What's New
I-deas Simulation 12 and M1

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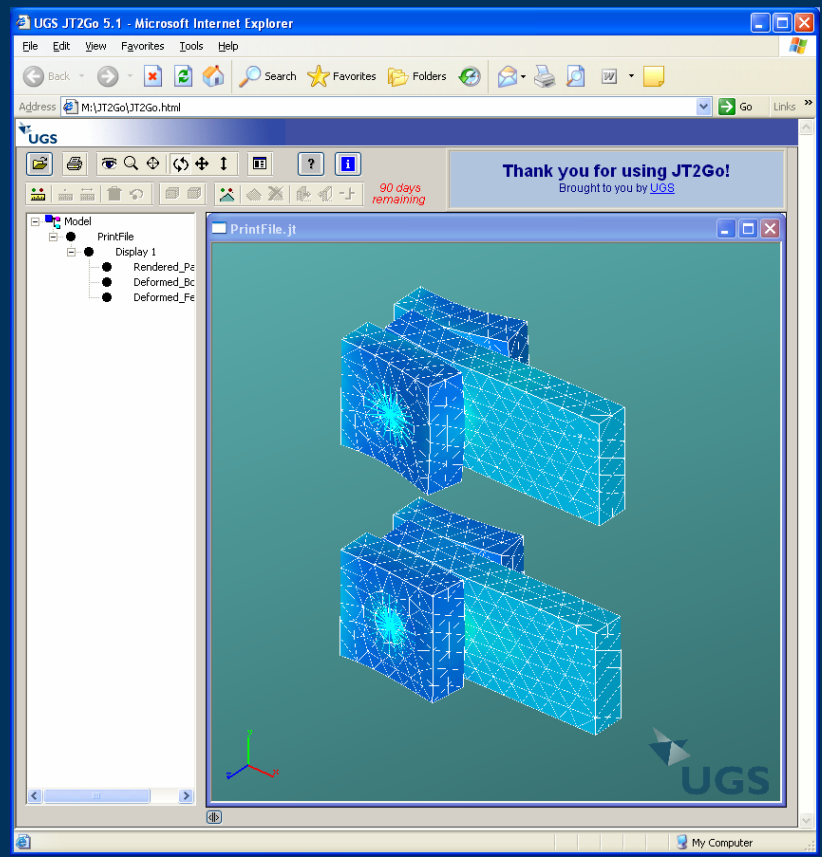
UGS

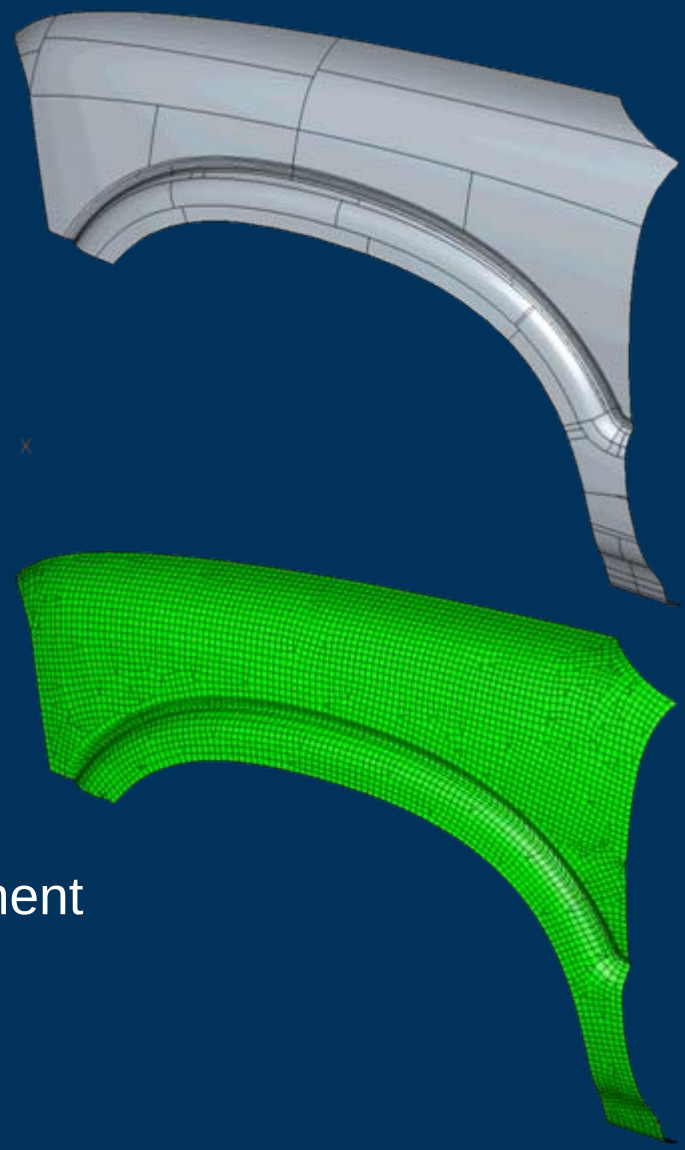
I-deas 11m2 / 11m3

- Export JT format results from I-deas Visualizer
- Free viewer at http://www.jt2go.com/
  - Anyone can view files
- JT Documents
  - Plug-ins to allow JT Viewers to be embdded in Microsoft Word, Powerpoint and Excel documents
- Teamcenter Visualization



