MeshGems

Reliable Meshing Software Components

Create, enlarge, improve or automate the meshing capabilities of your application

THE LEADING LIBRARY OF MESHING SOFTWARE COMPONENTS

MeshGems suite is the trusted meshing technology chosen by leading CAE/CAD vendors such as ANSYS , MSC.Software, Dassault Systèmes, Siemens PLM, PTC, Autodesk, LSTC and many more.

Distene is a leading developer and supplier of meshing software components and technologies, MeshGems, that enables CAE/CAD application providers to incorporate fast, reliable and quality meshing capabilities into their CAE application products for simulation, optimization and digital product development processes.

MeshGems technology is designed for OEM integration

- **Extreme reliability***: our components are used by tens of thousands users as part of about 50 applications. A intensive QA process is performed over several thousand of real industrial test cases before releases.*
- **Self-contained***, Generic, all Automatic, Easy to integrate (no GUI).*
- **Fast & High Quality:** *we focus our R&D on the core technology to propose our market with state-of-the-art technology*

Distene provides a set of meshing software components, the MeshGems suite, which helps CAD/CAE application developers to fulfill safely their customers' requirements while reducing the products costs and accelerating time-to-market. The MeshGems suite consists of robust software components developed with state-of-the-art technologies, which are self-contained and tailored to be easily integrated into third party modules. Our software components are drastically tested (thousands of test cases, from academic to severe industrial data) ,following a strict QA process before being released. This ensures that they can safely be used by the several dozens thousands of users of our customers applications.

All the MeshGems customers are backed by qualified and experienced engineers delivering custom-tailored Support and Services to take out their development challenges.

MeshGems is designed for OEM business

- *Select, plug and play only the component you need*
- *Adaptive commercial policy for Win-Win partnership based on 15-year experience*

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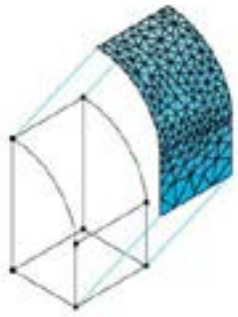


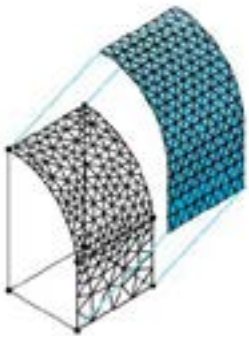
Surface Meshing

MG-CADSurf component creates a surface mesh from a composite parametric surface (also known as an analytical CAD) while conforming to a prescribed size description.

- *Preserves the CAD associativity*
- *Can enforce periodic mesh matching*

MG-PreCAD is a CAD pre-processor designed to enhance mesh generation on complex or dirty geometries.

- *No tolerance tuning required*
- *Can clean up very efficiently and fully automatically a lot of CAD artifacts*

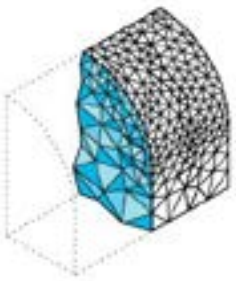


Mesh Processing

MG-SurfOpt creates an isotropic or anisotropic surface mesh governed by both the geometric surface properties and an optional metric map from an arbitrary valid given surface triangulation.

- *Fully automatic adaptive surface remeshing tool*
- *Anisotropic meshes, curvature or user map driven*
- *Gradation control parameter modification or deactivation*
- *Full quad meshes*
- *Sand papering of surfaces*
- *Proximity detection of surfaces and surface structures*

MG-Cleaner component corrects a surface mesh so as to make it suitable for tetrahedral meshing, by removing bad quality elements, self-intersections, overlaps, holes, etc.



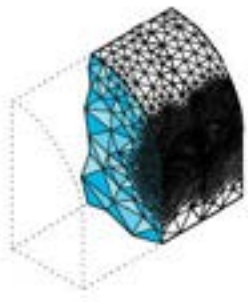
Volume Meshing

MG-Tetra is a fully automatic tetrahedral mesh generator. MG-Tetra creates a volume tetrahedral mesh defined by a watertight input triangular surface mesh.

- *Very reliable: able to mesh the most complex industrial geometries without failure*
- *Usable in all computational domains (FEA, CFD, CEM,...)*
- *Very fast: millions of tetrahedra per minute*
- *Enforced entities permitted : points, edges and facets*
- *Cavities can be meshed or not*

MG-Hexa is a fully automated all-hex mesh generator. The generated meshes are all hexes (no prisms, pyramids, nor tets), conformal (no hanging nodes) and all elements have a positive volume.

Input: *a discrete triangulated surface mesh*
Output: *an all quadrilateral surface mesh and an all hexahedral volume mesh*



Mesh Adaptation

MG-Adapt is a fully automatic surface and volume adaptative mesh generator. MG-Adapt creates an adapted surface (triangles) and/or the volume (tetrahedra) mesh from a background mesh which defined the size over the domain.

- *Very reliable: can mesh the most complex industrial geometries without failure.*
- *Can be worked in isotropic or anisotropic mode.*
- *Background mesh for the size map can be any kind of mesh.*