DOD's Supercomputing Program Relocates to Mississippi

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The U.S. Army Engineer Research and Development Center (ERDC) has been named the lead organization for the Department of Defense (DOD) High Performance Computing Modernization Program (HPCMP), following Congressional approval in December 2011. With that approval, the $280 million program becomes headquartered in Vicksburg, Miss., at the ERDC facility.

The HPCMP is a DOD-wide program that provides high performance computing expertise, computing, storage, and communications resources for the DOD science, engineering and test communities. High performance computing applies the most advanced computers in the world to the DOD's most significant challenges in research, engineering and the acquisition of new weapons systems. In addition to software research and a national high-speed computer network, the HPCMP supports five supercomputing centers across the country on Army, Navy and Air Force sites.

Two of the HPCMP's supercomputing centers are located within the state of Mississippi, at the Stennis Space Center on the Mississippi Gulf Coast and at ERDC. The HPCMP has also made significant investments in scientific and engineering software development and high speed networking in Mississippi through the state's federal and university research organizations.

"Mississippi is home to tremendous technological resources and provides national leadership in research, development and supercomputing," Mississippi Governor Phil Bryant said. "Stennis Space Center, ERDC, the state's research universities and now the National Oceans and Applications Research Center to be located at Stennis are working together to bring enormous innovations and economic contributions to this state. Premier programs like this one in Vicksburg and the highly skilled professionals they bring with them are propelling Mississippi to a national technology leadership role."

"The ERDC is proud to have the HPCMP headquartered here," said Dr. Jeffery P. Holland, ERDC director. "ERDC has a long history of providing support to the Department of Defense and to the nation. Having this program located at ERDC exploits a natural synergy that will strengthen our ability to provide science, technology and engineering expertise to make the world safer and better."

ERDC is one of the most diverse engineering and scientific research organizations in the world, conducting research and development in support of the Soldier, military
installations and the Corps of Engineers civil works mission, as well as for other federal agencies, state and municipal authorities and with U.S. industry.

"The expertise and supercomputing capabilities we provide to the DOD are among the best available anywhere in the world," said John West, recently named director of the DOD HPCMP. "The services that we deliver for the Department of Defense are absolutely critical in ensuring the U.S. maintains a military capability that is second to none."

Scientists and engineers use the computer systems, software and expertise of the HPCMP to build simulations that help them understand how effective new ideas might be in practice — for materials, weapons and even the ways in which people interact with one another and their environment. These simulations help the DOD avoid expensive and sometimes dangerous physical testing by predicting how well new ideas will work before they are built.

Simulations can also lead to a better understanding of why systems behave the way they do in the first place, ultimately leading the DOD to better designs. "Supplementing, guiding and in some cases replacing physical prototypes with computer simulations expands the ability of the Department of Defense to make better decisions when faced with competing alternatives for limited resources," said Dr. Reed Moshier, director of the ERDC Information Technology Laboratory, which oversees the supercomputing program.

Although now an Army program, the HPCMP will remain a multi-service activity of the Department of Defense, committed to maintaining its focus on the needs of the entire Department.