

Status and Trend of Unstructured Grid Methods for CFD

Hong Luo, Ph.D

**Senior Scientist
Center for Applied Computational Sciences,
Science Applications International Corporation, McLean VA
and
Adjunct Professor
School of Computational Sciences,
George Mason University, Fairfax, VA**

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A brief review of the current status for efficient simulation and analysis of flow problems using unstructured grids is given. It is concluded that all major areas in the analysis cycle – grid generation, flow solvers, and visualization – have seen major advances in recent years, allowing us to produce high-quality solutions for a variety of flow problems around complex geometries in a matter of hours. The presentation will be focused on recent improvements in the capabilities for flow solutions of high Reynolds number turbulent flows. At the same time, some of the current difficulties and ways to overcome them will be pointed out. The ongoing development of the next generation of advanced numerical methods for CFD in general and for computational aerodynamics in particular will also be addressed.