





## AUTOMATED REPAIR

Data exchange through standards or native formats is only part of the solution. Data transfer only provides the exchange of geometric entities, 'as-is'. A CAD model usually requires modification to get it into a form suitable for engineering analysis. 3D InterOp translations support the translation of solid, wire, surface (B-rep), free surfaces, free curves and free points. Advanced modeling technology is used in each of the translators to address common data translation differences including:

**Geometry Repair** - Geometric errors are automatically recognized and optionally repaired in order to produce a very high quality manufactureable model.

**Topology Repair** - Automated topology repair combined with advanced stitching capabilities produces topologically valid solid models.

**Tolerance Resolution** - Tolerance related differences between importing and exporting systems are handled using tolerant modeling to ensure water tight solids.

## TRANSLATION OF GRAPHICAL DATA

3D InterOp enables applications to extract complete graphical information where available (e.g. CATIA V5 or SolidWorks) or automatically handle tessellation for geometry formats (e.g. STEP or IGES). Application developers can offer greater usability by presenting end-users with the graphical representation for preview or initial interaction while

high quality geometry is imported in the background. This approach provides performance and flexibility to better manage the data and the data flow.

## PMI SUPPORT

Product Manufacturing Information (PMI) associated with a 3D CAD model is essential for many of today's manufacturing applications. PMI is vital for intelligent manufacturing and tolerance analysis, as well visual inspection. 3D InterOp fully supports PMI from Siemens NX, Pro/Engineer part models, and CATIA V5 part and assembly models. PMI support includes:

- Notes & Dimensions
- Geometric Dimensioning & Tolerances (GD&T)
- Datum & Datum Targets
- Surface Roughness

3D InterOp translates PMI with a focus on process automation, providing full associativity with the model geometry as well as accurate definition of datum references, including datum targets.

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