



PennState

Update on the Seven Opportunities from the 2011 IT Assessment

In 2011, Penn State conducted a University-wide **assessment of information technology**.¹ The assessment, which was led by the University and facilitated by an outside consultant, originated from **goal six**² of the 2009–14 Penn State Strategic Plan and focused on three broad objectives:

- 1) To quantify and understand Penn State's current level of investment in technology
- 2) To recommend changes to improve the efficiency and effectiveness of IT services, with particular focus on optimizing the balance between distributed and common services
- 3) To recommend changes to IT governance (planning, prioritization, assessment, and decision making) to improve the University's collective ability to manage its investment in technology

Through the assessment, seven opportunities were identified as being key factors in improving the effectiveness of technology and the ability to balance common and distributed IT services at Penn State. This document outlines the status of those seven opportunities as of **January 2016**.

OPPORTUNITY

Deploy a common email and calendaring solution for faculty and staff.

STATUS

The [University Collaboration Suite](#)³ (UCS), an email and calendar system, was centrally funded in 2011 and now has more than 22,300 email users (including approximately 13,100 faculty and staff members and 500 student workers who forward mail to UCS) and 2,000 calendar users. As of January 2016, there were more than 4,000 mobile users and the average mailbox size was approximately one gigabyte. The ability to share calendars in UCS makes it easy for individuals and groups to schedule meetings and collaborate. In addition, UCS provides file sharing, tasks, contacts, document management, and additional digital features.

University Collaboration Suite primary contact: Pablo Garaitonandia
Service owner: Administrative Information Services

OPPORTUNITY

Create a new University service to meet the shared needs for long-term data storage and archiving.

STATUS

Management, archiving, and preservation of research data is now supported by [ScholarSphere](#),⁴ a joint initiative of ITS and the University Libraries. ScholarSphere is a secure repository service that enables the Penn State community to share its research and scholarly work with a worldwide audience. Faculty, staff, and students can use ScholarSphere to collect their work in one location and create a durable record of their papers, presentations, publications, data sets, or other scholarly creations. Through this service, Penn State researchers can also comply with grant-funding agency requirements for sharing and managing research data. Since the initial release of ScholarSphere 1.0 in 2012, there have been fifteen subsequent releases and enhancements made to the application based on feedback from ScholarSphere users and stakeholders.

[ArchiveSphere](#),⁵ a joint development between ITS and University Libraries, was released to support the long-term management of born digital archival materials at Penn State. Initially, there were four phases in the ArchiveSphere development and the first one—to ingest and preserve born digital archival materials for archive staff—was completed in January 2014. Subsequent phases are being reassessed to determine how to integrate ArchiveSphere with existing platforms and applications.

ScholarSphere and ArchiveSphere primary contact: Rick Coons
Service owner: Services and Solutions

OPPORTUNITY (CONTINUED)

Create a new University service to meet the shared needs for long-term data storage and archiving.

STATUS

With more than 54,000 users, the **Box**⁶ at Penn State service has become an indispensable tool for collaboration and cloud-based file storage across the University. Penn State students, faculty, and staff in every administrative and academic area are using Box to securely store more than ninety-five terabytes of data. Box enables users to collaborate with others outside the University, share files without sending email attachments, quickly upload large files (up to fifteen gigabytes), and use a Box app on iOS and Android devices. A new three-year contract also enables users to securely store and share personal health information in accordance with Health Insurance Portability and Accountability Act (HIPPA) guidelines. This reduces risk to the University by enabling researchers and staff to move health data from multiple, unsupported storage locations to a central, highly secure solution that makes sharing health information with authorized persons quick and easy. Penn State Box users now also have unlimited storage quotas for their accounts.

Box primary contact: Kurt Baker

Service owner: Services and Solutions

OPPORTUNITY

Expand ITS' server colocation and virtualization services in a manner that is cost competitive with units providing the service on their own. Commit first to increasing use of this service for administrative applications that require high availability and redundancy.

STATUS

Throughout the University, adoption of **VM Hosting**⁷ increased by more than 72 percent during fiscal year 2014–15 (there are now more than 900 virtual servers). During this time, the VM Hosting service was redesigned to be more robust, sustainably managed, and cost-effective. The changes to the service include:

- Upgrades to compute, storage, and networking resources to improve performance, capacity, and reliability
- Development and deployment of a self-service portal for provisioning virtual servers and managing snapshots
- Creation of a new website for the service
- Consolidation of billing to the ITS Telecommunications Service Request process

In addition, a **vLearning** pilot that began in fall 2013 concluded in August 2015. The pilot included 500 students in fifteen classes at four campus locations. Based on feedback, a decline in usage, and an inability to provide a service sustainable in the long-term, it was decided that the pilot would not move into production.

