

Current Features Of The CRISP CFD® Mesh Adaptation Code

<i>ELEMENTS</i>	<ul style="list-style-type: none"> • Tetrahedra, prisms, hexahedra, pyramids • Conforming mesh modifications suitable for any unstructured solver
<i>REFINEMENT / COARSENING</i>	<ul style="list-style-type: none"> • Parallel coarsening/refinement using cell migration scheme • Delaunay cavity refinement with circumcenter point insertion • Subdivision of pyramid/prism/hexahedral elements with hanging node closure • Edge collapse of tetrahedral cells • Surface projection using local quadratic fit
<i>INTERFACING</i>	<ul style="list-style-type: none"> • Coupled with CRUNCH CFD for transient applications • Automated solution transfer and load rebalancing / repartitioning • Direct support for AVUS, FUN3D, USM3D solvers • Additional filters readily implemented
<i>SENSORS</i>	<ul style="list-style-type: none"> • Internal feature-based criterion or user-defined criterion • Cell quality criterion using mesh deformation matrix for moving meshes • Error sources from Error Transport Equation
<i>ERROR QUANTIFICATION</i>	<ul style="list-style-type: none"> • Viscous Error Transport Equation • Error Function Library • Generalized Richardson extrapolation
<i>DEVELOPMENTAL</i>	<ul style="list-style-type: none"> • Mesh movement (r-refinement) schemes using linear and torsional springs • Refinement about arbitrary input surfaces