

2012 Reaccreditation Report: UITs Accomplishments

Teaching and Learning

Infrastructure. UITs created and maintains the technology infrastructure that supports teaching and learning. For related initiatives, see also Best Practices; Research, Scholarship, and Creative Activity; and Collaboration.

UITs developed the lifecycle replacement model for basic desktop equipment (computers, printers, servers, and common applications), which calls for regular equipment refresh and maximizes the benefit the university derives from IT in teaching and learning.

UITs agreements with commercial vendors provide discounts on hardware. Software licensing agreements provide no-cost software via IUware download, from such major vendors as Microsoft, Adobe, Dell, AT&T, Macintosh, lynda.com, and Sony, and providers of statistics, mathematics, and GIS.

Student Technology Labs, InfoStations, and such specialized areas as the UL Rich Media cluster provide students with access to tools for productivity, communication, and innovation.

IUPUI students enjoy a choice of email systems through the hosted email options Microsoft Imail and Google Umail, which offer personal web space, calendar, and blogs, and increased email storage.

Promoting IT in teaching. UITs encouraged the integration of IT into campus and distance education via the Ameritech Fellows and Technology Assessment Grant (TAG) programs. Fellows mentored and held forums. TAG encouraged study of impact of IT on practices and on outcomes.

Classroom technology. In collaboration with Electronics, Physical Plant, and the University Architect, UITs planned and installed instructional technology in many IUPUI school and department classrooms, and provides training and support for permanently installed equipment. Transitioning to UITs the technology portion of the General Fee is expected to provide more resources for students and more holistic management of classroom technology via leverage, lifecycle funding, and software licensing. (<http://kb.iu.edu/data/aydm.html#what>).

Oncourse. UITs and faculty/staff partners developed Oncourse, the online course management system of teaching, learning, and multimedia resources in a single interface. Oncourse is based on the Sakai open source initiative. Faculty have input in evolving Oncourse through the Oncourse Priorities Committee and Functional Requirements Committee. (<http://oncourse.iu.edu>)

IT help. The UITs web site at uits.iu.edu provides 24x7 help, information (including the Knowledge Base), IT updates, online chat, access to enews, and other resources. The Centers for Teaching and Learning provide consulting and JumpStart classes for faculty. The Faculty iPod Program supports the use of podcasting in teaching and learning. The UITs program of workshops and self-study courses, blog, and online resources from lynda.com, Microsoft, and Skillsoft provide IUPUI with no- or low-cost IT training resources. (<http://uits.iu.edu/page/amec>)

Through the Student IT Ambassadors, UITs provides IUPUI students with communication, liaison, and leadership opportunities, and keeps in touch with student IT preferences. (<http://ambassadors.uits.iu.edu/>) The annual Making IT Happen TechFest acquaints students with IT resources and information (<http://makeithappen.iu.edu/>).

Next 5 years. UITs will continue to support IU's leadership as a change agent in IT-enabled teaching and learning practices, through involvement in open source, connecting with global educational resources; evolving flexible, collaborative, and experimental learning spaces; and supporting faculty innovation in using IT in instruction.

Research, Scholarship, and Creative Activity

University cyberinfrastructure. UITS created and maintains the advanced cyberinfrastructure that supports research, collaboration, and discovery, and promotes the creation and dissemination of artistic works for the university community. UITS refreshes these resources as technology evolves in order to attract and retain the best faculty, students, and researchers; to aid in the competition for grants and awards, which bring revenue to the university; advance the university's visibility; and bolster the state economy. Resource highlights follow.

- The Big Red supercomputer supports IUPUI life scientists and researchers in biomedicine, astronomy, informatics, and computational physics, in the Center for Computational Biology and Bioinformatics, and in the analysis of compounds found in living cells.
- The Quarry supercomputer cluster provides faster Intel hardware for research and general Unix computing.
- The Data Capacitor, a high-speed, high-bandwidth storage system is important in collaborative work, as it promotes sharing of large amounts of data with researchers at multiple remote sites.

Grid computing. IU continues to contribute to an international structure for grid computing, extending the reach of IU researchers and encouraging collaboration. These include:

- TeraGrid of interconnected supercomputers, managed by the Global NOC at IUPUI
- Polar Grid of computers to help scientists understand the current and future state of polar ice sheets and the relationship between rising sea levels and global climate change
- Open Science Grid (OSG) for researchers from a variety of scientific disciplines
- FutureGrid testbed for next-generation scientific supercomputing
(<http://uitspress.iu.edu/news/page/normal/11841.html>)

The IU Pervasive Technology Institute, with its Digital Science Center, Data to Insight Center, and Center for Applied Cybersecurity Research, brings together researchers and technologists across the university and externally to develop the IT that supports research, education, and industry.

