# SGI® Multi-Discipline Simulation Solutions

## Flexible Solutions for Multi-Workflow Environments

Today's manufacturers facing heightened consumer expectations, increasingly stringent regulatory requirements and stiff global competition turn to advanced simulation technologies for their product development processes to gain a competitive advantage. Specialty teams working on various disciplines rely on a broad range of computer-aided engineering (CAE) applications to evaluate performance, aerodynamics, structural fatigue, crash worthiness, and noise, vibration, and harshness (NVH) characteristics. Because all of these applications have unique processing requirements and workload characteristics, a multi-architecture approach to high performance computing (HPC) and shared access to data are needed to realize the full benefits of multi-discipline simulation.

**Solution Highlights**

- Optimized HPC infrastructure for multi-discipline CAE accommodates a broad range of capability and capacity workflows
- SGI® Altix® 450/4700 servers and supercomputers solve the largest, most complex problems in the shortest time possible
- SGI® Altix® XE servers and clusters provide optimal price-performance for execution of a large number of moderate size parallel jobs
- SGI® InfiniteStorage high-performance, centralized storage and data management systems enable effortless data sharing amongst multi-discipline teams for maximum productivity
- SGI® MDS solutions are designed to grow seamlessly, as your simulation needs evolve

### Optimized Infrastructure for Enterprise Simulation

SGI® Multi-Discipline Simulation (MDS) solutions deliver an optimized HPC infrastructure that meets the needs of both capability and capacity workflows for breakthroughs in efficiency and resource utilization. Customizable, factory-integrated and tested solutions combine SGI Altix compute platforms, SGI InfiniteStorage storage platforms, and network components with system management tools to address the demands of diverse disciplines, accelerate multiple workflows, and manage and share large data sets. These solutions provide reliable, structured access to all simulation data across the enterprise.

### 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.


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





3986 [12.2006]

J15217