VM Hosting and vLearning primary contact: Steve Baylis

Service owner: Services and Solutions

OPPORTUNITY

Extend the ITS computer lab management service to all campuses and colleges and begin to develop a similar solution to manage administrative desktops.

STATUS

After the completion of two **Virtual Desktop Infrastructure (VDI)** pilots to better understand desktop virtualization technologies, efforts have continued to help inform future decisions on a virtual desktop service for Penn State. A document was developed for the Information Technology Leadership Council's (ITLC) New Technology, Opportunities, and Services Committee that provides scenarios for on-premise and cloud-based VDI solutions. In addition, mobile device management (a mechanism that provides secure access anywhere on any device) is another alternative being explored. In conjunction with ITLC, efforts continue to evaluate how to best protect data, provide virtual desktops to limited use cases, and deliver a future service.

Virtual Desktop Infrastructure primary contact: Rick Coons

Service owner: Services and Solutions

OPPORTUNITY

Reduce the cost of software purchases by extending the use of shared, server-based software licenses instead of licensing software for every individual computer.

STATUS

Launched in July 1, 2013, **Software at Penn State**,⁸ which evolved from the former Computer Store, has significantly expanded its service offerings. During the 2014–15 fiscal year, Software at Penn State administered twenty-six contracts that resulted in more than \$19 million in cost avoidance for students, faculty, staff, and departments.

Key highlights and initiatives include:

- As of August 2014, student licenses of Microsoft Office became available at no cost. Through December 31, 2015, nearly 40,000 downloads have resulted in approximately \$1.8 million in savings for students.
- 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.
- Departmental sales placed via eBuy on the website outnumbered Penn State Purchasing Card purchases and resulted in a savings of more than \$49,000 in credit card fees.
- A new contract with Splunk was added, which leveraged pre-negotiated terms through Internet2's Net+ Software as a Service.
- Five new manufacturers were added through transactional agreements, resulting in sixty new products available for customers.
- The software.psu.edu site was upgraded to improve customer search time and enhance clarity on purchasing options.

In addition, Software at Penn State is currently in the early adopter phase of Penn State's Software Asset Management Service, a no-fee service available to all Penn State units that will enable units to reduce software costs and coordinate efforts in acquiring, supporting, and sharing licenses through the use of common tools, processes, procedures, and roles. As more units adopt Software Asset Management, the value of the service will grow at both the unit and University level.

Software at Penn State primary contact: Rhonda Brown

Service owner: Services and Solutions

OPPORTUNITY

Implement a common help desk system and knowledge base to improve the productivity of IT staff and the quality of user support services.

STATUS

As part of the Penn State Service Management Program, Penn State IT worked with **Third Sky**,⁹ an IT service management consultant, to develop a **Shared Service Desk** and evaluate and choose a service desk software solution.

Shared service desk tool evaluations were completed and **ServiceNow**¹⁰ was selected as the single system of record for the Shared Service Desk. Process workshops were conducted to develop common policies, process, and procedures for Incident Management, Problem Management, Change Management, Service Catalog Management, Knowledge Management, and Request Fulfillment. These six constitute the core processes for the Shared Service Desk. Automation of these processes in ServiceNow and adoption by the initial five participants is underway, with general availability expected in the coming fiscal year.

Shared Service Desk System primary contact: Allen Stubblefield

Service owner: Services and Solutions

OPPORTUNITY

Make wireless networking at University Park campus a common service to achieve greater network coverage and a more consistent experience for faculty, students, and staff as they move about campus.

STATUS

In May 2013, the Penn State Board of Trustees approved a **wireless networking**¹¹ effort to establish a common good wireless networking service across the University by 2016. As of January 2016, all existing wireless networks at Penn State University Park have been transitioned and are now managed by Telecommunications and Networking Services. The project is now focusing its efforts at Penn State campus locations. As part of this initiative, approximately one-third of all University buildings now have up-to-date wireless throughout, with approximately one-third more having partial coverage. Since the project prioritized adding wireless to the largest buildings first, about 70 percent of the University now has wireless coverage.

Wireless Networking primary contact: Chuck Enfield

Service owner: Telecommunications and Networking Services

Related Projects

Although the following are not part of the seven opportunities from the 2011 IT Assessment, they have resulted from those initiatives and/or are closely related to the seven opportunities.

