

## 16d – National Presence

### Action Item Template Response

#### General Action Item Information

Lead Division/Office: Pervasive Technology Institute

Action Item Number: 16d

Action Item Short Name: National Presence

Dependencies with other EP Action Items: 3, 4

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#### I. DESCRIBE YOUR PLANS FOR IMPLEMENTING THIS ACTION.

Federal grant monies are awarded competitively. Such competitions are first measures of intellectual leadership, but many other criteria are critically important. 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.

A hub of innovation evokes a classic metaphor where many spokes are attached to a strong center like a wagon wheel. Hubs of innovation spur major economic growth by aiding the creation and growth of multiple, related areas of research, development, and production. Just as a thriving shopping mall of top-line stores attracts other high-caliber stores, hubs of innovation demonstrate the value of co-location. Silicon Valley in California is the most obvious example, and its position was decades in the making. There are many others, however, including Austin, Texas and the Research Triangle in North Carolina. These are all anchored near top-tier universities. Aspiring and talented professionals move to such areas because many high-tech companies are located there. High-tech companies spring up in or move to such hubs of innovation because of the ready availability of highly qualified staff. These processes of leading edge research, growth in new companies, and attraction of highly skilled labor are mutually reinforcing. Real progress in scientific impact, relative to other states, requires overtaking established research universities in grant competitions, and doing so regularly.

The nation's leading hubs of innovation have both great accomplishments and a strong national identity. IU is not yet in the same category as the most elite cyberinfrastructure centers, e.g. NCSA, Cal-IT2, NERSC, Oak Ridge. However, we should view ourselves as being in the very next tier, which includes UT Austin, SDSC, and Georgia Tech, and ahead of centers such as RENCI and OSC. A key element of presenting such an image is having a strong presence at regional national conferences related to cyberinfrastructure and use of cyberinfrastructure in scholarly disciplines. It should be noted that putting IU in this tier of national leaders depends explicitly and strongly on the excellence of the School of Informatics, the Maurer School of Law, the

Pervasive Technology Institute, and the IT-centric research carried out by the College of Arts and Sciences, IU School of Medicine, and IU researchers generally, aided by the strengths of OVPIT and UITS.

IU has established an excellent reputation and presence at the annual IEEE/ACM SCxy conference - one of the world's most important conferences in advanced cyberinfrastructure (see <http://www.supercomputing.org/> for more information). It is particularly notable that we have done displays at SCxy collaboratively with Purdue, Notre Dame, and other state institutions of higher education almost every year since 2000. This very much raises the profile of the state of Indiana as a whole, and demonstrates our strong competence in collaboration per se.

In general, however, IU does not have the reputation and presence it deserves, given its underlying level of accomplishment in advanced research cyberinfrastructure, informatics, computer science, and computational science.

We propose to enhance both the perception of IU as a national leader and enhance the effectiveness of IU in leading nationally and internationally in defining federal research priorities and plans.

In terms of better disseminating information about IU innovations in IT-related research, IU will do the following:

- Maintain an excellent presence at the IEEE/ACM SCxy conference.
- Expand funding for participation in national conferences and national organizations. In particular, increase the extent to which UITS staff attend national conferences and present a technical paper or tutorial, or organize a panel presentation or a birds-of-a-feather (BOF) session. (Attendance at key conferences on an ongoing basis is essential, however, to casting appropriate proposals for BOFs, panels, and tutorials; and to submitting technical papers written in ways appropriate to the audience of each.) Also, participate in key national organizations that play a leadership role in setting national research agendas.
- Invest additional personnel effort in writing technical materials to inform the academic community, business community, and general public about the benefits that derive from IU research, development, and delivery of IT innovations and innovations enabled by IT.
- Note: Since presentations by the Networks and RT Divisions are most likely tied to research competitiveness, travel costs for presentations for those divisions are included in 16D. Travel costs for presentations by other staff, which will have important and more general impact on raising IU's stature in IT (and less likely a strong direct tie to research competitiveness), are included in Action 25.

In terms of enhancing the effectiveness of IU in leading nationally and internationally in defining federal research priorities and plans, PTI will (in collaboration with the IU School of Informatics, Maurer School of Law, OVPIT, and UITS):

- Host national conferences at IU.
- Seek and obtain funding from federal agencies to lead workshops that define the future of IT for research and research about IT and informatics, computing, and computer science

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

There are no new policy implications of this plan. There are significant practice implications. IU asserts and we believe that IU faculty in informatics, computer science, computational science, and staff engaged in IT research and development are among the best in the nation and world. If that is the case, then it is to the benefit of the nation to have IU playing a stronger role in setting national IT agendas through hosting national workshops and conferences. A significant practice change for UITS will be to explicitly fund the activity of presenting technical papers at national and international conferences distinct from travel for training and professional development.

I.  
II.

**III. IDENTIFY STAKEHOLDERS.**

- All subunits of UITS and OVPIT
- School of Informatics and Computing
- College of Arts and Sciences
- Maurer School of Law
- School of Medicine