

Solution Highlights

- Reduce the model validation time by 90%
- **Automatically check the model data in batch mode over night**
- Automatically identify issues with model before the meshing stage
- Checks for part intersections, spot weld duplications, correct connections and more
- Generates reports of issues in PowerPoint or Excel to provide feedback to design teams

Ideal for Organizations that:

Routinely design and model products which contain 50 or more components.

Model Verification Director

Identifying Model Issues to Accelerate Pre-Processing Activities

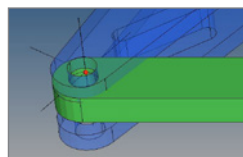
Altair's Model Verification Director (MVD) is embedded into HyperWorks pre-processing technology, HyperMesh and integrated into the Assembly Browser. The solution identifies part intersections, missing welds and incorrect bolt-nut positions on an entire assembly structure and generates comprehensive reports in both Microsoft PowerPoint and Excel formats to allow for easy communication of the validation results. With this insight, the design team can correct the CAD model and help streamline the finite element modeling process.

The MVD allows engineering analysts to validate CAD models received from the design teams, automatically identifying potential issues that could slow down the pre-processing stage of the simulation life cycle.

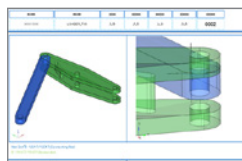
The Model Verification Director Automatically Checks for:

- Part Intersections
- Spot weld duplications and incorrect locations
- Part comparisons

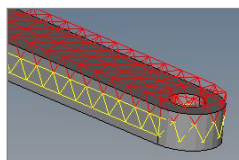
The MVD can drastically decrease the meshing process as problems with a CAD model is identified early and can be corrected before the meshing process begins. Current users of the MVD have reported time savings of 90% compared to their traditional process.



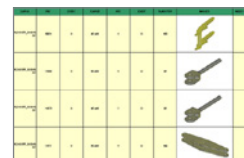
CAD Intersection Check



Intersection Report



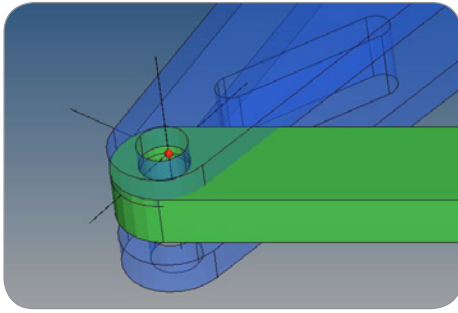
Part Comparison



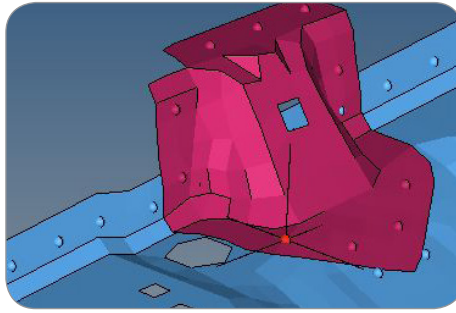
Comparison Report



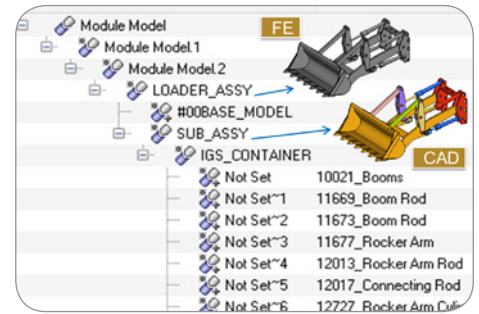
Spot Weld Check



Intersection Check



Spot Weld Check



Part Comparison Check

Capabilities:

Model Verification Director offers a comprehensive set of model checks before the meshing stage to ensure clean data is supplied to the analyst. This streamlines the pre-processing activities and significantly reduces the model verification process.

The Model Verification Director check processes cover:

Intersection Check:

- Physical intersection/protrusion check on CAD, FE, CAD+FE
- Auto surface normal correction and offset
- Differentiate contact and interferences
- Configuration by parameter file

Spot Weld Check:

- Finds issues on body-in-white FE
- Supports all HyperMesh connection formats
- Automatically checks for:
 - Duplicate Spots
 - Spot weld out of range
 - Four layer spots
 - Non-parallel flange
 - Incorrect locations
 - Few connections in flanges
 - Parts un-connected
- Configuration by parameter file

Part Comparison Check:

- Finds parts that are similar geometry
- Compare CAD-CAD, FE-FE, CAD-FE
- Comparing physical parts, logic is not based on PID, part name
- Result are displayed as % match

Export to PowerPoint:

- Generate a screen shot and create a slide for each identified issue
- Utilize individual master PowerPoint for the report generation
- Reports integrate HyperView Player which allows the designer to investigate the models without being the expert in HyperWorks

Export to Excel:

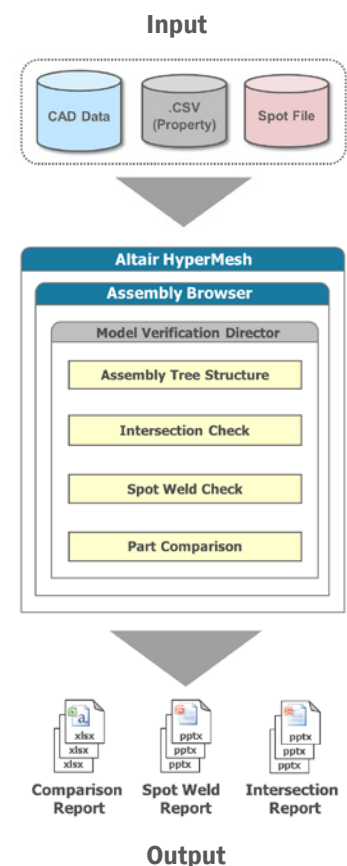
- Generate a spreadsheet for each assembly or for the pair of assemblies to compare
- Each record in the spreadsheet contains part attributes including PID, part name, material, property and a part image (JPG or H3D)
- Reports can integrate HyperView Player
- Reports can contain records of matched parts only, unmatched parts only, or both matched & unmatched parts
- Fully customizable with customer's own templates

Deployment:

Altair's team will work to understand unique practices and ensure that the Model Verification Director meets specific requirements. Our experts support:

- Evaluate current methods to check for issues
- Align the automation solution base module accordingly
- Adjust PowerPoint master and Excel templates to customer's look and feel
- Provide quick start and periodical check-point to ensure successful user experience

MVD Architecture:



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For more information about Model Verification Director and other Enterprise Solution Offerings, contact us at info@altair.com

Altair helps companies to solve business and engineering problems at the desktop, team and enterprise levels. We work closely with our clients to increase organizational efficiency and decision-making by building solutions that are tailored to their unique environment and processes. These solutions include: cloud-based simulation and high-performance technical computing, CAE workflow automation, and specialized data analytics applications.