Advanced networks. The university's achievements and expertise in planning, managing, and operating high-speed research and education (R&E) networks have earned IU a national and international reputation. IU led the establishment of TransPAC, the nation's first connection to Asia. IU continues to enlarge the international framework for scholarly communication that supports IUPUI scholars and researchers through such recent initiatives as the TransPAC3 connection to Asia and the new ACE (America Connects to Europe) network. Through the Global Research Network Operations Center (GRNOC, <http://globalnoc.iu.edu/>), UITS provides 24/7/365 management and support for the nation's most advanced R&E networks, including the I-Light optical-fiber network; "Nwave," the National Oceanic and Atmospheric Administration climate research network; the National LambdaRail; and the IP-grid optical network. The university is a partner in the \$62.5M federal stimulus funding to construct the US Unified Community Anchor Network (US UCAN). This will create an open, national network of regional networks, linking schools, libraries, community colleges, and health and safety centers. (<http://newsinfo.iu.edu/news/page/normal/14872.html>)

Digital scholarship With its own digital library programs IU is a leader in the national effort to explore new models of producing, disseminating, and preserving the scholarly record (<http://www.ulib.iupui.edu/digitalscholarship/collections>). IU is also a leader in the Hathi Trust initiative to create a shared digital repository of library collections that will provide IUPUI scholars greater access to digitized materials. (www.hathitrust.org)

Next 5 years. While continuing to advance IT-enabled research, scholarship, and creative activity across the disciplines, UITS will devote special attention to areas in which IU has the ability to push

the frontiers.

Best Practices

For other examples of best practices, see Teaching and Learning; Collaboration; and Research, Scholarship, and Creative Activity.

Communication and support. To help the IU community derive maximum benefit from IU's IT resources, UITs communications and support staff create and distribute information about technology and about UITs services to students, faculty, and staff via the web, email, print publications, multimedia, podcasts, streaming video, and RSS feeds. UITs develops and hosts local, national, and international conferences on such key topics as security. UITs conducts outreach and special-focus events to build awareness and expertise in IT. A broad and deep structure of support provides IT resources and information in a variety of online and in-person forums tailored for wide and specific audiences, including services for students, instructors, departments, and top university leadership. Resources evolve continually to anticipate and meet need. UITs plays a role in the university's disaster recovery and emergency notification plans. (<http://www.indianauniversity.info/>).

Sustainability. UITs involvement in university sustainability efforts includes the following:

- The IU Intelligent Infrastructure (IUII) of virtual systems and servers realizes cost efficiencies by reducing power, electrical, and space requirements. (<http://uits.iu.edu/page/avpy>)
- The annual eWaste Collection Days event collects and recycles unused computers, televisions, and other electronic equipment. (<http://ewaste.indiana.edu>)
- The "Print less, Go Green" campaign encourages conservation across IU. (<http://uitsnews.iu.edu/?p=1550>)
- UITs promotes sustainability by communicating about energy efficient computing practices.

University systems. UITs provides and supports the central information systems that run university enterprise services. These include systems for student information, human resources management, financial information, digital libraries, Oncourse, the OneStart portal to key online services, and the Web Content Management System. These systems also provide a variety of self-service tools and information for faculty, staff, and students. (uits.iu.edu)

Open Source. UITs is a leader and partner in a range of open source development efforts that provide universities with software designed for higher education. Some applications have replaced or are replacing the university's earlier enterprise systems. Initiatives include:

- Sakai collaboration and learning software (sakaiproject.org)
- Kual Financial System, a comprehensive suite for university financial systems, replacing the Financial Information System (FIS) and EPIC procurement system (<http://kuali.iu.edu/kfs/kfs.shtml>)
- Kual Coeus, to facilitate and enhance research administration and productivity (<http://kuali.iu.edu/kc/kc.shtml>)
- Kual Rice, middleware for all Kual applications (<http://kuali.org/rice>)
- Kual OLE (Open Library Environment) for managing print and electronic collections for academic and research libraries worldwide (<http://kuali.org/ole>)
- Variations3 digital music library software (<http://www.dlib.indiana.edu/projects/variations3/>)
- Various research applications detailed at: http://pti.iu.edu/rt/open_source

Next 5 years. UITs will continue to evolve more effective means of support and communication tailored to audience, research and apply IT-enabled sustainability tools and solutions, and partner in developing open source solutions for the needs and challenges in higher education, including

developing new models for scholarly publication, dissemination, and curation that return control to the higher education community.