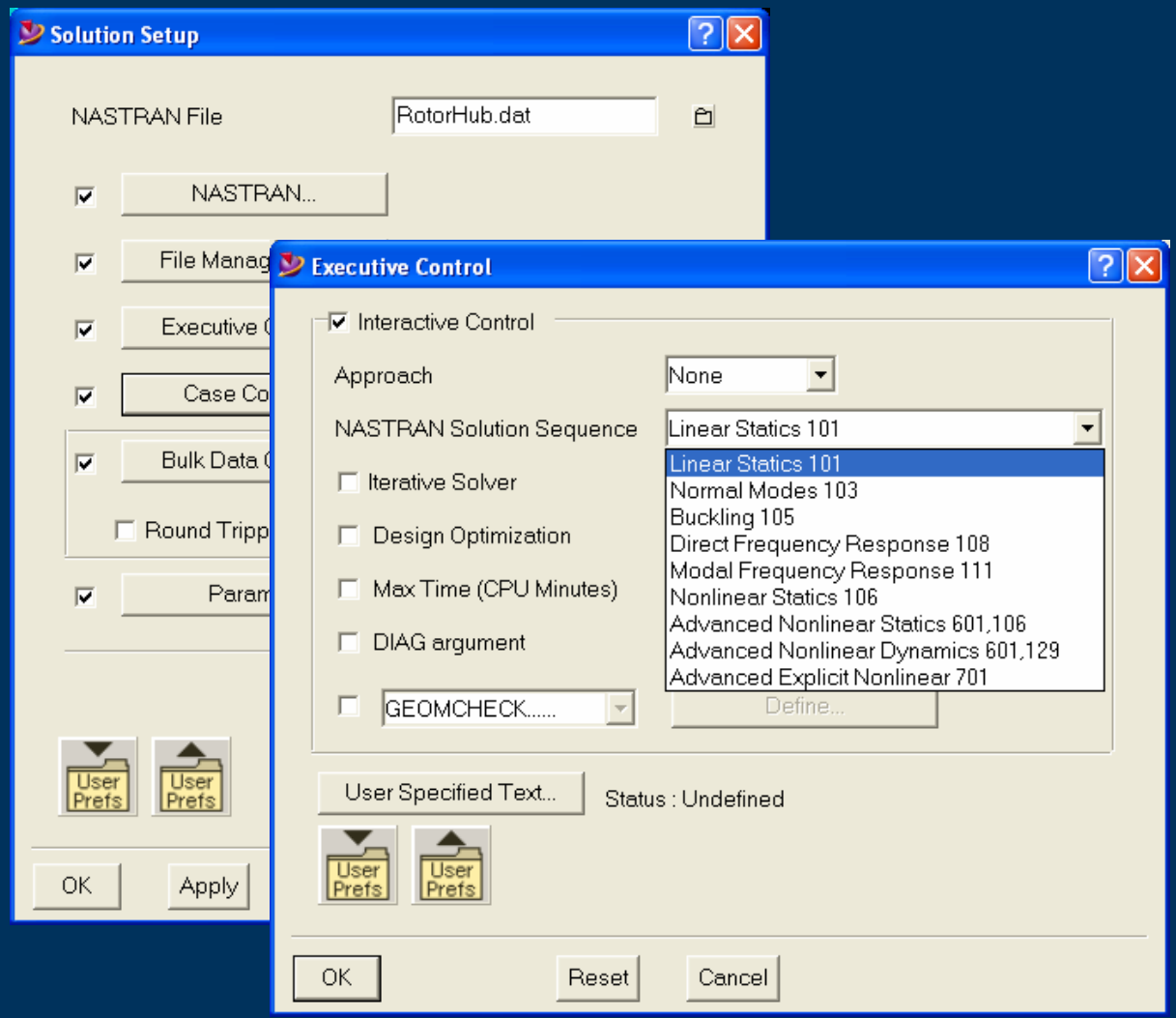
I-deas 11m2 / 11m3

- TMG 64 bit version on SGI/HP/Sun platforms
  - Allows >2GB memory for large problems
- Quad Mesh assistant
  - Extension of the Tet Mesh Assistant
  - Goal is a quad dominant mesh (will contain triangles) that will meet automotive body meshing quality requirements
  - Uses section meshing tools and element quality tools to improve mesh quality



