INDIANA UNIVERSITY

70 – IT-enabled Research

Action Item Template Response

General Action Item Information

Lead Division/Office: Pervasive Technology Institute
Action Item Number: 70
Action Item Short Name: IT-enabled Research
Dependencies with other EP Action Items: 3, 4, 16, 25, 51
Implementation leader (name & email): Craig Stewart (stewart@iu.edu)

I. DESCRIBE YOUR PLANS FOR IMPLEMENTING THIS ACTION.

Indiana University has a highly unusual history of intensive collaboration between researchers (faculty, staff, students) and professional IT staff that has proven extremely advantageous for IU for decades. This history began with the first permanent director of the IU Research Computing Center - IU astronomer Marshall Wrubel - who established in the 1950s a policy of open access to IU's research computers, enabling students, staff, and faculty to use this tremendous asset. IU produced one of the first 10 software programs ever protected by copyright - the Fortran compiler FASTRAN - written by two faculty members and one staff member from the computing center. The tradition of research collaboration, and even research leadership, has accelerated dramatically since the development and implementation of the 1998 IT strategic plan. Since that time, an aggregate $100M in grant monies has been brought to IU through the Office of the Vice President, the Research Technologies Division, Networks Division, Enterprise Software Division, and Pervasive Technology Institute. These grant monies have expanded the capabilities of discovery and innovation for the entire IU community, particularly the faculty.

Indiana University has identified a limited set of areas of strategic focus, in which IU strives to be distinguished nationally and internationally: life sciences, information technology, and humanities. The Pervasive Technology Institute and the Office of the Vice President for Information Technology held a faculty retreat in spring 2009 to seek the input of a wide array of faculty about themes and areas of concentration for focused attention in IT research. This plan is also informed by the IU Life Sciences Strategic Plan (http://lifesciences.iu.edu/doc/strategic_plan.pdf).

This action is to be implemented under the overall leadership of the Pervasive Technology Institute. In the proposal to the Lilly Endowment by IU President Michael A. McRobbie that established PTI, the importance of focused effort was clearly emphasized:

"The academic institutions that are gaining most rapidly in the current federal grants environment are those specializing to win very large grants in a small group of highly focused areas. These institutions put such extraordinary effort into their chosen focus areas that they influence national research agendas, resulting in funding emphases in their own areas of specialty. Computer Scientist Alan Kay advised: 'The best way to predict the future is to invent it.' Similarly, Larry Smarr, the founding director of the California Institute for Telecommunications and Information Technology, wisely observed, 'The future is unevenly distributed.' In order to deepen our economic impact and

become a regional and national leader, the state of Indiana must focus more intensely and with greater effort on establishing itself as a hub of innovation. Indiana must become among those places where the future is concentrated - arriving here first by virtue of being invented here."

PTI is uniquely and ideally structured to focus and lead research in information technology. It is a collaborative effort of the Office of the Vice President for Information Technology, the IU School of Informatics and Computing (the first and one of the best schools establishing informatics as a field of knowledge), the Maurer School of Law, and University Information Technology Services. The key leadership of faculty leaders from the School of Informatics and Computing and Maurer School of Law provides intellectual leadership in informatics, computing, information technology, and cybersecurity. The deep involvement of OVPIT and UITS provides seasoned professionals to participate in research and ensure high-quality development and deployment. This unique structure enables a triangulation of collaboration among IU faculty and librarians generally, faculty affiliated with PTI, and staff of UITS. In this way, the strengths of all of the participating organizations are amplified locally and nationally.

Detailed plans for five areas of concentration in IT research follow:

- Action Item Number: 70a: IT Research - Community Source Software
- Action Item Number: 70b: IT Research - Life Sciences
- Action Item Number: 70c: IT Research - Data-intensive Computing
- Action Item Number: 70d: IT Research - Digital Arts
- Action Item Number: 70e: IT Research - Digital Humanities

II. WHAT ARE THE POLICY AND PRACTICE IMPLICATIONS OF YOUR PLANS?

This Action Plan is in direct alignment with the proposal submitted to the Lilly Endowment to establish the Pervasive Technology Institute. Indeed, this plan in part will lead to the fulfillment of commitments made by Indiana University that the Pervasive Technology Institute become self-sustaining by the end of FY 14/15.

III. IDENTIFY STAKEHOLDERS.

1. Pervasive Technology Institute
2. School of Informatics and Computing
3. OVPIT and UITS
4. Maurer School of Law
5. College of Arts and Sciences
6. IU School of Medicine