

3D Precise Mesh

The trusted industrial meshing solution for analysis applications

Meshing with 3D Precise Mesh is automatic and reliable, with controls to guarantee accurate and performant simulations for any CAE workflow.

FLEXIBLE AND PERFORMANT

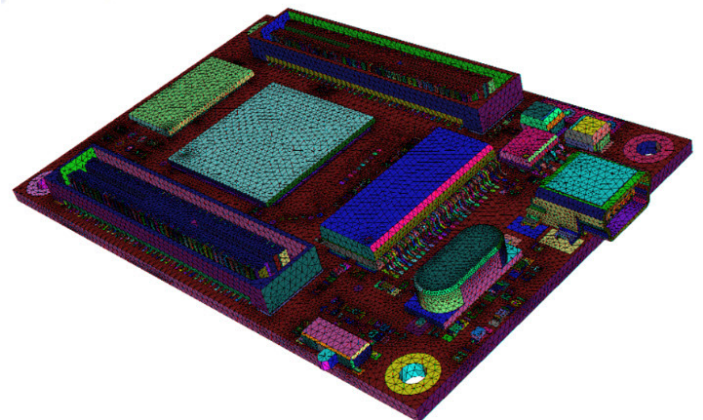
A set of automatic meshing solutions offering the full flexibility for size, shape, quality and simulation-based controls allowing applications to generate meshes specific to solver needs.

SIMULATION DRIVEN DESIGN

By leveraging features such as automatic CAD associativity and periodic meshing, 3D Precise Mesh enables the meshing step to be transparent to the users so they can focus on their design.

FOCUS ON YOUR VALUE-ADD

High-end meshing capabilities with associativity to the CAD model allow developers to focus on their innovation. 3D Precise Mesh's tight integration with CGM Modeler and 3D ACIS Modeler helps further automate workflows and reduce development time.



3D PRECISE MESH FEATURES

Surface Meshing

Generate quality surface meshing with the prescribed size and curvature, with very little input, for CAD and tessellated models. Utilize the appropriate element type for your solver, including triangle or quadrangle and linear or quadratic.

Optimized for CAD

Simulation-dedicated options such as patch-independency or self-intersection prevention, ensure high-quality surface meshing of CAD models.

Volume Meshing

High quality tetrahedral, hexahedral and hybrid meshes may be generated by combining surface and volume meshing with additional features such as proximity detection for local refinements.

Tetrahedral Meshing

Automatic, reliable, and fast meshing technology with extensive ability to control the size, shape, order, and quality. Developers can tune the tet-mesh parameters to meet solver expectations.

Automatic Boundary Layer Generation

By controlling the growth of boundary layers, preventing collisions in thin areas, managing corners, and smoothing the transitions between regions, 3D Precise Mesh enables high quality and automatic boundary layer generation.

Hexahedral & Hybrid Meshing

A hexahedral meshing algorithm can produce full hex and conformal meshes that are required by some CAE solvers. Benefiting from the advantages of each type of mesh including Hex, Tet, Pyramid and Prism, the volume meshing algorithms may be assembled to generate hybrid meshes.

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