DOD HPC MODERNIZATION PROGRAM

NEWS RELEASE

High Performance Computing Modernization Program Adds Capability

The Department of Defense (DOD) High Performance Computing Modernization Program (HPCMP) just completed its fiscal year 2015 investment in supercomputing capability supporting the DOD science, engineering, test and acquisition communities. The total acquisition is valued at $73.8 million, including acquisition of four supercomputing systems with corresponding hardware and software maintenance services. At 9.92 petaFLOPS, this procurement will increase the HPCMP's aggregate supercomputing capability from 16.5 petaFLOPS to 26.4 petaFLOPS.

"The acquisition of these four systems completes an historic year for the HPCMP," said Christine Cuicchi, HPCMP associate director for High Performance Computing (HPC) centers. "We have now purchased more than $150 million of supercomputers within the 2014 calendar year. This previously unmatched expansion in capability—which nearly quintuples our pre-2014 capacity of 5.38 petaFLOPS to 26.4 petaFLOPS—will give our users another 577,000 compute cores on which to perform groundbreaking science and realize previously impossible discoveries in DOD research."

The four purchased systems will collectively provide 223,024 cores, more than 830 terabytes of memory, and a total disk storage capacity of 17.4 petabytes. This competitive government acquisition was executed through the U. S. Army Engineering and Support Center in Huntsville, Alabama, which selected systems from Silicon Graphics Federal, LLC, and Cray, Inc.

The new supercomputers will be installed at two of the HPCMP's five DOD Supercomputing Resource Centers (DSRCs), and will serve users from all Defense Department services and agencies:

- The Air Force Research Laboratory DSRC at Wright-Patterson Air Force Base, Ohio, will receive an SGI ICE X system, based on the 2.3 GHz Intel Xeon E5-2699v3 ("Haswell-EP") processors. The system will be named "Thunder" and consist of:

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    - 125,888 compute cores
    - 356 Intel Xeon Phi 7120P accelerators
    - 356 NVIDIA Tesla K40 GPGPUs
    - 443 terabytes of memory
    - 12.4 petabytes of storage
    - 5.66 petaFLOPS of peak computing capability

- The Navy DSRC of the Naval Meteorology and Oceanography Command at Stennis Space Center, Mississippi, will receive three Cray XC40 systems containing 2.3 GHz Intel Xeon E5-2698v3 ("Haswell-EP") processors. The systems will be named "Bean," "Conrad," and "Gordon," in honor of the Apollo 12 astronauts Alan Bean, Pete Conrad, and Richard F. Gordon, Jr., all of whom were also naval aviators. Two larger systems will each contain:

    - 50,208 compute cores
    - 168 Intel Xeon Phi 5120D accelerators
    - 197 terabytes of memory
    - 2.29 petabytes of storage
    - 2.0 petaFLOPS of peak computing capability

    A third smaller system will contain:

    - 6,720 compute cores
    - 24 Phi accelerators
    - 27 terabytes of memory
    - 420 terabytes of storage
    - 260 teraFLOPS peak computing capability

Combined, the Navy DSRC will add 107,136 compute cores and 4.26 petaFLOPS of capability to the DSRC.

The HPCMP enables advanced computing for the DOD's science and engineering communities, and serves as an innovation enabler. HPC is employed in a broad range of diverse application areas in the DOD including fluid dynamics, structural mechanics, materials design, space situational awareness, climate and ocean modeling, and environmental quality.

About the HPCMP
The HPCMP provides the Department of Defense supercomputing capabilities, high-speed network communications and computational science expertise that enable DOD scientists and engineers to conduct a wide-range of focused research, development and test activities. This partnership puts advanced technology in the hands of U.S. forces more quickly, less expensively, and with greater certainty of success. Today, the HPCMP provides a complete advanced computing environment for the DOD that includes unique expertise in software development and system design, powerful high performance computing systems, and a premier wide-area research network. The HPCMP is managed on behalf of the Department of Defense by the U.S. Army Engineer Research and Development Center.

For more information, please visit our website at: www.hpc.mil.