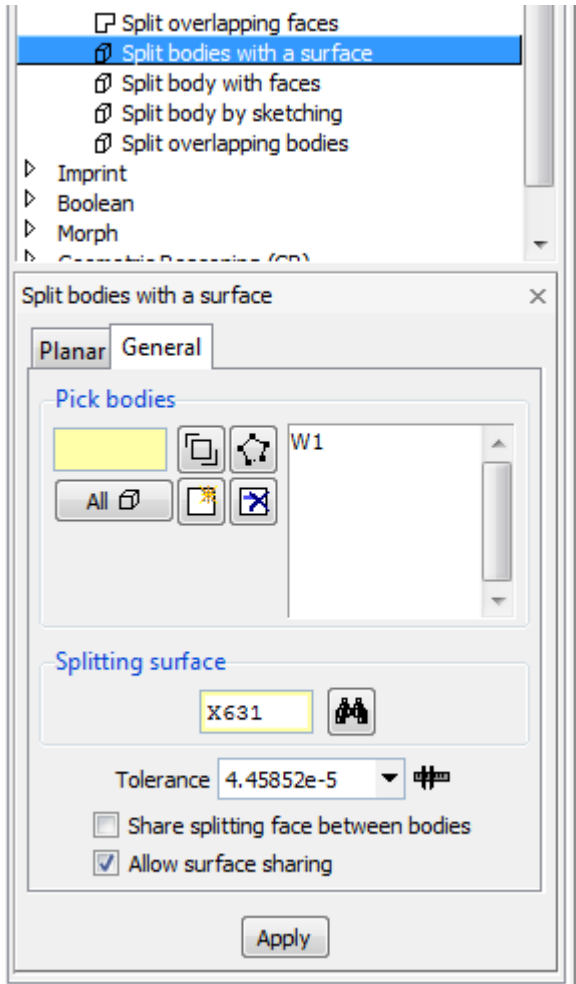
Facets

- ## New Facet Solid to Brep Solid Upgrade Tool
  - Developed initially for upgrading CATIA V4 mock-up solids (SOLIDM)
  - Results in an exact Brep solid that can be exported to any CAD system for further interactive design or as a precise reference part.
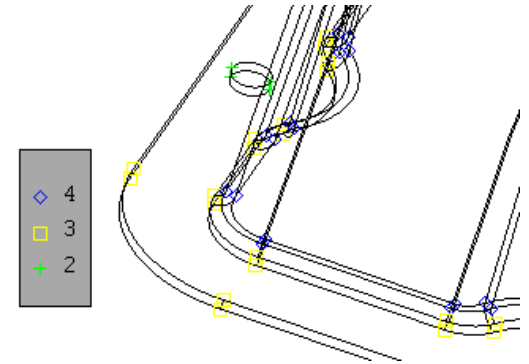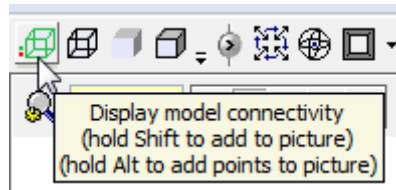
Split

- New Tool for Splitting With an Arbitrary Surface

GUI

- New alternative display actions for auxiliary parts (access by holding down Alt key)

  - End point connectivity

  - Embedding surfaces
    wireframe
    or
    shaded
    or
    both

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