Data Center Services

As part of the ITS server colocation and virtualization services opportunity, Penn State **Data Center Services**¹² (DCS) completed an inventory and cost savings assessment in 2015 and has continued work on two new state-of-the-art data centers that will be fully operational by June 2016, almost one year ahead of schedule. A team of staff from across Information Technology Services developed an overall service design package for the data centers, working with customers to understand needs and detail service requirements. DCS staff are currently implementing the service design package.

In addition, the Colocation Center has continued to experience significant growth due to an increasing number of requests from units throughout the University. The DCS team has begun the process of working directly with each customer to help transition from current locations to a much more efficient and resilient facility. Those requesting colocation space for physical servers are asked to first consider, when applicable, the ITS Virtual Colocation service (VM Hosting). If they cannot move to VM Hosting, rack space is provisioned in the Colocation Center. In addition to providing the physical space, networking, power, and cooling offered in the Colocation Center, DCS staff are continuously pursuing industry best practices for energy savings.

Data Center Services primary contact: Mark Saussure

IT Transformation Program

To meet Penn State's changing needs, IT must be a customer-focused service that supports and facilitates innovation, collaboration, and excellence. The **IT Transformation Program**¹³ (ITX) is an initiative to reevaluate the University's IT service models and approach to customer service by providing services and partnerships at scale through a common Service Management Program.

The ITX team worked with **VMware/Third Sky**,⁹ an IT service management consultant, along with five Penn State IT units to create a baseline for IT services, processes, tools, and structures at the University. To develop these baselines, Third Sky and the ITX team conducted process workshops, technical tool evaluations and demos, and peer reviews, fostering the broad involvement of IT staff across the University.

ServiceNow was selected as the single system of record for the Service Management Program and the ITX team has been working with the five pilot and early adopter units to automate and begin using the service desk processes in the tool, Data Center Services to implement a configuration management database, and IT Communications to implement a shared end user portal.

A **Service Management Office**¹⁴ (SMO) has been established to oversee the ongoing operation of the Service Management Program. General availability of these tools and processes is expected through the SMO in the coming fiscal year.

IT Transformation Program primary contact: Rick Coons

Service Management Office primary contact: John Williams

Service owner: Office of the Vice Provost for IT

ITSCollab

The ITSCollab community continues to stay engaged in the adoption and implementation of the Penn State Service Management Program while supporting and advocating for the changes happening throughout the organization. Members of ITSCollab have worked together to better understand IT service management, roles and responsibilities, portfolio processes, metrics, and reporting. Additionally, the community has helped increase awareness of strategic projects, data centers, student engagement, cybersecurity threats, YOU@PSU, as well as various management and leadership topics. At this time, ITSCollab is reflecting on its past successes and is identifying opportunities to continue to build community and support IT at Penn State.

ITSCollab primary contact: Cheryl Seybold

Visitor Wireless

In October 2013, Penn State entered into an agreement with AT&T Wireless to provide easy-to-access **visitor wireless**¹⁵ networking to University guests. The effort to convert from paid to free wireless access for visitors was completed in 2014, and the service is now available at all campus locations where Penn State wireless is available.

Visitor Wireless primary contact: Chuck Enfield

Service owner: Telecommunications and Networking Services

Related Web Links

1. 2011 IT Assessment
<http://it.psu.edu/sites/default/files/attachments/itassessmentexecutivesummary.pdf>
2. Goal Six of the Penn State Strategic Plan
<http://www.opia.psu.edu/progress>
3. University Collaboration Suite (UCS)
<http://ais.its.psu.edu/services/ucs/>
4. ScholarSphere
<https://scholarsphere.psu.edu/>
5. ArchiveSphere
<http://stewardship.psu.edu/>
6. Box at Penn State
<http://box.psu.edu/>
7. VM Hosting
<http://www.vmhost.psu.edu>
8. Software at Penn State
<http://software.psu.edu/>
9. VMware/Third Sky
<http://www.vmware.com/>
10. ServiceNow
<http://www.servicenow.com/>
11. Wireless Networking
<http://wireless.psu.edu/>
12. Data Center Services
<http://dc.psu.edu/>
13. IT Transformation Program (ITX)
<http://smo.psu.edu/it-transformation/>
14. Service Management Office
<http://smo.psu.edu/>
15. Visitor Wireless
<http://wireless.psu.edu/visitorwireless.html>