SGI® Multi-Discipline Simulation Solutions

A Powerful Platform for Design Exploration and Optimization with Altair® HyperStudy®

Altair

Solution Highlights

- Industry leading performance for high-throughput, high-performance and mixed use environments
- Flexible configurations to meet any budgetary requirement
- Superior TCO with optimized configurations, reduced system management and breakthrough energy efficiency

In an effort to shorten development time, reduce costs, and speed up ROI in an increasingly competitive business environment, manufacturers are turning to advanced simulation technologies to predict how their products will perform. Many of these teams rely on Altair HyperStudy® to study their designs by changing design attributes and observing how these changes will affect performance. Both the simulation software and Altair HyperStudy require a powerful high-performance computing (HPC) platform. SGI Multi-Discipline Simulation (MDS) solutions deliver outstanding speed and performance to support these compute-intensive applications.

Support for Multi-Disciplinary Design Studies

Multi-disciplinary problems can be studied with HyperStudy's exploration, and optimization capabilities. These studies can be used to improve product durability, crashworthiness, and other characteristics SGI MDS solutions provide an optimized, multi-architecture hardware platform to support these study activities.

Support for a Range of Simulation Software Solutions

SGI MDS solutions support a range of processing requirements and workload characteristics by providing a multi-architecture approach to high performance computing (HPC). This enables SGI to provide the ideal platform on which to run popular CAE solvers such as Abaqus, Altair OptiStruct and Radioss solvers, ANSYS, LS-DYNA, and MATLAB/Simulink. Altair HyperStudy interfaces directly with these and many other engineering tools.

Altix 450 and 4700 for High-Capability Shared-Memory Workflows

SGI Altix 450/4700 servers and supercomputers deliver industry-leading performance, scalability, and versatility with SGI NUMAflex™ shared-memory architecture and a revolutionary blade-based design for perfect system right-sizing. For applications requiring large amounts of memory and high-speed I/O, such as is the case with NVH, non-linear, and large scale transient fluid flow problems, the SGI Altix 450 and 4700 satisfy your most demanding CAE needs.

Altix XE for High-Capacity Clustered and Distributed Memory Workflows

SGI Altix XE servers and clusters offer superior price-performance, compute density and energy efficiency for capacity-oriented worklows. Scalable Altix XE head and compute nodes using InfiniBand interconnects are particularly well suited for applications such as crash analysis and computational fluid dynamics (CFD).

Flexible and Comprehensive Data Management

SGI InfiniteStorage solutions offer a full line of state-of-the-art disk storage systems designed for data-intensive CAE environments. SGI MDS solutions deploy performance-oriented primary and capacity-oriented secondary storage subsystems, well suited for iterative design environments that rely on simulation to improve quality, reduce costs and shorten time to market. SGI® Data Migration Facility (DMF) automates data migration for the most cost-effective and highest possible capacity utilization across all storage.

Scalable Solutions Grow with Your Needs

SGI MDS solutions are designed with scalability in mind, so your simulation environment can grow to handle next classes of problems, dramatic increases in number of simulations, and explosive data growth without costly forklift upgrades.

SGI® Multi-Discipline Simulation Solution

Customizable, Factory-Integrated SGI MDS Solutions

SGI MDS solutions combine SGI® Altix® compute platforms, SGI® InfiniteStorage storage platforms, and network components with system management tools to accelerate multiple workflows and share large datasets.

SGI Altix 450 and 4700 for High-Capability Shared-Memory Workflows

For HyperStudy users who need big memory productivity, SGI Altix 450/4700 servers and supercomputers with SGI NUMAflex® shared-memory architecture deliver industry-leading performance.

SGI Altix XE for High-Capacity Clustered and Distributed Memory Workflows

SGI Altix XE and SGI Altix ICE servers and clusters offer superior price-performance, compute density, and energy efficiency for capacity-oriented workflows. They are particularly well suited for studies involving CFD and Impact experiments.