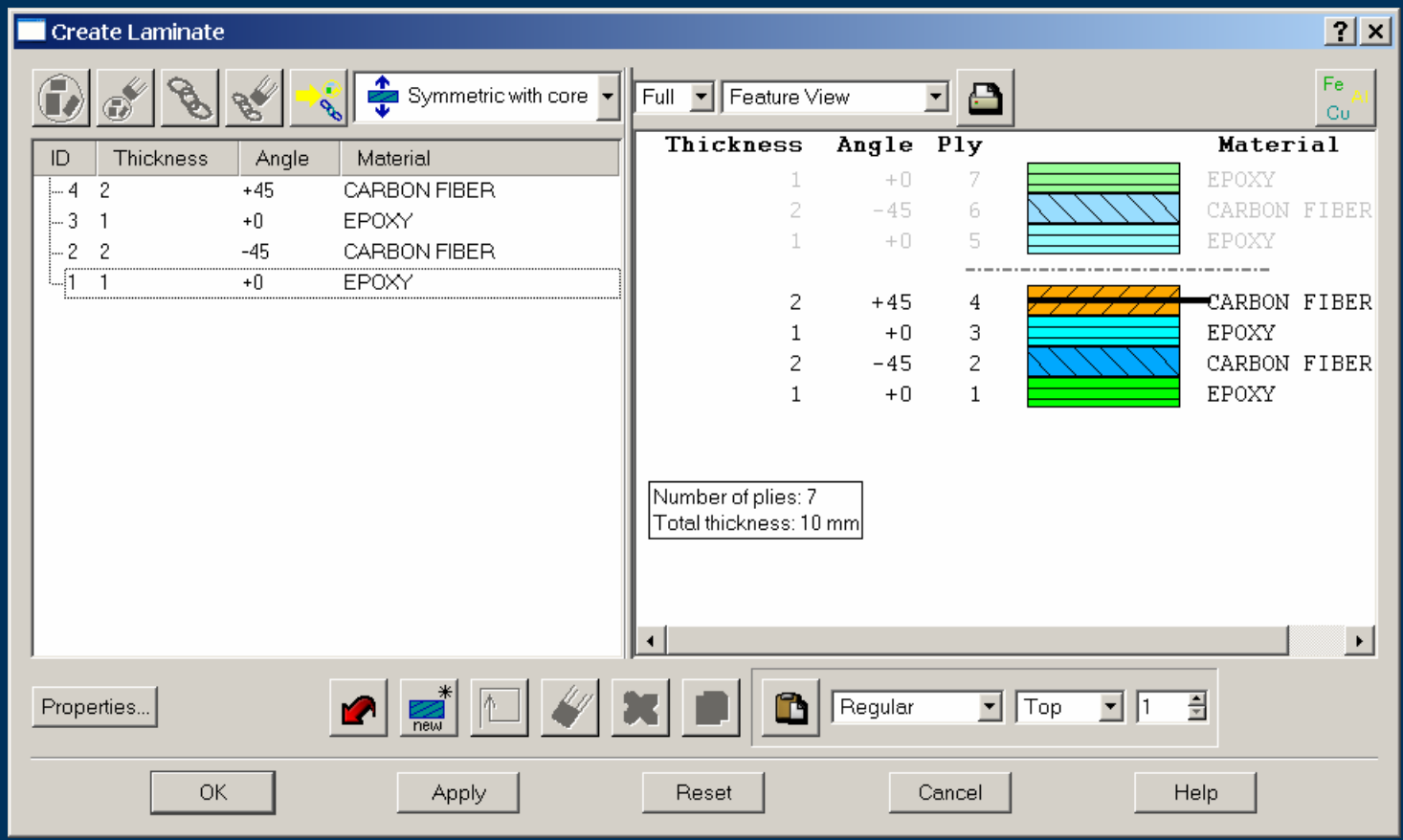
I-deas 11m2 / 11m3 / 12

- Support for NX Nastran 3 & 4
- SOL 601 & 701
- Integrated feel
  - Similar to Model Solution
  - Translate solution set
- Resizable NX Nastran Solution Monitor form



