



## **SILICON GRAPHICS ANSWERS CALL FOR DATA-INTENSIVE COMPUTING WITH SGI® ALTIX® ICE AND INTEL® XEON® PROCESSOR 5500 SERIES (CODE-NAMED NEHALEM)**

### **Massive Data Volumes No Match for Scalable, I/O-Centric Altix ICE Platform and New Memory-Optimized Xeon Processors**

SUNNYVALE, Calif. (March 30, 2009) —Silicon Graphics, Inc. (SGI) today unveiled another solution for enterprises and businesses with data-intensive computing environments who are struggling to derive timely results and insights from ever-larger volumes of data.

Coinciding with today's worldwide launch of the Intel® Xeon® processor 5500 series (code-named Nehalem), Silicon Graphics announced it will feature the next-generation processor in its award-winning SGI® Altix® ICE integrated blade platform.

By integrating the scalable, I/O-intensive SGI Altix ICE platform with the high-bandwidth memory design of the Intel® Xeon® processor 5500 series, Silicon Graphics is delivering a unique solution that helps organizations avoid the costly performance inefficiencies that can occur when large data sets and intense processing overwhelm the comparatively slow memory, I/O and interconnect infrastructures of other commodity Linux® clusters.

"To remain competitive, users today require their IT platforms to deliver results much sooner, even as their applications increase in complexity and data sets grow exponentially," said Silicon Graphics CEO Bo Ewald. "The SGI Altix ICE platform is unique in its rich I/O infrastructure and high-bandwidth interconnect design, which makes it an ideal platform for solving big data problems with the new Intel® Xeon® processor 5500 series."

"Working with fast-growing data volumes is a constant challenge for our application development teams, whose work spans chemistry, materials (including nanoscience) research, astrophysics, climate research, biology and other disciplines," said Jeffrey Vetter, Future Technologies Group Leader at the Department of Energy's Oak Ridge National Laboratory, which conducts state-of-the-art research and development in emerging architectures and computational sciences. "Our early evaluation of Nehalem demonstrated significant performance improvements on many of our important applications. By harnessing the power of SGI Altix ICE systems driven by Intel Nehalem processors, we expect to shorten our time to results, which in turn will give our users greater flexibility to pursue solutions to complex, 'big data' problems."

### **Performance soars by 140 percent with unprecedented scalability**

The new system delivers reliably scalable performance gains of up to 140 percent across a variety of data-intensive applications, including the Fluent computational fluid dynamics (CFD) application, the VASP Ab-Initio simulation, and WRF weather modeling.

- **Fluent.** A 14-million-cell model of the external flow of a truck body was tested on 64 cores of an Altix ICE 8200EX with Intel® Xeon® processor 5500 series at 2.93GHz. On the new SGI system, the test ran 1.59x faster than AMD Shanghai at 2.7GHz and 1.73x faster than Altix ICE 8200EX with Intel® Xeon® processor X5472 at 3.0GHz on 64 cores – with near linear scalability. For a larger 111-million-cell model, the



performance improvement is even higher. Altix ICE 8200EX with Intel® Xeon® processor 5500 series at 2.93GHz/1067 is 1.64x faster than AMD Shanghai on 64 cores and 1.81x faster than Altix ICE 8200EX with Intel® Xeon® X5472 3.0GHz on 128 cores.

- **VASP.** When running the bench.PdO standard benchmark for the Vienna Ab-Initio Simulation Package (VASP), the Altix ICE 8200EX with Intel® Xeon® processor 5500 series at 2.93GHz on 32 cores is 1.95x faster than the same system equipped with Intel® Xeon® processors X5470 at 3.0GHz.
- **WRF.** The Weather Research and Forecasting (WRF) model of the continental United States at 2.5km resolution runs 2.4x faster on Altix ICE 8200EX with Intel® Xeon® processor 5500 series at 2.93GHz on 128 cores than it does on a similarly configured system featuring Intel® Xeon® processors X5470 at 3.0GHz.

"I am pleased to see the highly scalable SGI Altix ICE platform extended to take advantage of the new Intel® Xeon® 5500 series processor," said Richard Dracott, Intel general manager of High Performance Computing. "This combination will allow the deployment of even faster HPC solutions."

SGI Altix ICE 8200EX and SGI® Altix® XE systems featuring the Intel® Xeon® processor 5500 series are available today. For more information, visit [www.sgi.com/products/servers/altix/ice/](http://www.sgi.com/products/servers/altix/ice/)

To download a technical white paper detailing how this new platform delivers leading performance for data-intensive applications, visit: [www.sgi.com/pdfs/4154.pdf](http://www.sgi.com/pdfs/4154.pdf).

#### **Silicon Graphics, Inc.**

Silicon Graphics, Inc. (SGI), is a leader in high-performance computing. SGI delivers a complete range of high-performance server and storage solutions along with industry-leading professional services and support that enable its customers to overcome the challenges of complex data-intensive workflows and accelerate breakthrough discoveries, innovation and information transformation. SGI solutions help customers solve their computing challenges whether it's enhancing the quality of life through drug research, designing and manufacturing safer and more efficient cars and airplanes, studying global climate, providing technologies for homeland security and defense, or helping enterprises manage large data. With offices worldwide, the company is headquartered in Sunnyvale, California, and can be found on the Web at [www.sgi.com](http://www.sgi.com).

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