Massive data storage resource to support Big Red II supercomputer

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(Phys.org)—Indiana University today announced the successor to its internationally recognized Data Capacitor research data storage platform. The new system, called Data Capacitor II (DCII), is a five petabyte storage resource engineered to provide scientific researchers with high performance access to a robust storage facility. DCII will be used for a range of applications, including management of massive research data sets, high-scale data analysis, genomic sequencing and computational visualization.

This announcement arrives on the heels of the university's recent acquisition of Big Red II, a one petaFLOPs supercomputer that is the fastest university-owned system in the nation. (Read more about Big Red II.) DCII will provide high performance file storage to the supercomputer environment and deliver full-speed access to massive scientific data sets.

"The ability to process and analyze massive data sets has become vital to the success of many fields of research, from the huge genomic sets required by the life sciences disciplines to gigapixel astronomical images ," said IU President Michael A. McRobbie. "This significant expansion of our data storage and supercomputing facilities will enable IU to remain a university computing leader and allow the university to continue to compete at the highest levels for federal research grants, which are of central importance to our research mission."

After an extensive and competitive procurement process, IU partnered

with DataDirect Networks (DDN) to supply the highly scalable data infrastructure for DCII. The system - at its core - is built with DDN's award-winning, high-performance Storage Fusion Architecture. DDN's SFA12K-40 high-speed storage appliances combine with the Lustre® open source parallel file system to deliver up to 50GB/s of file system performance. IU has a long history of leadership within the Lustre community, including active partnership with DDN and involvement in Open Scalable File Systems (OpenSFS). Stephen Simms, manager of IU's high performance file systems group and Data Capacitor project lead, serves as Community Board Representative on the Open SFS Board of Directors. Previous collaborations with Lustre and DDN have contributed to IU's 2007 Supercomputing Bandwidth Challenge win, as well as accomplishments in the 2011 Supercomputing Conference SciNet Research Sandbox demonstrating the viability of spanning a file system across great distances.

"IU and DDN have a strong history of collaborating to explore groundbreaking solutions, dating back to the original Data Capacitor acquisition in 2005," said Brad Wheeler, IU vice president for information technology and CIO. "Data Capacitor II is an exciting development in the history of IU's IT innovations, allowing our researchers to stay at the forefront of high-speed and data-intensive computation."

Using its GRIDScaler enterprise file storage technology, DDN will also provide a new service for long-term research data storage. This resource will also power IU's IUanyWare cloud-based service, which provides students, faculty and staff with on-demand access to hundreds of software applications.

"Indiana University has established itself as a global leader in the world of high performance computing, and DDN is proud be a strategic partner to IU during this exciting time," said Alex Bouzari, CEO and cofounder

of DDN. "As data intensive computing opens doors to understanding everything from the workings of the most dangerous diseases to the mysteries of space and time, IU promises to be at the forefront of extraordinary research efforts, and we look forward to continuing to work closely with the university's excellent technical team."

More information: Big Red II and DCII's DDN infrastructure will be installed in the IU Data Center in spring 2013.

Provided by Indiana University

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