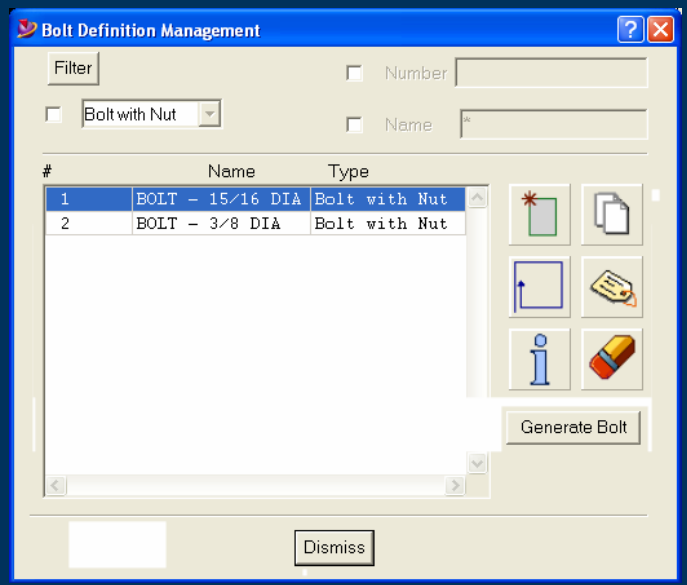
I-deas 11m2 / 11m3 / 12

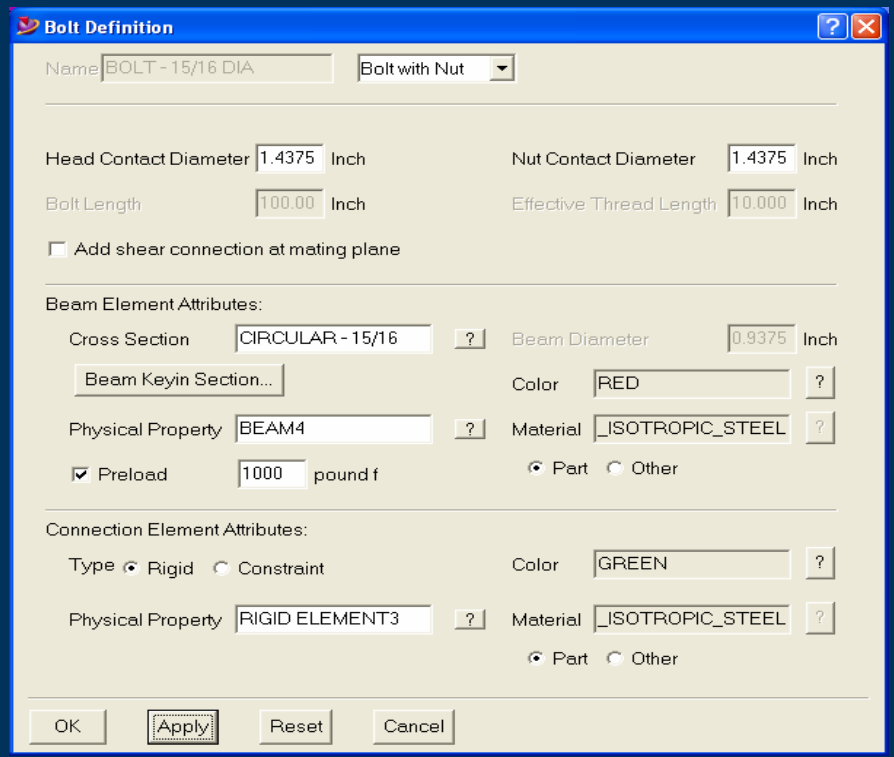
- Laminates



I-deas 12 - Automatic Bolt Creation

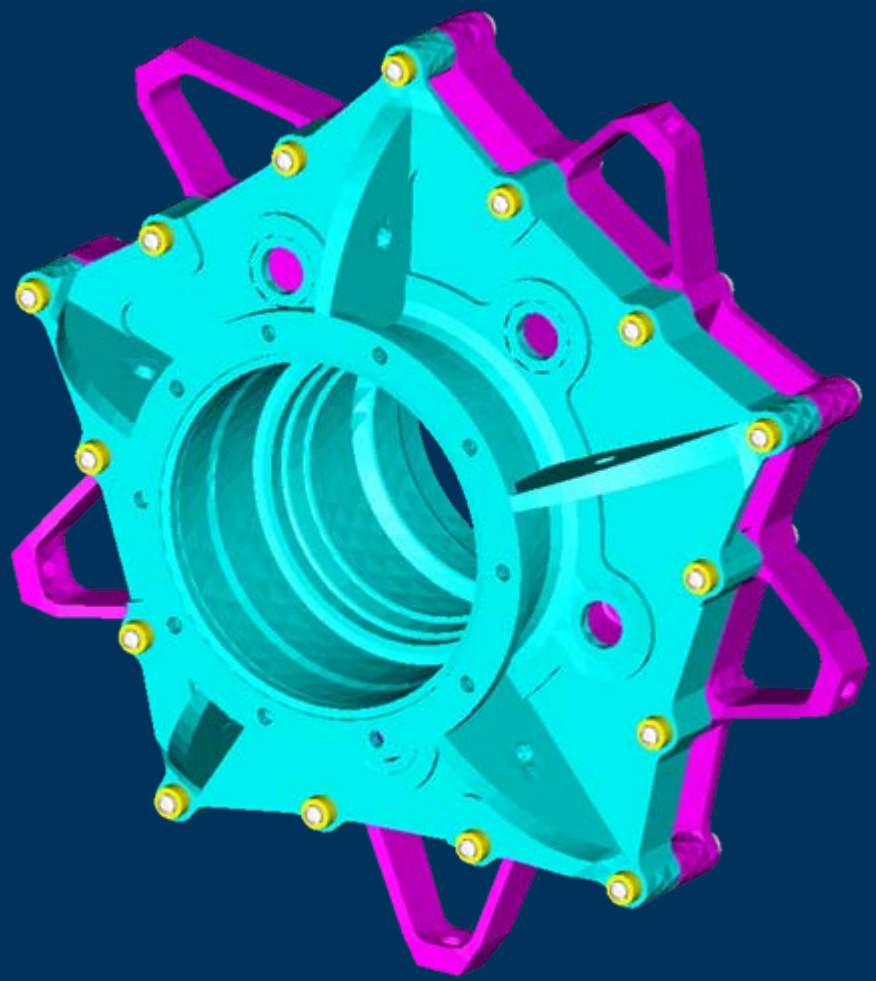
- Driven by bolt definition
  - Stored
  - Reusable
- Geometry based selection
- FE based connection





