SGI® Multi-physics Solution

A Powerful, Flexible Platform for ANSYS® CAE Applications

Highlights

- Optimized SGI infrastructure for multi-discipline CAE provides an ideal platform for ANSYS CAE solutions
- ANSYS simulation solutions replace costly, time-consuming physical prototyping and testing with efficient front-end modeling
- SGI Multi-physics solution delivers the performance, scalability, and versatility to support CAE modeling in a variety of industry environments
- Comprehensive SGI solutions include servers, clusters, and high-performance, centralized storage and data management systems

Facing heightened consumer expectations, stringent regulatory requirements, and stiff global competition, manufacturers in many industries are turning to advanced simulation technologies to gain competitive advantage. These technologies can shorten development time, reduce costs, and speed ROI by making it possible to accurately model product behavior on the front end. As a result, product development teams are increasingly relying on simulation software such as ANSYS CAE solutions to predict how their designs will behave in manufacturing and real-world environments. Engineers, Scientists, and Designers count on SGI Multi-physics solution to deliver the power and flexibility to realize the full benefits of these applications.

Evaluating the Entire Spectrum of Characteristics

Depending on the product and the industry, CAE applications are required to evaluate diverse characteristics including performance, aerodynamics, structural fatigue, crash worthiness, and noise, vibration, and harshness (NVH) characteristics. ANSYS, Inc. delivers simulation solutions ranging from mechanical to computational fluid dynamics (CFD) for accurate modeling and simulation of these characteristics. SGI provides an optimized, multi-architecture hardware platform to support these solutions.

Modeling Product Behavior in a Multitude of Environments

SGI and ANSYS both recognize that simulation is becoming essential to a wide variety of industries with many different requirements. SGI solutions support a range of processing requirements and workload characteristics by providing a multi-architecture approach to high performance computing (HPC). ANSYS responds by delivering an integrated, modular, and extensible set of solutions to address different needs.

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-physics Solution

Customizable, Factory-Integrated SGI Solutions

SGI 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.

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

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

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 workflows. They are particularly well suited for CFD applications such as ANSYS® CFX® and FLUENT®.

SGI Servers and Storage for Comprehensive Data Management

SGI 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 data-intensive CAE environments require. And SGI Data Migration Facility (DMF) automates data migration for the highest possible capacity utilization across all storage.

Integrated, modular ANSYS CAE Solutions

By replacing costly, time-consuming physical prototyping and testing, ANSYS CAE applications enable a fast, efficient information-based development process that can drive product designs from concept to reality.

The ANSYS® Multiphysics™ Solution

A comprehensive coupled physics tool, ANSYS Multiphysics software brings together structural, thermal, CFD, acoustic, and electromagnetic simulation capabilities in a single software product, enabling users to combine the effects of two or more physics within one simulation environment.

ANSYS CFD Solutions

Understanding the motion of liquids and gases is crucial in many branches of engineering, but computer processing limitations have traditionally confined such analysis to the laboratory. Now, however, the level of processing power delivered by high-performance SGI Multiphysics solution is making CFD solutions such as ANSYS CFX and FLUENT software an integral part of the simulation environment.

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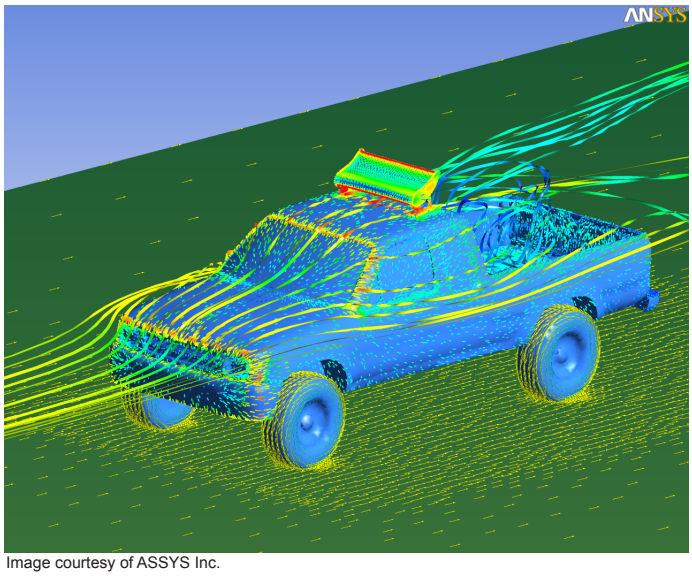

Image courtesy of ASSYS Inc.

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