

## PRESS RELEASE



### **SGI Partners to Power Accurate, Real-time Geospatial Rendering Aimed at Saving Soldiers Lives**

*GIS Federal, NVIDIA and SGI provide record-breaking in-memory solution to power geospatial database that can scale several orders of magnitude higher than other compute databases*

**MILPITAS, CA – April 16, 2014** – SGI (NASDAQ: SGI), the trusted leader in high performance computing and Big Data, today announced a partnership with [GIS Federal](#), a supplier of high performing innovative solutions for big data, cloud computing and intuitive tools across all intelligence disciplines and [NVIDIA](#), a pioneer in digital computing. The partnership will power a [GAIA](#) distributed database for the [United States Army Intelligence and Security Command](#) (INSCOM), to rapidly render complicated geospatial features and heat maps, providing real-time actionable insights with the goal of saving lives during military operations.

Geospatial databases require a tremendous amount of memory and performance capabilities to accurately predict what will happen at a given location. The constant influx of high volume streams of data typically overwhelms traditional geospatial database systems, slowing the rate of analysis to inhibit actionable insights. The ability to harness, analyze and deliver coherent, real-time intelligence from massive amounts of data has only recently become a reality with the improvements in innovative high performance computing and Big Data technology.

The GIS Federal searchable geospatial database system GAIA, used by the Army INSCOM, incorporates numerous complex and distinct sources of information, which can be quickly sorted and displayed using easily understood visualization tools. Now running on a 10 terabyte (TB) SGI® UV™ 2000 system, with 16 NVIDIA® Tesla® K20x graphics processing units (GPU), GAIA is able to render complicated geospatial features for intelligent real-time insight, scaling at several orders of magnitude higher in speed and capacity than other compute databases. Through the increased capacity, scale and performance experienced with SGI's UV architecture, GAIA is able to more accurately pinpoint potentially dangerous activity at a given point or route on the map giving military personnel the opportunity to change course of action.

GIS Federal developed the CUDA code for the NVIDIA GPUs to optimize it for the GAIA application. GAIA is then run on the record-breaking SGI UV 2000 system with 16 NVIDIA Tesla K20x CUDA GPUs, as the database performs best when it has access to highly dense core devices like NVIDIA GPUs. The INSCOM GAIA system is the only system with 16 GPUs in such a large single-system image.

“INSCOM’s mission is to provide actionable intelligence to military staff and the faster they can provide that information the more likely lives will be saved,” said Nima Negahban, CTO of GIS Federal. “Our work with SGI and NVIDIA has allowed us to develop an innovative architecture that enables the GAIA

database to provide INSCOM with a full suite of geospatial specific calculation capabilities and fully distributed rendering pipeline to quickly and clearly recognize threats in fighters' paths."

With its innovative NUMALink® interconnect, the comprehensive, highly scalable shared-memory SGI UV architecture can scale a single system image (SSI) to a maximum of 2,048 cores (4,096 threads). The huge capacity available on the SGI UV system enables GAIA to run and compile large streams of data from multiple providers in a coherent manner, permitting analysts to analyze and intuitively sift through the data in real time.

"With highly scalable data intensive computing capabilities, we are now able to provide enough capacity and scale to enable geospatial databases to pinpoint hazards in a given location. As we become increasingly adept at harnessing massive amounts of structured and unstructured data, we are seeing new and innovative opportunities to deliver actionable insights in real-time," said Jorge Titinger, president and CEO for SGI. "With GIS Federal and NVIDIA, we have created a one-of-a-kind system capable of supporting sub second responses to geospatial calculations."

#### **About GIS Federal**

GIS Federal is an industry leader in high performance computing. The company focuses on designing and developing cloud computing architectures, and providing software engineering solutions for near real-time data fusion and analytics on streaming big data. GIS Federal's GAIA computational engine is an innovative solution that enables the retrieval and display of big data at a record-setting rate. Visit [gisfederal.com](http://gisfederal.com) for more information.

#### **About SGI**

SGI, the trusted leader in high performance computing (HPC), is focused on helping customers solve their most demanding business and technology challenges by delivering technical computing, Big Data analytics, cloud computing, and petascale storage solutions that accelerate time to discovery, innovation, and profitability. Visit [sgi.com](http://sgi.com) ([sgi.com/](http://sgi.com/)) for more information.

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Grayling Public Relations | Jessie Adams-Shore | (415) 593-1400 | [sgi@grayling.com](mailto:sgi@grayling.com)

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