Campus Climate for Diversity

The Gerald L. Bepko Internship Program annually provides students on the Indianapolis and Bloomington campuses, especially those selected from a pool of underrepresented groups, with opportunities to work with UITs staff on information technology projects. Internships are open annually in a number of UITs divisions and groups, providing a variety of areas in which interns can gain IT-related academic and/or professional experience.

(<http://www.indiana.edu/~uitshr/services/jobs/intern.html>)

The Student IT Ambassadors leadership group serves as a liaison between university students and UITs, helping increase student awareness of IT resources and services, while providing leadership experience for its members. Ambassadors help identify key messages and strategies for communicating with students, and take part in researching new modes of communication.

(<http://ambassadors.uit.siu.edu>)

Ambassadors provide dedicated outreach to a wide range of groups through such fairs and events as the International Student Fair, to help facilitate the success of groups who could benefit from targeted information. They routinely hold and attend tabling events and represent the student IT perspective across campus. They also routinely engage with Bepko interns.

The IU Pervasive Technology Institute (PTI) created an interactive learning tool, Make A Meal, to help teach school-age children about nutrition. Make A Meal is housed at the Ruth Lilly Health Education Center, where more than 10,000 children are expected to visit each year. Partnering with the Indiana State Museum and the Indianapolis Museum of Art, PTI created interactive tools that enrich the educational and cultural experience at the Indiana State Museum and the Indianapolis Museum of Art.

Students in grades 6-12 who have academic potential can take part in the Minority Engineering Advancement Program (MEAP) summer workshops. Staff from the Pervasive Technology Institute and UITs volunteer with MEAP staff to acquaint students with concepts and careers in engineering and technology. (<http://newsinfo.iu.edu/asset/page/normal/7980.html>)

The Adaptive Technology and Accessibility Centers on the Indianapolis and Bloomington campuses provide university students, faculty, and staff with access to specialized adaptive technologies that help with reading, writing, studying, and information access. The Centers are linked on the Disability.gov site, an award-winning federal government website managed by the US Department of Labor's Office of Disability Employment Policy (ODEP), which provides an interactive, community-driven information network of disability-related programs, services, laws and benefits.

(<http://www.indiana.edu/~iuadapts/> and <http://www.disability.gov/state/indiana/technology>)

An agreement between the Adaptive Technology Centers and the IU School of Continuing Studies provides adaptive technologies at no cost to special-needs students learning at a distance.

(<http://newsinfo.iu.edu/news/page/normal/10147.html>)

IUPUI students benefit from Bookshare's making available materials and textbooks that are accessible to students with disabilities. UITs has partnered with Bookshare since 2003.

(http://www.benetech.org/about/press_releases/PR_2009-04-29_Universities.shtml)

Next 5 years. As part of ongoing efforts to engage with the surrounding community, UITs will continue to seek new forms of outreach, communication, and education that acquaint underrepresented groups of all ages with IT and its content, application, and opportunities. UITs is

also committed to widening its reach among the university community by tailoring its resources and services to meet individual needs.

Civic Engagement

For other civic and outreach activities, see also Campus Climate for Diversity

ICTC. The UITS home in the Informatics and Communications Technology Complex (ICTC) helps advance IT in the state, facilitates civic engagement, and supports statewide IT initiatives. IBM's investment in the Future Technology Solution Design Center in the ICTC supports the development of products that use advanced cell chip technology, especially in medical imaging and research. The ICTC has hosted Tech Tuesdays for members of TechPoint, a statewide technology trade group representing publicly traded companies, private businesses, colleges, research universities, and local economic development organizations.

The State. As part of the Indiana Initiative for Economic Development partnership, IU invited Indiana businesses to apply to use IU resources, including Big Red. (<http://rtinfo.indiana.edu/IIED/>).

I-Light is a catalyst for growing Indiana's role in research and education in the life and health sciences. The School of Medicine delivers distributed education over I-Light to its eight Medical Education Centers across the state. (www.ilight.net)

Through IU's partnership with the Indiana Office of Technology, IU provides the State with backup data center space and network connectivity, providing critical redundancy, saving money, and encouraging further partnership between IU and the State.

UITs annually provides a scientific and technology presence at the Indiana State House to promote life sciences research and development in Indiana.

