SGI with NVIDIA® GPU Accelerators Complete Solutions

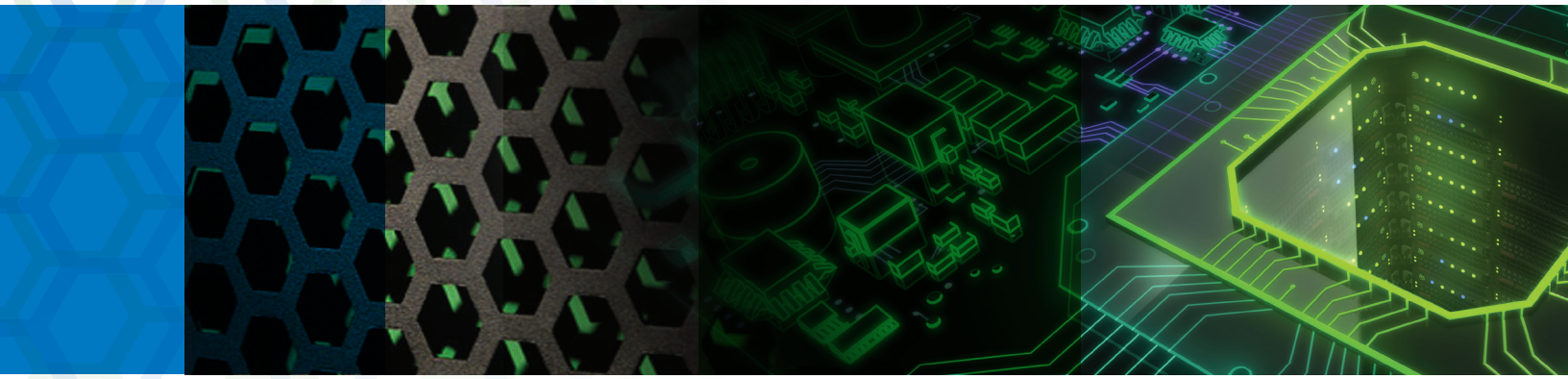
Delivering Application-Specific Acceleration

Features

Plug & Play GPU Solutions

Hybrid Solutions

High Perfomance Density



Accelerating Results with GPU Compute Solutions

SGI leads the industry in delivering application-specific acceleration, dating back to the Geometry Engine™ which accelerated graphics applications in the 1980s. SGI then co-developed the SGI Tensor Processing Unit (TPU), followed by RASC™ technology, FPGA's that were tightly-coupled to our shared memory architecture. With RASC technology, SGI created the world's largest single system image server with accelerators, to solve the most challenging life-sciences problems. With a full team of application experts, SGI has a unique position to help customers solve problems with GPU computing technology and has services and support personnel ready to help customers port and debug specific applications. SGI GPU solutions are integrated with SGI software and SGI InfiniteStorage™ to provide complete solutions for customer workflows. Both scale-up and scale-out GPU solutions are available to tackle any type of problem in scientific research, product development and homeland security.

Workgroup to Enterprise

SGI Rackable™ Servers: Leveraging the winning combination of the latest Intel® Xeon® Processor architecture and the NVIDIA® Tesla® K40 "Kepler" GPU Accelerators, these servers deliver top value and performance. Rackable servers are fully managed and factory integrated with SGI Management Center and Performance Suite software for ease of administration and performance tuning.

SGI UV™ 20: A quad-socket Intel® Xeon® server, featuring rich memory and I/O in a compact, 2U footprint, the SGI UV 20 is a great solution for many scientific and engineering workloads. It can be used as a head node or fat node for a scale-out cluster, or standalone. When paired with NVIDIA Kepler GPU Accelerators, the resulting compute and memory density is available for large models and complex optimization.

Supercomputer

SGI UV™ 2000: Customers trying to solve the world's toughest computational challenges independent of the typical limits of CPU, memory and I/O inherent in most twin-socket or even quad-socket designs will find that the SGI UV platform will exceed their needs. The UV platform brings GPUs to a new class of solutions in chemistry, homeland defense, fluid dynamics and biosciences. The Center for Remote Data Analysis and Visualization at the University of Tennessee installed a SGI UV 1000 system with 128 CPUs, 4 TB of main memory and 8 NVIDIA GPUs to enhance the capabilities of the National Science Foundation (NSF) to 'see and understand' large volumes of data produced on the NSF's TeraGrid.

SGI ICE™ X: For customers who want to manage large scale-out HPC environments that include GPUs, the SGI ICE X platform offers the ability to integrate service nodes containing GPUs into dual-plane, high-bandwidth, low-latency Infiniband network topology. With the assistance of the SGI Professional Services team, SGI has implemented some of the largest hybrid clusters in the world by combining NVIDIA GPUs in service nodes with the SGI ICE platform.

Accelerating Customer Results

SGI GPU solutions accelerate customer results in a wide-range of scientific and engineering disciplines. With validation and integration done by SGI engineering, and systems built and tested in the SGI manufacturing facility, SGI GPU solutions arrive at the customer site ready to plug in and do real work.

"With the assistance of NVIDIA and Kepler series GPUs the Swinburne University of Technology supercomputers from SGI have proven to be excellent research tools in areas of astronomy ranging from simulations of the dynamical evolution of the Universe to the processing of data collected from radio telescopes," said Dr. Jarrod Hurley, manager of Swinburne's supercomputer.

Services and Support

SGI has a team of GPU experts who have ported code to both CUDA and OpenCL and are available on-site to accelerate applications in a wide range of technical disciplines. SGI Professional Services is available to integrate hybrid clusters either at the factory, so it reaches your floor ready for immediate availability, or at your site.

SGI GPU Compute Solutions at a Glance

sgi.com/products/gpu

Solution	Vertical "U"	Sockets	DIMM Slots	NVIDIA GPU Options
Rackable C1104G-RP5	1U	Two Intel® Xeon® E5-2600 Sockets	8	NVIDIA Tesla K10, K20, K20X, K40
Rackable C2110G-RP5	2U	Two Intel® Xeon® E5-2600 Sockets	8	NVIDIA Tesla K10, K20, K20X, K40
Rackable C2108-RP2	2U	Two Intel® Xeon® E5-2600 Sockets	24	NVIDIA Tesla K20, K40
SGI ICE X	21U enclosure	1 x 2S Intel® Xeon® E5-2600 blade, 1000s of blades	IP113: 8 or 16 IP115: 16	C1104G-RP5 or C2110G-RP5 (as service nodes)
SGI UV 20/2000	2U or 18U enclosure	Up to 256S Intel® Xeon® E5-4600	Up to 64 TB memory	NVIDIA Tesla K20

Global Sales and Support: sgi.com/global

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