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ESI announces VA One 2012

Latest release of noise and vibration simulation software includes embedded Design Optimization and support for cloud computing

ESI is the pioneer and world-leading solution provider in virtual prototyping.

Market Data

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Paris, France – 21 August, 2012 – [ESI Group](#), pioneer and world-leading solution provider in [virtual prototyping](#) for manufacturing industries, announces the release of [VA One 2012](#). [VA One](#) is a complete solution for simulating noise and vibration across the full frequency range and seamlessly combines Finite Elements, Boundary Elements (BEM), and Statistical Energy Analysis (SEA) in a single model. This new release includes an easy-to-use Design Optimization module that is fully integrated within the [VA One](#) environment, along with significant enhancements to [VA One](#)'s Boundary Element solvers that deliver faster solution times.

Design Optimization Module

When designing for noise and vibration performance, it is often useful to be able to optimize automatically or balance various parameters of a design in order to meet certain performance goals. A common application is to 'balance' the interior sound package in transportation applications in order to reduce mass whilst also meeting various performance targets. [VA One 2012](#) provides a fully integrated Design Optimization module within the VA One environment. Parameter Variations, Parameter Optimizations and Monte Carlo simulations can all be performed quickly and easily using the VA One Graphical User Interface. [VA One](#)'s intelligent data caching also ensures fast solve times when using Design Optimization.

"Optimizing interior sound package is important in order to meet vehicle cost, noise, weight, and fuel efficiency targets" said Fumihiko Kosaka, Noise and Vibration Engineer, Mitsubishi Motors Corporation (MMC), "VA One is a standard tool for MMC and helps us meet our targets".

Faster BEM models

The recent emergence of online cloud computing resources has opened up new possibilities for solving large BEM Models from desktop machines. [VA One 2012](#) includes inbuilt support for solving BEM models in parallel on multi-core desktop machines, remote Linux machines, departmental networks, clusters and clouds. [VA One](#) automotive and aerospace BEM models, that previously required overnight execution on standard clusters,

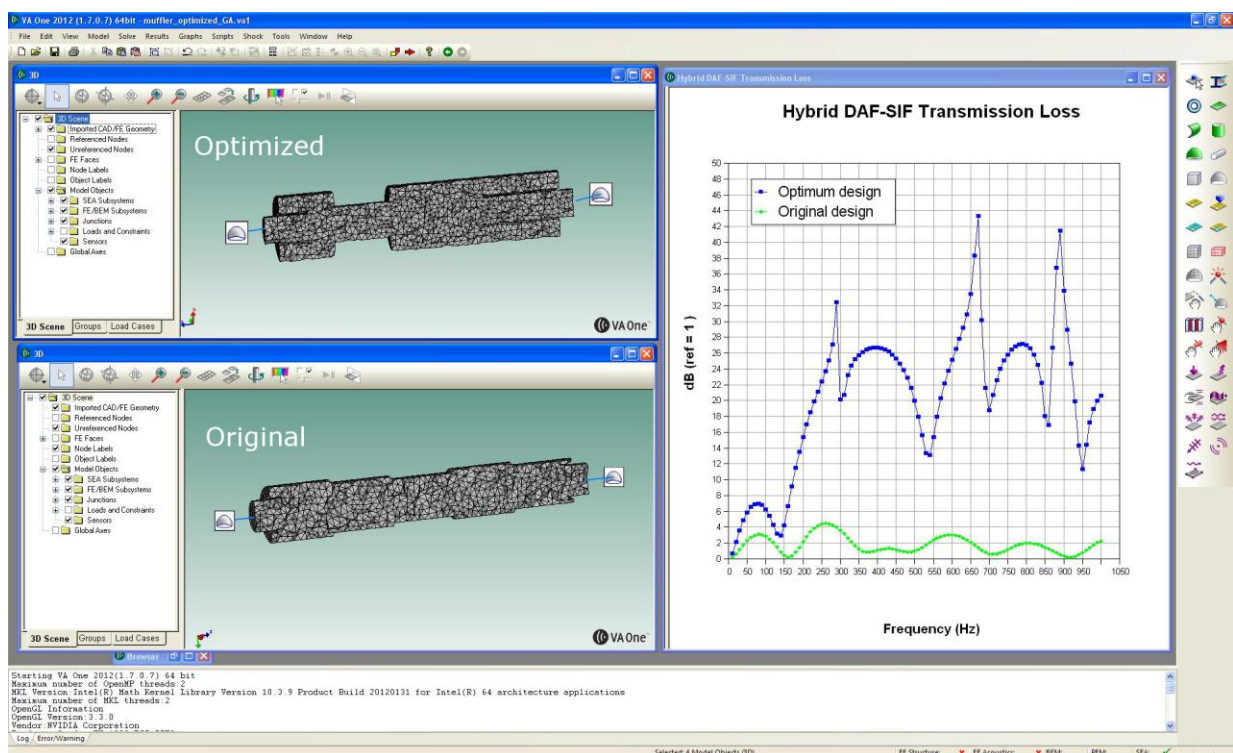


have been solved in minutes using Cloud computing (using over 800 parallel cores, while incurring negligible hardware costs). A new flexible ‘surge’ licensing option is being piloted in [VA One 2012](#) to support this functionality. The BEM solvers in [VA One 2012](#) have also been enhanced with a new adaptive integration scheme for standard BEM which results in faster solutions times, and a new preconditioner and iterative solver for Fast Multipole BEM which results in significant convergence improvements.

Productivity enhancements for Statistical Energy Analysis models (SEA)

New functionality has also been added to [VA One 2012](#) for quickly editing the attributes of multiple SEA subsystems. This reduces the time required to build and modify SEA models resulting in significant productivity gains.

“We are pleased to announce the release of VA One 2012” said **Dr. Phil Shorter**, Director of Vibro-Acoustic Product Operations at ESI Group. *“This release ensures our customers have access to advanced noise and vibration methods to help guide design, without needing customized processes for optimization or for solving large BEM models.”*



Using an inbuilt Genetic Algorithm in VA One 2012 to automatically modify the shape of a muffler in order to maximize low frequency acoustic Transmission Loss

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About ESI Group

ESI is a pioneer and world-leading solution provider in virtual prototyping for manufacturing industries that takes into account the physics of materials. ESI has developed an extensive suite of coherent, industry-oriented applications to realistically simulate a product's



behavior during testing, to fine-tune manufacturing processes in accordance with desired product performance, and to evaluate the environment's impact on performance. [ESI](#)'s solutions fit into a single collaborative and open environment for End-to-End Virtual Prototyping, thus eliminating the need for physical prototypes during product development. The company employs about 900 high-level specialists worldwide covering more than 30 countries. [ESI Group](#) is listed in compartment C of NYSE Euronext Paris. For further information, visit www.esi-group.com.

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