NVIDIA GPUs Power Top Two Russian Supercomputers; Also Selected to Boost Nation's Space Programs

Soaring GPU Adoption in Russian Science Community to Drive Range of Research, From Optimizing Navigation for Soyuz-2 Rocket to Cancer Detection

SANTA CLARA, CA -- NVIDIA today announced that the two most powerful supercomputers in Russia will use NVIDIA® GPUs to address some of the world's most challenging scientific problems across a broad range of fields.

Underscoring the dramatic growth in the adoption of GPU computing across world scientific communities, the new Russia Top 50 supercomputer list released today reveals that the top two systems are accelerated by NVIDIA Tesla® GPUs. These two supercomputers are housed at Lomonosov Moscow State University, which was recently named a CUDA Center of Excellence, and the Joint Supercomputer Center of the Russian Academy of Sciences (JSCC RAS). Moreover, GPUs are accelerating 12 of the country's top 50 systems -- up from seven just six months ago.

"The challenges of modern science can only be addressed by applying huge computational resources," said Vladimir Voevodin, coordinator of the Supercomputing Consortium of Russian Universities and deputy director of the MSU Research Computing Center. "NVIDIA GPU technologies are one of the most efficient and cost-effective ways to address these challenges."

From Cancer Research to Space Exploration
Russian scientists are using NVIDIA Tesla GPUs to accelerate scientific research and discovery for a range of important research projects today, and plan to increase the number GPU-accelerated projects in the future. For example, researchers at IMM UB RAS plan to harness their computational power to accelerate algorithms designed to navigate the Soyuz-2-class carrier rocket, determining an optimal orbit trajectory and ensuring a safe arrival at the target orbit.

Researchers at the Institute of Applied Physics of the Russian Academy of Sciences are using NVIDIA GPUs to run their optic biomedicine diagnostic method, which is aimed at facilitating early detection of cancer, 100 times faster than on a CPU-based system.

Researchers at OJSC "Aviadvigatel" are using NVIDIA GPUs for acoustic noise generation modeling of aircraft engines. By adding NVIDIA GPUs to a CPU-based system, Aviadvigatel reduced the computational time required to run flow modeling simulations from a month to just three days, enabling more complex and accurate simulations. Armed with this information, Aviadvigatel is working to produce quieter, more efficient aircraft engine designs.

"NVIDIA GPUs are enabling game-changing research on some of the most powerful supercomputers around the world, including systems in China, Italy, Japan, Russia, Spain, and the U.S.," said Sumit Gupta, senior director of Tesla business at NVIDIA. "This tremendous growth is not only due to the vast computational performance and power efficiency GPUs provide, but also because of industry innovations like the OpenACC programming model that make GPU programming easier than ever before."

Among the list of NVIDIA GPU-accelerated systems on the new Russian Top 50 list are:

Top 50 Rank: #1
Site: Lomonosov Moscow State University
2,130 Tesla GPUs
LINPACK Score: 872 teraflops

Top 50 Rank: #2
Site: Joint Supercomputer Center of the Russian Academy of Sciences
152 Tesla GPUs
LINPACK Score: 119 teraflops

Top 50 Rank: #5
Site: Institute of Mathematics and Mechanics, Ural Branch of the Russian Academy of Sciences
240 Tesla GPUs
LINPACK Score: 75 teraflops

Top 50 Rank: #6
Site: National Research Centre "Kurchatov Institute"
228 Tesla GPUs
LINPACK Score: 68 teraflops

Top 50 Rank: #8
Site: Lobachevsky State University of Nizhni Novgorod
130 Tesla GPUs
LINPACK Score: 51 teraflops

The complete Russia Top 50 supercomputer list is available at http://top50.supercomputers.ru/.

About NVIDIA Tesla GPUs
NVIDIA Tesla GPUs are massively parallel accelerators based on the NVIDIA CUDA® parallel computing platform. Tesla GPUs are designed from the ground up for power-efficient, high performance computing, computational science and supercomputing, delivering dramatically higher application acceleration for a range of scientific and commercial applications than a CPU-only approach. Today, Tesla GPUs power three of the world's top five supercomputers.

More information about NVIDIA Tesla GPUs is available at the Tesla website. To learn more about CUDA or download the latest version, visit the CUDA website. More NVIDIA news, company and product information, videos, images and other information is available at the NVIDIA newsroom. You can also follow us on Twitter (@NVIDIATesla).

About NVIDIA
NVIDIA (NASDAQ: NVDA) awakened the world to computer graphics when it invented the GPU in 1999. Today, its processors power a broad range of products from smartphones to supercomputers. NVIDIA's mobile processors are used in cell phones, tablets and auto infotainment systems. PC gamers rely on GPUs to enjoy spectacularly immersive worlds. Professionals use them to create 3D graphics and visual effects in movies and to design everything from golf clubs to jumbo jets. And researchers utilize GPUs to advance the frontiers of science with high performance computing. The company has more than 4,500 patents issued, allowed or filed, including ones covering ideas essential to modern computing. For more information, see www.nvidia.com.

Certain statements in this press release including, but not limited to statements as to: the impact and benefits of NVIDIA Tesla GPUs in supercomputing applications; and the effects of the company's patents on modern computing are forward-looking statements that are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic conditions; our reliance on third parties to manufacture, assemble, package and test our products; the impact of technological development and competition; development of new products and technologies or enhancements to our existing product and technologies; market acceptance of our products or our partners products; design, manufacturing or software defects; changes in consumer preferences or demands; changes in industry standards and interfaces; unexpected loss of performance of our products or technologies when integrated into systems; as well as other factors detailed from time to time in the reports NVIDIA files with the Securities and Exchange Commission, or SEC, including its Form 10-K for the fiscal period ended January 29, 2012. Copies of reports filed with the SEC are posted on the company's website and are available from NVIDIA without charge. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, NVIDIA disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

About NVIDIA

Since 1993, NVIDIA (NASDAQ : NVDA) has pioneered the art and science of visual computing. The company's technologies are transforming a world of displays into a world of interactive discovery — for everyone from gamers to scientists, and consumers to enterprise customers. More information at http://nvidianews.nvidia.com/ and http://blogs.nvidia.com/.

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