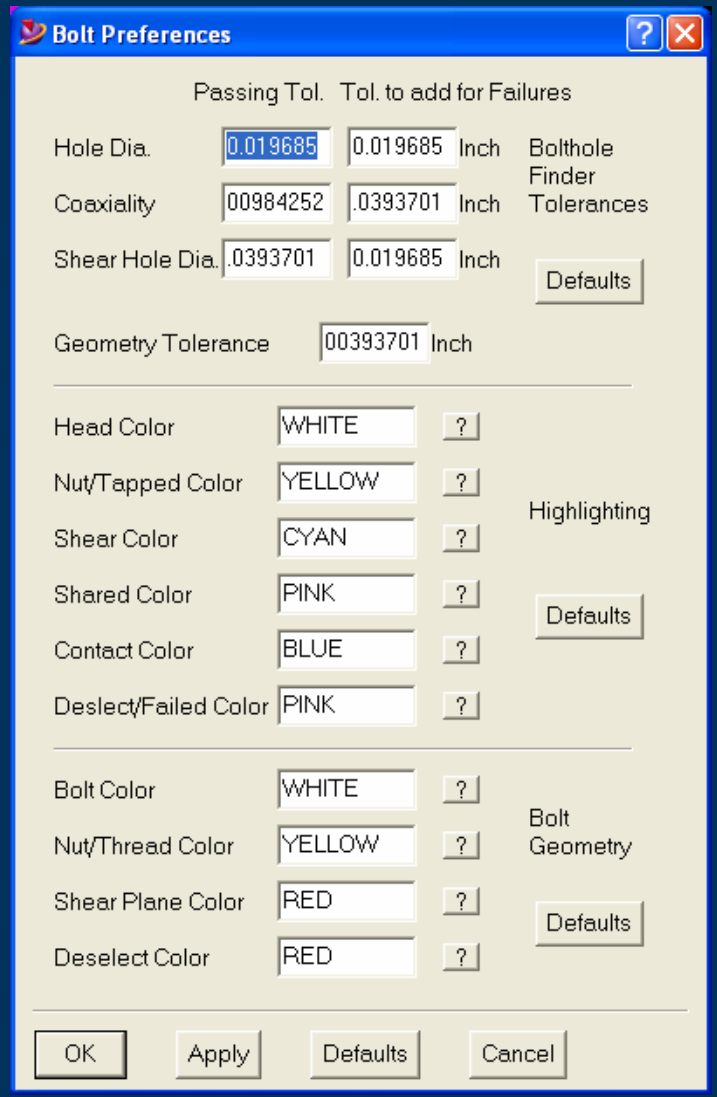
I-deas 12 - Automatic Bolt Creation

- Graphical preview
- User defined tolerances
- Beam cross section table sets diameter
- Through holes (bolt with nut)
  - Geometry sets length
- Bolt in tapped hole
  - Bolt definition sets length