UITs engages IUPUI and the surrounding community in its eWaste Collection Days site at the Indiana State Fairgrounds as part of university sustainability initiatives. Some 800,000 pounds of ewaste have been collected in a single day in the form of computers, televisions, and monitors. (ewaste.indiana.edu)

Policy/Security. UITs demonstrates its commitment to IT security through the following:

- Hosting the annual Indiana Higher Education Cybersecurity Summit at the University Place Conference Center (<http://www.indiana.edu/~uits/cacsummit10/>)
- Making available its National Cybersecurity Awareness Month Kit, which was posted on the US Department of Homeland Security web site and became a resource for colleges and universities
- Hosting the SANS Institute, a provider of IT security training, extending this training to state and local law enforcement, nonprofits, and K-12 at a discounted rate. (<http://informationsecurity.iu.edu/training/sans/>)
- Providing visitors to the State Fair with information on how to protect themselves from online predators, viruses, identity scams and other Internet-based threats.

Next 5 years. UITs will help the university deepen its IT-related engagement with institutions that advance health, education, research, and economic development in the State, including provisioning a fully searchable database of facilities and outreach programs, creating an alumni database, and facilitating the progress from discovery to invention. As well, UITs and the university will broaden exposure to IT in Indiana schools. In healthcare, they will develop policies and systems that enable Indiana University Health and associated centers to more easily and securely access university IT systems. They will also support the IT infrastructure for enhancing distributed and collaborative

education in and delivery of healthcare, including providing secure access to IT systems, protecting sensitive information, sharing IT services, and developing innovative approaches to education.

Collaboration

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Many UITs initiatives described in this report support the collaboration fundamental to most aspects of university life and work. This section covers the highest-profile initiatives and technologies. See also Best Practices, Research and Creative Activity, Teaching and Learning, and Civic Engagement.

Planning and evolving the IT environment. Developing *Empowering People* (EP), the university's second strategic plan for IT, represented a significant collaborative effort between the university and UITs. A professor and a university-wide committee led four teams of faculty, staff, and students through a planning exercise whose outcome was a draft of the plan. UITs gathered community input through meetings across university campuses and through the plan web site at <http://ep.iu.edu>. The collaborative model was designed in part to leverage the university's expertise to arrive at a plan that closely represented the community's vision and needs. UITs made the planning process transparent on the EP web site. Community input is still welcome on the plan at <http://ep.iu.edu> and on specific initiatives.

Connecting the university. UITs built the physical Ethernet network in all university buildings and the wireless networks that connect the IUPUI community to resources at IU and beyond. The university's 10-year Network Master Plan (<http://uits.iu.edu/page/avkt>) mapped out the communications infrastructure, technology directions, and implementation.

UITs implemented Unified Communications, or UniCom, which delivers email, voice mail, instant messaging (IM), video conferencing, enhanced presence, Live Meeting (web collaboration), file sharing, and calendaring to the desktop in one consistent user interface. UniCom helps address the strategic plan goal of overcoming the productivity challenges of location. (<http://uitspress.iu.edu/news/page/normal/10346.html>). UITs made improvements to videoconferencing systems, including updated equipment and OCS conferencing service, toward a seamless and pervasive videoconferencing environment (<http://uits.iu.edu/page/axoq>).

Encouraging the sharing of knowledge and information, the IU Knowledge Commons, an IU community wiki, provides a virtual gathering place where the university community can post and search for IU-related knowledge, interests, and opinions, and club, organization, or office news, as well as IT topics. (<http://wiki.uits.iu.edu>)

Connecting the State. The university, along with Purdue University, led the creation of I-Light, the statewide higher education network, whose more than 1,000 miles of fiber connect more than 40 institutions of higher education. I-Light increases the capacity for collaboration and innovation in education and research across institutional and geographic boundaries. (www.ilight.net)

A 2010 American Recovery and Reinvestment Act grant has enabled the 21 Ivy Tech Community College campuses to connect to the I-Light network and expands broadband connectivity to underserved areas of Indiana, adding some 600 miles of new fiber. (<http://newsinfo.iu.edu/news/page/normal/13556.html>)

Mobile connections. The IU Mobile web service for handhelds provides on-the-go access to information about IU, its campuses, news, alerts, directory, Oncourse, the library, the Knowledge Base, and more. Community input was sought at town hall meetings and is still welcome via the device itself. The IU Mobile iPhone app is available as a free download from the Apple store. (<http://itunes.apple.com/us/app/iu-mobile/id383456985?mt=8>)

Next 5 years. UITs will continue to deepen its partnerships with constituencies across the university, across academe, and among interest groups to leverage brainpower and resources and find new

ways to create and share resources. For a discussion of the role and potential of partnership and leverage in higher education, see <http://tinyurl.com/4mh33ql>