IDC LINK
Real-time IDC Research® opinion on industry news, trends and events

HPE Agreement to Acquire SGI Targets Growth in HPC and Big Data Markets

August 15, 2016

By: Steve Conway, Earl C. Joseph, Ph.D., Matthew Eastwood, Peter Rutten, Lloyd Cohen

IDC's Quick Take

Hewlett Packard Enterprise (HPE) emerged from 2015 as the clear revenue leader in the expanding worldwide market for high-performance computing (HPC) servers, with a 35.9% share of this $11.4 billion market and an even higher 41.1% share of the $3.3 billion supercomputers segment for HPC server systems selling for more than $500,000 each. The agreement to acquire iconic supercomputer maker SGI, assuming it closes as expected, will transfer SGI's proven ability to handle the most daunting HPC and big data analytics workloads that require servers with large shared memory architectures. SGI customers PayPal and the U.S. Postal Service (USPS) told IDC that no other vendors were able to pass benchmark tests based on the customers' big data analytics workloads. IDC expects this challenging class of workloads to become increasingly important for government, academic, and commercial organizations, including users of offerings such as Hadoop, Spark, and SAP HANA.

M&A Announcement Highlights

On August 11, HPE announced an agreement to acquire SGI for $275 million in cash and debt. The agreement is expected to close in the first quarter of HPE's 2017 fiscal year (November 2016-January 2017). Stated key goals are to strengthen HPE's position in the $11 billion HPC server segment that IDC forecasts will grow at an estimated 6-8% CAGR through 2020 (especially government, research, and life sciences) and in the adjacent data analytics segment, which IDC projects will grow at over twice that rate.

IDC's Point of View

HPE's 2015 share of the global HPC server market was more than double the size of any competitor's portion. Like a growing number of OEMs that address the global server market, HPE sees HPC not as an isolated segment but as the upper end of a continuum of capabilities for capturing business in modeling and simulation, big data analytics, cloud computing, and the nascent AI and Internet of Things (IoT) markets. It's no accident that Facebook has bought more than 25 supercomputers for its internal AI lab and a group of independent AI research institutes or that Chinese web services company Baidu recently said that the forefront of AI research has migrated to HPC.

Already the HPC server market leader, HPE has been upping the ante with its comprehensive portfolio of HPE Apollo purpose-built platforms and related solutions aimed squarely at the rapid convergence of big compute, big data, and IoT — including industry-specific requirements. Initial turnkey solutions are aimed at the economically important financial services, oil and gas (energy), healthcare, life sciences, and manufacturing sectors.

What SGI most prominently adds to the HPE arsenal, besides decades of experience in the HPC market, are servers such as the SGI UV line architected with very large shared memories. Using SGI servers for high-performance data analysis (big data analytics using HPC), the U.S. Postal Service is able to process

billions of letters and packages each day, checking each one for postage, fraud, and routing instructions in under 100 milliseconds. In addition, PayPal saved more than $700 million in the first two years after it implemented SGI systems to detect fraud in its credit card business.

The USPS told IDC that for its application, the ability to process very large data problems entirely in memory can boost performance enormously. Conversely, having to process data outside of a shared memory can severely cut performance—by about 50% when moving data from one blade to a neighboring blade, by two-thirds when moving from the top blade in a rack to the middle blade, by a factor of 25 when moving data from the top blade to the bottom blade in the same rack, and by far more when transferring data between racks.

SGI began operations in the 1980's as Silicon Graphics Inc. The firm specialized in manufacturing three-dimensional graphics computers. In addition, it was a major player in the workstation business. Its systems ran many of the planetariums around the world. Silicon Graphics 2009 was reverse-merged in 2009 with Rackable, a web-scale infrastructure company. The combined companies were named SGI and today's SGI continues to sell Rackable HPC solutions. The firm is considered a technology leader in high-performance computing, data analytics, and data management. Target markets include government, universities, financial institutions, and research facilities.

SGI is a small but important player in the HPC space but lacks the resources to become a significant player in the commercial segment. HPE intends to become a bigger player in data analytics and in large memory databases designed to process data substantially faster than conventional servers.

SGI and Enterprise Servers

In recent years SGI had been attempting to broaden its customer base by expanding its offerings to enterprise customers with the company's line of scale-up servers. This server market segment is managing sky-rocketing data volumes and is trying to gain competitive advantage from converging batch processing and real-time data processing using in-memory databases and analytics. SGI saw an opportunity in bringing its technical HPC expertise to these businesses, for example, with its UV300 solutions for SAP HANA and Oracle.

In July of 2015, SGI entered into a reseller agreement with Dell for the UV300 line. In February of this year, HPE and SGI agreed to a partnership in which HPE will brand and market the SGI 8-socket UV300 system as the HPE MC990 X, sitting in the sweet spot between HPE's ProLiant line and its Integrity Superdome X. An important component for HPE was SGI's NumaLink 7 interconnect with an all-to-all topology, which boosts the performance of scale-up systems, as well as the fact that the UV300 was already certified for Linux. IDC forecasts that the 8-socket and 16-socket server segments are the fastest growing in the server market in terms of units with 6.0% and 9.6% forecast growth, respectively (CAGR for 2016-2020).

In June, SGI stated that its sales of systems for high-performance data analytics had grown to double-digit millions of dollars per quarter and at the same time announced that the company had entered into yet another reseller agreement, this time with Cisco, for the UV300H to enable Cisco to sell 8+ socket HANA appliances. SGI's own UV300H HANA appliance is the largest available in terms of sockets (certified for 20).

SGI's scale-up systems complement HPE's except that there will be some overlap between the 16-socket configurations of UV300 and the HPE Integrity Superdome X. It will be interesting to see if HPE will merge these systems by taking the best of both such as the NumaLink 7 from UV300 and the partitioning and RAS features from the Superdome X. Overall, SGI's enterprise scale-up business can be expected to get a significant boost from the acquisition by HPE.

With the acquisition of the company by HPE, SGI can now leverage HPE expertise in the commercial segment to extend its product reach. HPE benefits by acquiring the UV product line, which also includes the UV3000 for computer-intensive applications such as computer-aided engineering, genetic sequencing, and scientific modeling. SGI has over 1,100 employees worldwide and has 600 granted and pending patents. The firm spent close to 10% of its $0.5 billion revenue in 2015 on R&D. IDC studies show that SGI customers are typically very pleased with the company's server systems. The problem has been selling enough of them to grow the company. SGI has not had the scale needed to educate the commercial market about the benefits its HPC servers can deliver or to cover every sales opportunity in the marketplace. HPE has adequate scale to cover existing opportunities and the robust growth opportunities IDC expects for large memory server systems used for big compute and big data analytics.

Assuming HPE effectively handles the biggest challenge facing all acquisitions—incorporating SGI employees and products into the combined company—IDC believes that the merger transaction will enable HPE to benefit even more from the healthy growth IDC forecasts for the big data and HPC server markets in the next five years.

Subscriptions Covered:
Enterprise Servers: Technology Markets, Technical Computing