

NASA Selects IBM for Next-Generation Supercomputer Applications

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On Wednesday, NASA and IBM announced the agency has selected an IBM System p575+ supercomputer for evaluating next-generation technology to meet the agency's future supercomputing requirements. Supercomputers play a critical role in many NASA missions, including new space vehicle design, global climate studies and astrophysics research.

The IBM system is being installed at the NASA Advanced Supercomputing (NAS) facility at the Ames Research Center at Moffett Field, Calif., where it is undergoing testing and evaluation. With 640 computational cores and a peak performance of approximately 5.6 teraflops, the system will augment the agency's existing "Columbia" system, currently ranked as the eighth fastest supercomputer in the world.

A teraflop is a measure of a computer's speed; one teraflop can be expressed as a trillion floating point operations per second.

"With NASA's high-end computing needs expected to continue during the next few years, we need to keep pace with improved technologies. IBM's system meets all the criteria for our base system evaluation, and working closely with them, we will chart out a successful path for the NASA supercomputing environment," said Dr. Piyush Mehrotra, who leads the NAS applications group and is steering the technology upgrade effort.

The NAS supports scientists and engineers throughout the United States who work on projects such as designing spacecraft, improving weather and hurricane models, and understanding the behavior of the sun. Many NASA projects require large, complex calculations and sophisticated mathematical models that can be efficiently handled only by a supercomputer.

"The research undertaken by NASA scientists is allowing engineers to design and build safer, more advanced spacecraft more quickly than ever," said Dave Turek, vice president of Deep Computing for IBM. "Computer simulation technology produces perfect prototypes for virtual testing, reducing the need for physical testing."

The NAS technology upgrade effort used a comprehensive benchmark suite to characterize system performance on NASA-relevant applications and to measure job throughput for a workload in a complex, high-performance computing environment.

The IBM p575+ supercomputer acquisition is the first of a four-phase procurement process that eventually will replace the Columbia supercomputer system. This phased replacement supports the requirements of the agency Strategic Capabilities Assets Program (SCAP) High-End Computing Capability to provide supercomputing capability to meet the needs of NASA's programs and missions.

Source: IBM

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