NSF Teams with Microsoft to Move Scientific Research into the Cloud

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Microsoft becomes the latest provider of software and data hosting services for NSF-funded researchers

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Microsoft and the National Science Foundation (NSF) on Thursday announced plans to offer researchers and research groups selected through the agency's merit review process free access to computer servers. Microsoft will host the computing infrastructure at its data centers, giving the researchers access to storage, computational and networking resources via the Internet for a period of three years.

Microsoft and the NSF are touting their relationship as a way to provide scientists with a place to write and run software as well as store and search data without having to factor in the cost of these services. Microsoft is offering these computing resources through its Windows Azure platform, which is essentially the company's way of opening up some of its own data center capacity to outside organizations.

Microsoft introduced Azure at one of its software developer conferences in October 2008 and already offers these outsourced data-center resources to businesses (although not for free). Microsoft is competing with Amazon, Google, IBM, Yahoo and others as a provider of information technology resources that the companies themselves own and then rent out to customers (known as the "cloud computing" model).

"At NSF, we see our scientists drowning in data," said Jeannette Wing, NSF's assistant director for Computer and Information Science and Engineering (CISE), during a press conference Thursday to announce the arrangement with Microsoft. "Now researchers won't have to worry about infrastructure" or feel compelled to build large data centers on their own campuses.

Using computers to build virtual models of biological phenomenon devours a lot of computing resources. A team of University of Illinois at Urbana–Champaign (U.I.U.C.) physicists has assembled a supercomputer consisting of several hundred superfast graphics processing units, for example, to help them build a simulation depicting how chromatophore proteins turn light energy into chemical energy in photosynthesis. In another example, researchers at Virginia Polytechnic Institute and State University in Blacksburg, Va., required supercomputing-level power to represent water computationally.

Microsoft's services are intended to help scientists who are looking for a computing infrastructure on which to carry out their research, but the move benefits Microsoft, as well, because the scientists will be writing their software using Microsoft software-writing tools and the data generated will be formatted to reside in Microsoft databases.

NSF already makes a number of free cloud services available to researchers for data-intensive computing projects.

These include data center space offered by Google and IBM as well as a computing cluster supported by HP, Intel and Yahoo housed at the U.I.U.C. By making different cloud computing platforms available to researchers, NSF is hoping to give scientists choices in the type of software they write (Google, IBM and HP/Intel/Yahoo services support the open-source Hadoop programming interface whereas Microsoft supports its Windows-based programming interface).