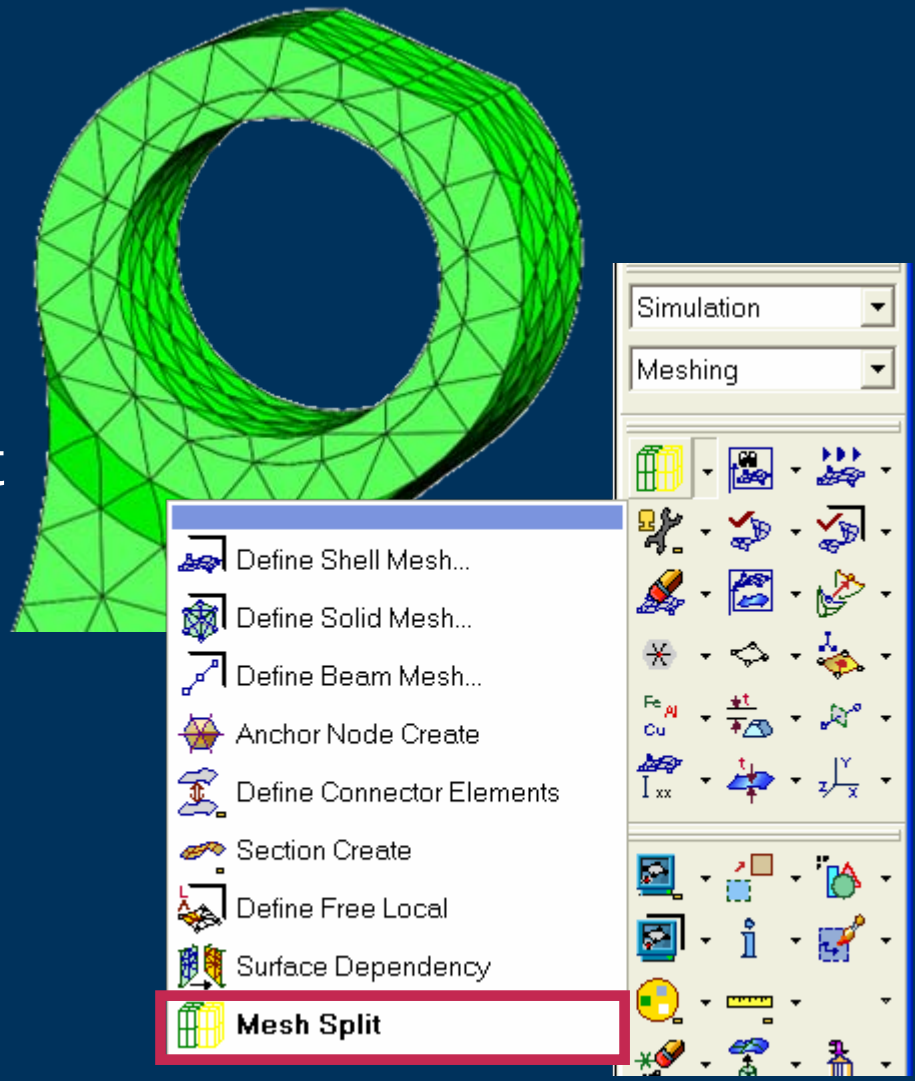
Automatic Bolt Creation Preferences

- RMB during ‘Generate Bolts’
- User defined tolerances
  - Passing – incremental search distance beyond cross section dia.
  - Add for Failures – range beyond passing to consider a failure. Anything larger is not even reported
- Color preferences for geometry highlighting/preview



I-deas 12 - Mesh Split

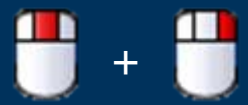
- Mesh may be split or disconnected at shared surface
- Multi bodied parts may be modeled as a single partitioned solid and split at partition(s)
- Geometry or FE based
  - Surfaces
  - FE free faces



I-deas 12 – NX Licensing Daemon

- Single FlexLM license daemon for I-deas, NX and NX Nastran
  - One license file for all products
- Model Solution/Nastran Shared License
  - Can be used to run Model Solution OR NX Nastran

I-deas 12 – Dynamic Viewing

- ‘NX like’ capability in I-deas
- In addition to existing F1, F2, F3 functionality
  - Does not replace - can use either
- Rotate: Click & hold MB2 
  - Action is identical to existing F3
  - MB2 (click & release) still works to accept default prompt
- Pan: Click & hold MB2 + MB3 
- Zoom: Click & hold MB2 + MB1 
  - Scroll wheel (if available)

I-deas 12 M1 – Platform Support

- Windows XP 64
  - I-DEAS 12m1, ***as a 32-bit application***, has now been certified on Windows XP X64
- Large Address Aware Memory Mode
  - LAA mode provides access to extended memory resources greater than 2GB on platforms that support it
    - Windows XP x32, Windows XP x64, Sun Solaris, and HP-UX
  - LAA can address 3 (maybe 4) GB
- In user param file set
  - `Memory.AutoSetting: 2`
  - You adjust Display List, software adjusts remaining params

I-deas 12 M1 – Platform Support

- LAA not implemented in Model Solution
- LAA will allow you to handle larger models in meshing, better response in post, and other applications run better concurrent with I-deas

I-deas 12 M1 – Model Solution

- Contact Control Enhancements
  - Initial Penetration/Gap
    - Calculated
      - Calculate the initial penetration or gap directly from the nodal coordinates
      - Basically, do nothing
    - Zero penetration
      - Set any calculated initial penetration to zero to eliminate the numerical error
      - Unintentional contact caused by mismatched elements will be corrected
    - Zero penetration & gap
      - Set any calculated initial penetration and gap to zero to eliminate the numerical error

I-deas 12 M1 – Model Solution

- Contact Stress Method for Solid Elements
  - Option to calculate contact stress from the element displacements or from the element contact forces is now in the UI, rather than in the param file
  - Contract stress from displacements includes stress due to everything, not just the contact force

