PennState

Information Technology Services Inventory of Cost Savings

Over the past few years, Information Technology Services (ITS) has worked in partnership with the broader Penn State IT community to boost the efficiency and effectiveness of IT operations, services, and technologies. These efforts have led to reduced costs and more strategic use of University resources, enabling ITS to continue providing superior service to students, faculty, and staff while supporting the University's mission. The following is a summary of many of these collective efforts as of **January 2016**.

Software at Penn State

IMPACT

Software at Penn State, an online-only software store, was launched in 2013 to replace the University's physical Computer Store. As a result of leveraged discounts with such software providers as Adobe and Kivuto, Penn State saved more than $19 million during the 2014–15 fiscal year. In addition, departmental sales placed via eBuy on the Software at Penn State website outnumbered Penn State purchasing card purchases (by eight times) and resulted in a savings of more than $49,000 in credit card fees. Digital delivery of media through Software at Penn State represents approximately one-third of all media orders and continues to provide a sustainable alternative to physical DVDs. As of December 31, 2015, 40,000 digital downloads of Microsoft Office (which is available at no additional cost for students) has saved students approximately $1.8 million.

Primary contact: **Rick Coons**
Service owner: **Services and Solutions**

Data Center Services Colocation Center

IMPACT

The Colocation Center is available for Penn State departments and units to relocate and securely house their research and business data. Transitioning data and systems to the Colocation Center supports the University's business continuity and disaster recovery (BC/DR) efforts by providing a redundant infrastructure and backup system with continuous power, cooling, and security for storing data. The center also helps minimize downtime related to power and cooling inefficiencies that often occur in independently managed server rack locations. This downtime reduction saves energy and personnel time, reduces equipment failure, and mitigates risk.

During 2015, the Colocation Center experienced a 68 percent increase in the number of computer racks being managed for current and new customers. The center currently serves twenty-one units, colleges, and campuses, including new customers from the Applied Research Laboratory, Penn State Abington, Penn State Behrend, the College of Information Sciences and Technology, Penn State Hershey Medical Center, and the Social Science Research Institute.

In 2016, University Park and the University Technology Center in Hershey will each have a newly constructed data center facility opening. The state-of-the-art facilities will provide expanded capacity for general computing and research, improved BC/DR capabilities to all campuses, and increased energy savings as smaller, individual data center spaces are transitioned. Data Center Services staff are continuously pursuing industry best practices for energy savings.

Primary contact: **Mark Saussure**
Service owner: **Data Center Services**

iTwo

IMPACT

iTwo, a web-based data access and analysis tool, is now being accessed by more than 1,000 users across Penn State, including more than 350 financial support staff and 600 student support staff. Since its debut in 2011, iTwo has made it easier for participating departments to generate data for planning and reporting efforts, share information with Penn State executives and administrators, and reduce the need to maintain, secure, and support separate web applications and repositories. The implementation of iTwo has made it possible to retire the Office of the Registrar's enrollment reporting system, as well as the many distributed models within the Enterprise Information System, including those for the Office of Human Resources, Division of Undergraduate Studies, and the University Budget Office. iTwo has helped save the University more than $37,500 annually (and potentially $200,000 over the next five years) by not running multiple systems.

Primary contact: **Ken Forstmeier**
Service owner: **Administrative Information Services**

Course Substitution Request System

IMPACT

The Course Substitution Request System was released as a University-wide pilot in September 2013. The system has processed more than 37,000 substitution requests for more than 14,000 students from ten participating colleges across twenty campuses and the Penn State World Campus. Used by more than 260 advisers, the system provides an automated and standardized workflow approval and communication process for advisers requesting a course substitution on behalf of their student advisees. The system is being expanded during the spring 2016 semester and will integrate with LionPATH to support Undergraduate Admissions-initiated reviews of courses transferred from other institutions.

