Department of Energy Awards $425 Million for Next Generation Supercomputing Technologies

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WASHINGTON — U.S. Secretary of Energy Ernest Moniz today announced two new High Performance Computing (HPC) awards to put the nation on a fast-track to next generation exascale computing, which will help to advance U.S. leadership in scientific research and promote America's economic and national security.

Secretary Moniz announced $325 million to build two state-of-the-art supercomputers at the Department of Energy's Oak Ridge and Lawrence Livermore National Laboratories. The joint Collaboration of Oak Ridge, Argonne, and Lawrence Livermore (CORAL) was established in early 2014 to leverage supercomputing investments, streamline procurement processes and reduce costs to develop supercomputers that will be five to seven times more powerful when fully deployed than today's fastest systems in the U.S. In addition, Secretary Moniz also announced approximately $100 million to further develop extreme scale supercomputing technologies as part of a research and development program titled FastForward 2.

"High-performance computing is an essential component of the science and technology portfolio required to maintain U.S. competitiveness and ensure our economic and national security," Secretary Moniz said. "DOE and its National Labs have always been at the forefront of HPC and we expect that critical supercomputing investments like CORAL and FastForward 2 will again lead to transformational advancements in basic science, national defense, environmental and energy research that rely on simulations of complex physical systems and analysis of massive amounts of data."

Both CORAL awards leverage the IBM Power Architecture, NVIDIA's Volta GPU and Mellanox's Interconnected technologies to advance key research initiatives for national nuclear deterrence, technology advancement and scientific discovery. Oak Ridge National Laboratory's (ORNL's) new system, Summit, is expected to provide at least five times the performance of ORNL's current leadership system, Titan. Lawrence Livermore National Laboratory's (LLNL's) new supercomputer, Sierra, is expected to be at least seven times more powerful than LLNL's current machine, Sequoia. Argonne National Laboratory will announce its CORAL award at a later time.

The second announcement today, FastForward 2, seeks to develop critical technologies needed to deliver next-generation capabilities that will enable affordable and energy-efficient advanced extreme scale computing research and development for the next decade. The joint project between DOE Office of Science and National Nuclear Security Administration (NNSA) will be led by computing industry leaders AMD, Cray, IBM, Intel and NVIDIA.

In an era of increasing global competition in high-performance computing, advancing the Department of Energy's computing capabilities is key to sustaining the innovation edge in science and technology that underpins U.S. national and economic security while driving down the energy and costs of computing. The overall goal of both CORAL and FastForward 2 is to establish the foundation for the development of exascale computing systems that would be 20-40 times faster than today's leading supercomputers.

For more information on CORAL, please click on the following fact sheet **HERE**.

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