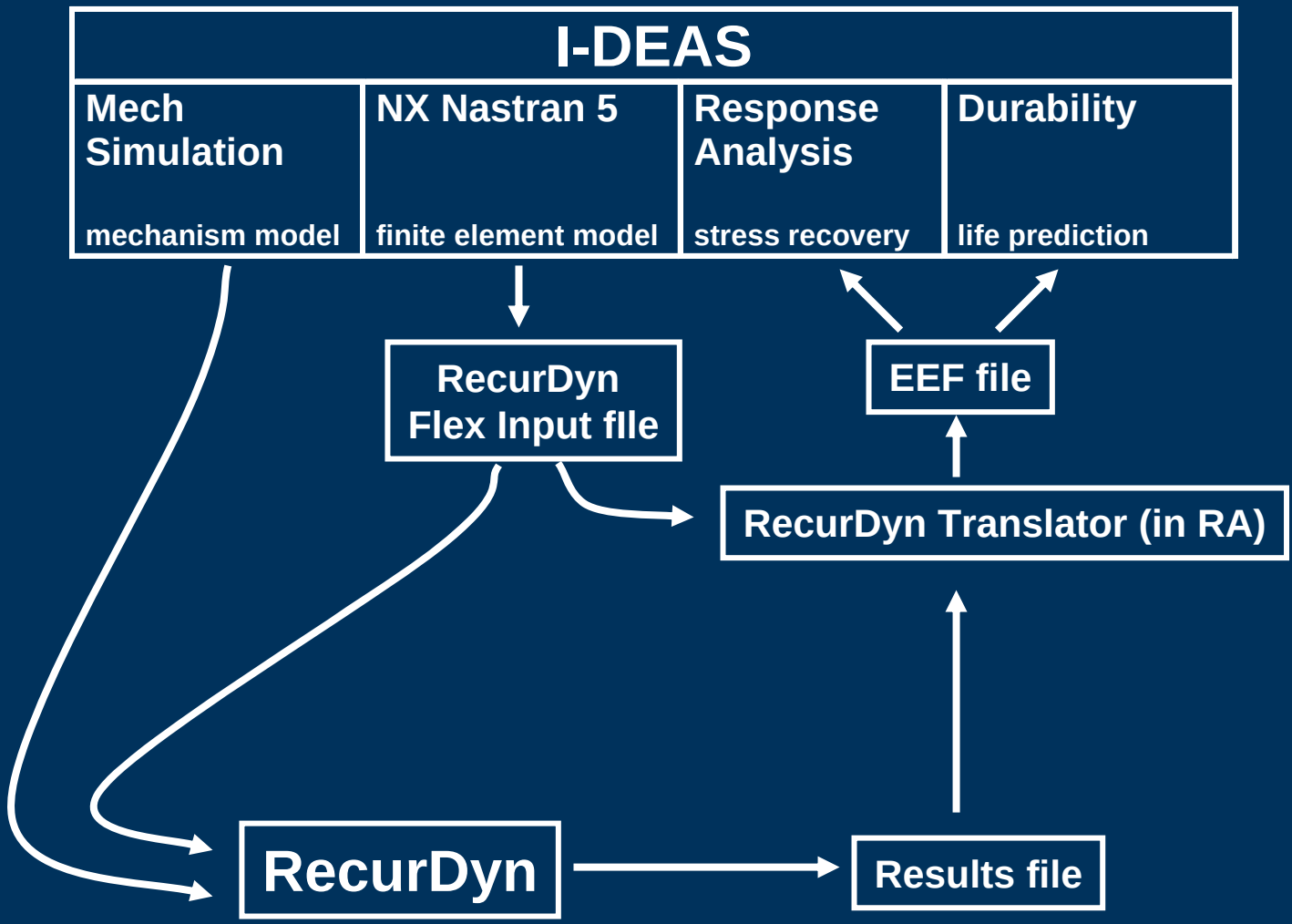
I-deas 12 M1 – Model Solution

- Follower Stiffness for Surface Pressure Loads
  - Without follower stiffness, the software may not correctly estimate the buckling load if it's assumed the surface pressure direction remains perpendicular to the element face
  - On by default, to ignore include the `Solver.NoFollowerStiffness:1` entry in your param file

I-deas 12 M1 – Response Analysis

- Support for RecurDyn mechanism results
  - Can translate results from a RecurDyn analysis to an Event Evaluation File (.eef)
  - .eef can then be used in RA to create stress results, or used in Durability Analysis
    - .eef are Modal Responses
    - Think of it as a cycle
- DDAM
  - Uses the newer Navy specification (DDS-072-1) when defining a DDAM event
  - Allows use of proprietary DDAM coefficients