Primary contact: **Ken Forstmeier**
Service owner: **Administrative Information Services**

Document Management System

IMPACT

Penn State's Document Management System provides a service for departments and campuses to securely store and distribute electronic documents for viewing and executing business processes across the University. Today, more than eighty-five departments—including Undergraduate Admissions, Office of Student Aid, Office of the Bursar, Office of the Registrar, Office of the Corporate Controller, and the University Budget Office—use the service to store more than 14 million documents for processing college applications, transcripts, administrative and student documents, endowments, financial and billing reports, and more. The Document Management System helps reduce space needed for paper storage, eliminates the need for printing, improves business processes, and helps departments maintain specific retention policies for each type of document.

Primary contact: **Ken Forstmeier**
Service owner: **Administrative Information Services**

Central Person Registry

IMPACT

The Central Person Registry (CPR) was created to integrate identity information from disparate University sources into a single system. The registry, which houses approximately 5.5 million person records, also enables real-time transfer of information to such business systems as LionPATH (Penn State's student system). The CPR improves transparency, visibility, and processes for creating, tracking, and managing identity data, which saves staff time managing identity records. In addition, the centralized nature of the data reduces the cost of hardware, maintenance, and support in local repositories for the twenty-five areas currently accessing data from the CPR.

Primary contact: **Renee Shuey**
Service owner: **Identity Services**

Identity Provisioning

IMPACT

Electronic Account Activation and identity provisioning have modernized the process of creating Penn State records and set the stage for the retirement of signature stations in 2016. The signature stations, which require a physical signature in order to create an account, are at end-of-life in terms of support and would require an investment of close to $125,000 to replace. Electronic Account Activation, a streamlined email process that enables Penn Staters to activate Access Accounts online, will result in significant cost savings (expected to be tens of thousands of dollars annually) for World Campus because it will eliminate the cost of mailing Access Account letters to prospective students. As part of the service's initial rollout, identity provisioning, a real-time online process that enables individuals to create electronic identities, has been used by the Graduate School to create more than 25,000 records. The tool will set the stage for a consolidation of systems within the identity services environment, reducing maintenance costs for those systems.

Primary contact: **Renee Shuey**
Service owner: **Identity Services**

Penn State Person Bio Record

IMPACT

Identity Services and the Enterprise Project Management Office have established the Person Bio Record, a shared set of data elements related to person identity with definitions that are collectively adhered to, created, and maintained under shared policies and procedures. The result is identity information that can be managed across Penn State information systems with a high degree of consistency, fidelity of values, data integrity, and a reduced cost in managing and maintaining duplicate records in various enterprise systems.

Primary contact: **Renee Shuey**
Service owner: **Identity Services**

Two-Factor Authentication

IMPACT

Two-factor authentication (2FA) is a service that provides an additional layer of protection for digital identities, data, systems, and services across the University. In 2015, 2FA was enabled on WebAccess—Penn State's login authentication system for such services as WebMail, ANGEL, and the Employee Self-Service Information Center—for students, faculty, and staff enrolled in the service. 2FA is also currently being used to protect a variety of systems in such areas as the Penn State Milton S. Hershey Medical Center and the College of Engineering. Implementing 2FA not only boosts information security across the University, but could help reduce the costs (potentially millions of dollars) associated with a cyber attack on a large data repository.

Primary contact: **Renee Shuey**
Service owner: **Identity Services**

OneForest Project

IMPACT

OneForest is the University-wide implementation of Microsoft Active Directory as a shared service, which will support the retirement of more than sixty separate instances of Active Directory across the institution. The OneForest initiative will save on hardware costs and enable staff who currently support those separate environments to focus on customer service. OneForest will also be integrated with other identity management systems across the University to better support efforts to automate the management of digital identities for students, faculty, and staff. Additionally, the University-wide implementation of Active Directory will improve Penn State's security posture and, therefore, reduce costs associated with addressing any future intrusions.

Primary contact: **Renee Shuey**
Service owner: **Identity Services**

Shibboleth

IMPACT

Shibboleth is a federated identity provider (IdP) that enables Penn State students, faculty, and staff to connect to applications in a distributed manner within and outside the University. During 2015, a new version was released that better supports Penn State researchers. Among the most widely deployed federated identity solutions in the world, Shibboleth eliminates the need for—and cost of—implementation, maintenance, and support of alternate solutions (up to several dozen) that would otherwise have to exist at Penn State.