SGI Servers and Storage for Comprehensive Data Management

SGI MDS solutions deploy performance-oriented and capacity-driven primary and secondary subsystems to support simulation. In addition, SGI InfiniteStorage solutions deliver the state-of-the-art disk storage that compute-intensive environments require. And SGI Data Migration Facility (DMF) automates data migration for the highest possible capacity utilization across all storage.

Easy-to-Use, Solver-Neutral Altair HyperStudy Tool

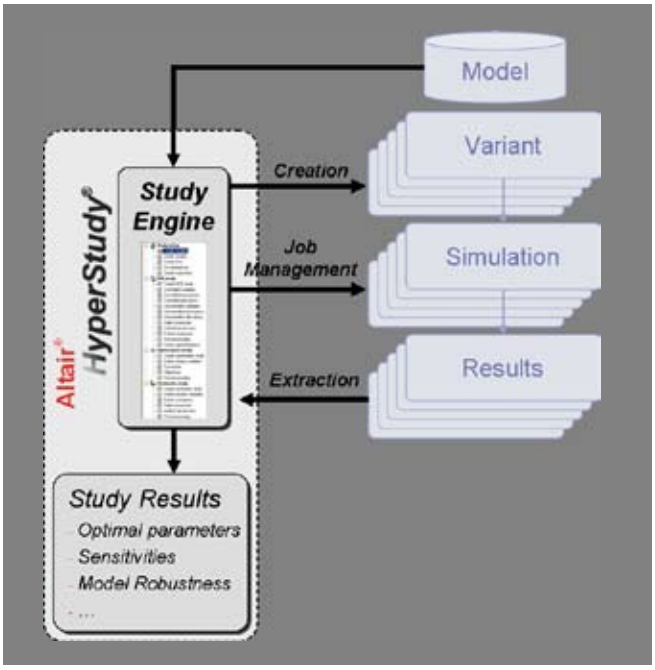
Altair HyperStudy is a tool of choice for the designers and engineers who want to improve designs, run what-if scenarios, correlate test data, optimize complex multi-discipline design problems, and assess design reliability and robustness.

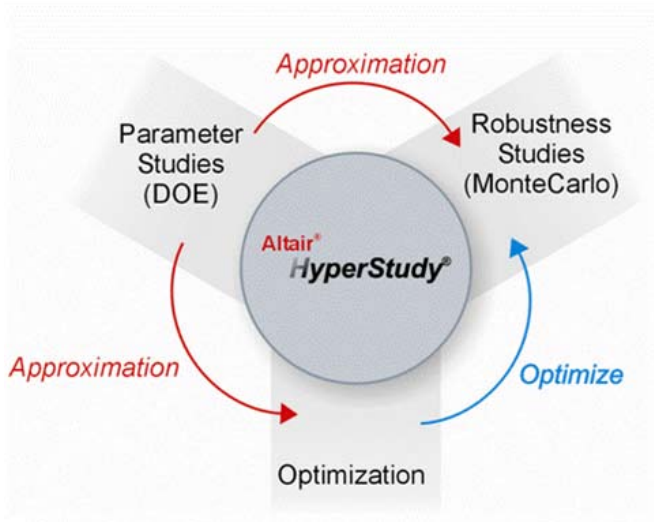
Parameterization of Analysis Models

Altair HyperStudy's direct interface Altair HyperWorks provides the capability to directly parameterize FEA, CAE, and CFD models, making the study parameterization process easy and efficient. In addition, designers can define shape parameters using the morphing technology in HyperWorks and use these paramaters as HyperStudy variables to evaluate their effect on the design performances.

Integration with Other Technologies

Altair HyperStudy interfaces with many popular solvers to directly read their plot and animation data, streamlining the study process and eliminating unnecessary post-processing steps. In addition, integration with Altair PBS Professional, workload management software platform, ensures efficient execution of study jobs.





Corporate Office
SGI
1140 East Arques Avenue
Sunnyvale, CA 94085-4602
650.960.1980

North America +1 800.800.7441
Latin America +55 11.5185.2860
Europe +44 118.912.7500
Japan +81 3.5488.1811
Asia Pacific +1 650.933.3000

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