Recurdyne and I-deas

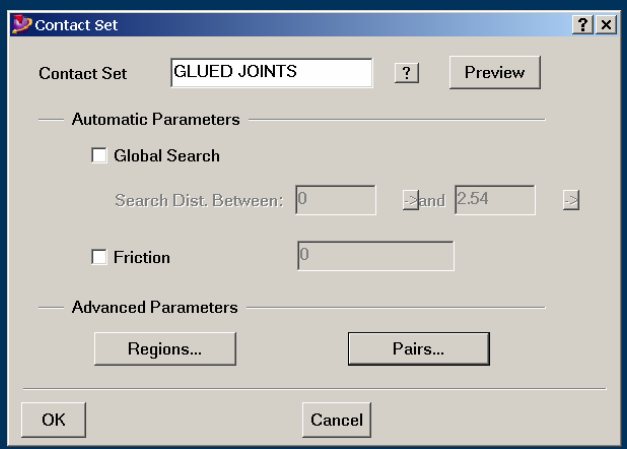


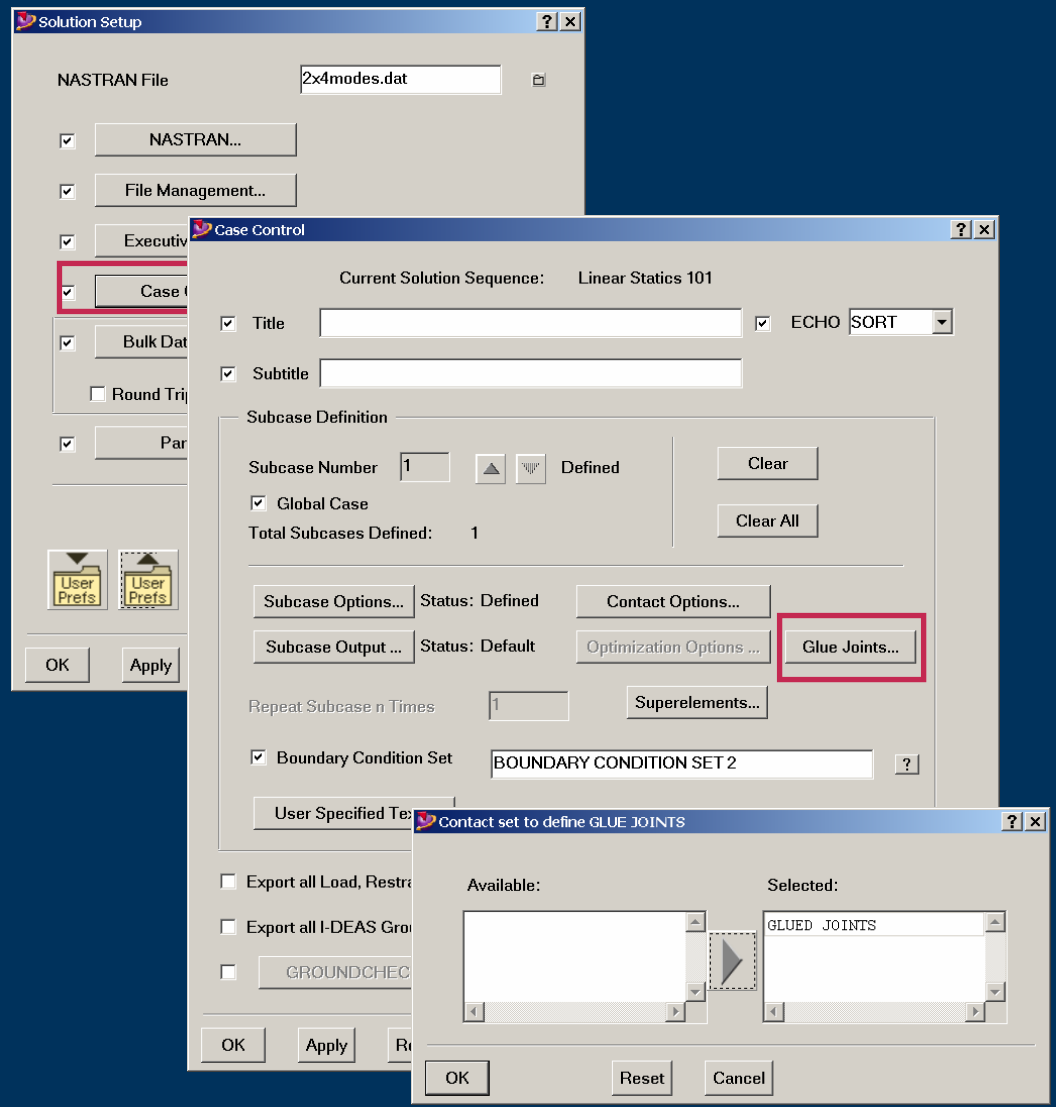
I-deas 12 M1 – External Solvers

- Ansys
  - Support for version 10 results
- NX Nastran 4.1
  - Glue Joints
    - Glue Joints? Similar to contact, but surfaces are assumed to always remain in contact, tension and compression
  - I-deas contact surface can be exported as Glue Joints
  - Can be used in all solutions except 601, 701

I-deas 12 M1 – External Solvers

- Glue Joints
  - Need to use Contact Pairs, not Global Search
  - Don’t include in Boundary Condition Set, use NX Nastran UI





Thank You!