Primary contact: **Renee Shuey**
Service owner: **Identity Services**

VM Hosting

IMPACT

Penn State's VM Hosting, a service that consolidates physical servers into virtual ones, has sixteen hosts running 932 virtual servers for more than 175 University customers. This has saved approximately $453,000 a year, based on VMware's calculator. Thanks to virtualization, approximately $3,169,000 has been saved on hardware since the service's inception in 2008. University customers have also saved considerable time and effort as a result of not having to maintain their own servers.

Primary contact: **Rick Coons**
Service owner: **Services and Solutions**

Conference Services in the Call Center

IMPACT

In early 2011, ITS transitioned from AT&T teleconferencing services to MeetingOne to provide University departments with toll-free audio conferencing capabilities. During 2015, this switch helped save more than $47,000, with a total of approximately $183,300 saved over the past five years. Compared to AT&T usage in 2010, the conversion saves the University about 50 percent in toll-free audio conferencing costs. In addition, the MeetingOne service integrates with Adobe Connect, allows up to 150 people to participate, and enables University departments to cover all costs for participants.

Primary contact: **Rick Coons**
Service owner: **Services and Solutions**

Meeting@PennState

IMPACT

During the 2014–15 fiscal year, nearly 2,000 students, faculty, and staff participated in more than 145 training sessions via Meeting@PennState powered by Adobe Connect. Nearly 600 participants were at Penn State campus locations beyond University Park. Attending training via Meeting@PennState saved approximately 37,200 travel miles, resulting in significant savings in travel expenses and employee time.

Primary contact: **Rick Coons**
Service owner: **Services and Solutions**

Vendor Training

IMPACT

Penn State's vendor training service provides IT professionals with vendor-offered training at reduced costs. The training helps IT staff increase their effectiveness in working with the various types of technologies needed to deliver IT services to Penn State students, faculty, and staff. Negotiating lower vendor rates, aggregating training needs across the University to meet lower vendor pricing tiers, and taking advantage of bulk pricing for training vouchers have helped to reduce professional development costs for the University. During the 2014–15 fiscal year, the service saved Penn State more than $230,000.

Primary contact: **Rick Coons**
Service owner: **Services and Solutions**

lynda.com

IMPACT

lynda.com is an online training service available to all Penn State students, faculty, and staff. During the 2014–15 fiscal year, more than 17,000 unique users from across the University completed nearly 36,000 hours of training. Since its rollout in 2009, lynda.com has opened opportunities for professional development while lowering costs for the University. Under Penn State's contract, the University pays $1.45 per full-time student, faculty, and staff member. Independent of the University, an equivalent annual membership costs $360 per year.

Primary contact: **Rick Coons**
Service owner: **Services and Solutions**

Knowledge Commons

IMPACT
University Libraries, Media Commons, Services and Solutions, and Teaching and Learning with Technology worked collaboratively to develop and deliver a support framework for the Knowledge Commons. This framework has led to additional collaborations and helped increase efficiency at the University. With a combination of Digital Media Commons, multimedia instruction, and student computing facilities, the commons provides a multitiered experience for students, faculty, and staff.

Primary contact: **Rick Coons**
Service owner: **Services and Solutions**

Systems Management at Penn State

IMPACT
Since 2009, Systems Management (SysMan) at Penn State has enabled more than 375 distributed IT staff from more than fifty colleges, administrative units, and campuses to remotely manage almost 37,000 computers using a single endpoint management system. Teaching and Learning with Technology provides the SysMan service at no additional cost to almost all IT departments throughout the University. Included in the service are several valuable tools and resources (such as IBM BigFix, an automated imaging tool) that ease desktop and laptop deployment and management, helping computers maintain a power management efficiency rating of about 62 percent. The SysMan service helps reduce duplication of efforts in operating system imaging and deployment, application installation and configuration, patching, updating, device security, and incident management. SysMan's tools and resources enable participating IT departments to efficiently provide localized support, as well as a consistent computing experience for students, faculty, and staff.

Primary contact: **Jennifer Sparrow**
Service owner: **Teaching and Learning with Technology**

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Penn State IT
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