



Collaboration to advance high-performance computing

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Five-year agreement for technology development includes high performance computing, data storage, cyber security, cloud computing, analytics, materials science and data sharing, and mobility

LOS ALAMOS, New Mexico, December 21, 2011—Los Alamos National Laboratory today announced the signing of a new Umbrella CRADA (Cooperative Research and Development Agreement) with [EMC Corporation](#). Together, LANL and EMC will enhance, design, build, test, and deploy new cutting-edge technologies in an effort to meet some of the nation's most difficult information technology challenges. The CRADA involves six general categories of technology development in which LANL and EMC will collaborate over the next five years, including high-performance computing (HPC), data storage, cyber security, data sharing and mobility, cloud computing, large-scale analytics, and materials science.

This first Project Task Statement (PTS) under the Umbrella CRADA is focused on support for the U.S. Department of Energy's Exascale Initiative and other data intensive programs. The LANL and EMC collaboration for the Exascale initiative is aimed at boosting high-performance computing levels to the exaflops—a thousand-times faster than current petascale capabilities. The project involves design and development of an open-source, extremely scalable data-management middleware library called the Parallel Log Structured File System (PLFS), which will be used on a range of computing platforms from small clusters to the largest supercomputers in the world.

"This PLFS concept has been shown to improve data movement at extreme scales by several orders of magnitude," said Gary Grider of LANL's High Performance Computing Division. "Both EMC and LANL are interested in furthering this PLFS open source project to address the increasingly difficult data-management problems as the supercomputing world moves toward exascale-class computing."

"We are thrilled to work with some of the nation's greatest scientists at LANL, where the first petascale supercomputer was deployed, to collaboratively innovate in an effort to help maintain our nations' leadership in extreme computing, on the road to exascale," said Dr. Percy Tzelnic, senior vice president and EMC Fellow.

“The U.S. economy’s health is a national imperative, and strategic collaboration between the private and public sector—such as EMC and LANL—help LANL remain at the cutting edge of science and engineering,” said Dr. Alan Bishop, principal associate director for Science, Technology, and Engineering at LANL.

“Private and public collaboration will help overcome today’s technology challenges associated with the six categories outlined in this CRADA. Collaboration between public and private institutions—like LANL and EMC—will help the government to more cost-effectively address its needs, while delivering the industry at large with a better understanding of federal challenges to help build the right solutions,” said Nick Combs, EMC federal chief technology officer.

LANL has been at the forefront of HPC since the 1970s. LANL has developed extensive capabilities and numerous technologies that offer strong potential for collaboration in research and development in vast areas relating to data storage, data sharing, data analysis, cyber security, large-scale modeling, simulation and analysis, and materials science. EMC is a global leader in enabling businesses and service providers to transform their operations and deliver IT as a service. Through innovative products and services, EMC helps store, manage, protect and analyze information in a more agile, trusted and cost-efficient way.

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