'Jaguar' supercomputer gaining speed

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File photo shows a staff member of Japan's national Riken institute opening a rack of supercomputer, "K Computer", at Riken's laboratory in Japan on June 21, 2011. Cray Inc. said it has sealed a deal to overhaul the US Department of Energy's "Jaguar" supercomputer, making it faster than any other machine on the planet. The new supercomputer will be renamed "Titan".

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The supercomputer at the DOE Oak Ridge National Laboratory will be renamed "Titan" after it is beefed up with speedy, powerful chips from California companies NVIDIA and Advanced Micro Devices.

"All areas of science can benefit from this substantial increase in computing power, opening the doors for new discoveries that so far have been out of reach," said associate lab director for computing Jeff Nichols.

"Titan will be used for a variety of important research projects, including the development of more commercially viable biofuels, cleaner burning engines, safer nuclear energy and more efficient solar power."

NVIDIA specializes in GPU (graphics processing unit) chips used to enable seamless, rich graphics and smooth action in videogames by processing myriad tasks simultaneously through parallel computing.

Rival company AMD will provide powerful chips that process data in sequence as is standard in home or work computers.

"Oak Ridge's decision to base Titan on Tesla GPUs underscores the growing belief that GPU-based heterogeneous computing is the best approach to reach exascale computing levels within the next decade," said NVIDIA chief technology officer Steve Scott.

Cray valued the multi-year contract at more than $97 million and said that Titan will be at least twice as fast and three times as energy efficient as today's fastest supercomputer, which is located in Japan.