NSF awards IU $6.6 million to build Jetstream, a cloud for science and engineering research

- **Nov. 24, 2014**

FOR IMMEDIATE RELEASE

BLOOMINGTON, Ind. -- Thousands of U.S. researchers will have easy access to advanced computing tools in a new cloud environment funded by a $6.6 million National Science Foundation grant to Indiana University.

The Pervasive Technology Institute at Indiana University has received this grant to create NSF's first science and engineering research cloud, Jetstream. IU is expected to receive a total of about $11 million from NSF over the next five years to create, implement and operate Jetstream, making it the largest grant IU has ever received to deliver computational and data storage services to the national research community.

Jetstream will be a user-friendly cloud environment designed to give researchers and students access to computing and data analysis resources on demand — from their tablets, laptops or desktop computers. People will interact with the system through a menu of "virtual machines" designed to support research in many disciplines including biology, atmospheric science, earth science, economics, network science, observational astronomy and social sciences. Jetstream will also allow creators of new research software to make those tools easily available to potential users, speeding their adoption.

"Since its establishment in 2000, Indiana University's Pervasive Technology Institute has helped solidify the university's reputation as a global leader in information technology, while contributing to economic development through innovation and invention," said IU President Michael A. McRobbie. "This latest major grant to PTI, which will help establish the National Science Foundation's first cloud environment for science and engineering research, reflects the outstanding record of accomplishments by researchers in the institute and elsewhere at IU, as well as their record of highly successful collaboration with other leading research centers nationally."

Brad Wheeler, IU vice president for information technology and chief information officer, added: "Jetstream is like an 'easy button' giving researchers simple access to supercomputing tools and data sets. They can work from hand-held devices or even old PCs and have bundles of the most useful software tools for their research available via Jetstream. As research becomes more sophisticated with big data and computation, tools like Jetstream make it easy for faculty and students to make the best use of the tools they need from just about anywhere."

At its core, Jetstream will empower new communities of researchers who previously lacked access to high performance computing and software resources.

"In the atmosphere, a jet stream is the border between two different masses of air," said Craig Stewart, Jetstream

principal investigator, IU Pervasive Technology Institute executive director, associate dean of IU Research Technologies and adjunct faculty member in the School of Informatics and Computing. “The new Jetstream cloud system will operate at the border between the existing NSF-funded cyberinfrastructure and thousands of new users. Jetstream will be widely used because it will apply cloud computing approaches to advance important scientific research.”

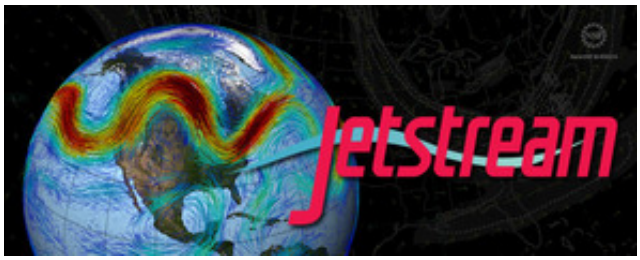
In addition to the Pervasive Technology Institute, a seasoned team of organizations and experts will implement Jetstream, including the University of Texas at Austin’s Texas Advanced Computing Center; University of Chicago; University of Arizona; and University of Texas, San Antonio. Other collaborators include Johns Hopkins University; Pennsylvania State University; Cornell University; University of Arkansas at Pine Bluff; University of Hawaii; the National Snow and Ice Data Center; the Odum Institute at the University of North Carolina; and the National Center for Genome Analysis Support.

At IU, several leaders from IU’s School of Informatics and Computing will also participate in the Jetstream project: Professors Beth Plale, Katy Börner and Volker Brendel, as well as IUPUI Department of Computer and Information Science professor Fengguang Song.

For technical information about Jetstream, visit the Jetstream website, which includes a technical backgrounder.

About the Pervasive Technology Institute

The Pervasive Technology Institute at Indiana University is a world-class organization dedicated to the development and delivery of innovative information technology to advance research, education, industry and society. Since 2000, PTI has received more than $50 million from the National Science Foundation to advance the nation’s research cyberinfrastructure. Established by a major grant from the Lilly Endowment, the Pervasive Technology Institute brings together researchers and technologists from a range of disciplines and organizations, including the IU School of Informatics and Computing, the IU Maurer School of Law and the College of Arts and Sciences at Bloomington and University Information Technology Services at Indiana University.



IU is expected to receive a total of about $11 million from NSF over the next five years for Jetstream.

Media Contacts

Amanda Aubuchon

- **Office of the Vice President for Information Technology**
- **Office 812-856-4416**
- aaubucho@iu.edu

Web version: http://news.iu.edu/releases/iu/2014/11/jetstream-nsf-grant.shtml