MSC Software Enters the Computational Fluid Dynamics (CFD)
Market with XFlow

The leader in structural FEA and mechanical simulation now brings cutting edge CFD software to global manufacturers

SANTA ANA, CA--(Marketwire – May 23rd, 2011) – MSC Software Corporation, the leader in multidiscipline simulation solutions that accelerate product innovation, today announced that it has entered into a strategic market development partnership with Next Limit Technologies for XFlow, a new state of the art Computational Fluid Dynamics (CFD) solution.

XFlow is a powerful CFD technology that uses a proprietary particle-based, fully Lagrangian approach to handling traditionally complex CFD problems in engineering, design, science, and architecture with ease. XFlow provides the ability to simulate the flow of gases and liquids, heat and mass transfer, moving bodies, multiphase physics, acoustics and fluid structure interaction.

Developed for engineers and analysts who require quick feedback on complex flow behavior, the XFlow approach to CFD analysis enables complex modeling in a straightforward and intuitive manner, minimizing the presence of algorithmic parameters and avoiding the traditionally time consuming meshing process.

Key Features include:

**Meshless approach.** The meshless approach within XFlow is particle-based and fully Lagrangian which means classic fluid domain meshing is not required and surface complexity is not a limiting factor. XFlow can handle moving bodies and deformable parts, and is tolerant with the quality of the input geometry.

**Particle-based kinetic solver.** XFlow features a novel particle-based kinetic algorithm that resolves the Boltzman and the compressible Navier-Stokes equations. The solver features state-of-the-art LES (Large Eddy Simulation) modeling, and advanced non-equilibrium wall models.

**Advanced modeling capabilities.** XFlow is capable of handling large and complex models, and greatly simplifies the setup of analysis with moving parts, forced or constrained motion or contact modeling.
Advanced analysis capabilities. XFlow's solver also features thermal analysis, flow through porous media, non-Newtonian flows and complex boundary conditions including porous jump and fan models.

Adaptive wake refinement. XFlow's engine automatically adapts the resolved scales to the user's requirements, refining the quality of the solution near the walls and dynamically adapting to the wake while the flow develops.

Single consistent wall model. XFlow uses a unified non-equilibrium wall function to model the boundary layer. This wall model works in all cases, meaning that it is not necessary to select between different algorithms and take care of different limitations related to each scheme.

Near-linear scalable performance. XFlow is fully parallelized for multi-core technology with near-linear scalability.

“We selected XFlow due to its superior visualization features and innovative approach to modeling CFD problems,” said Ken Welch, VP of Product Management at MSC Software. “This technology is the future of CFD. We anticipate tremendous excitement within the MSC customer base. XFlow complements MSC technology well. With this offering, MSC becomes the only company with a complete simulation portfolio with structures, CFD, multibody dynamics, and systems and controls.”

“The Next Limit team was eager to pair the XFlow product with an already established leader in the CAE market,” said Victor Gonzalez, CEO at Next Limit Technologies. “We are confident that MSC’s highly capable sales and support organization will expedite the delivery of the XFlow technology to manufacturing companies that need advanced and innovative CFD solutions.”

For more information about XFlow or to contact MSC Software to schedule a demo, please visit http://www.mscsoftware.com/xflow.

About Next Limit
The mission of Next Limit Technologies is to provide cutting edge simulation technologies for a broad range of applications in Computer Graphics, Science and Engineering. Next Limit boasts a multidisciplinary team with expertise in physics, mathematics, computer graphics, engineering and visualization. They all share a common vision for the creation of new products that connect science, simulation and visualization using novel paradigms and innovative methodologies.
Next Limit's products include "RealFlow" (simulation for 3D visual effects), "Maxwell Render" (physically accurate light simulation and render engine) and "XFlow" (CFD software for engineering and scientific applications). For more information, visit [www.xflowcfd.com](http://www.xflowcfd.com) and [www.nextlimit.com](http://www.nextlimit.com)

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**About MSC Software**

MSC Software is the worldwide leader of multidiscipline simulation solutions that help companies improve quality, save time and reduce costs associated with designing and testing manufactured products. MSC Software works with thousands of companies worldwide to develop better products faster with simulation technology, software, and services. MSC Software is a global company with offices in 20 countries. For additional information about MSC Software’s products and services, please visit [www.mscsoftware.com](http://www.mscsoftware.com).

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