



Information Services **ANNUAL REPORT** 2016-2017

Dear Colleagues,

This report highlights the accomplishments of Information Services (IS) during the 2016-17 academic year. Many of our efforts were done in partnership with others, and our ability to build strong, sustainable working relationships both internal and external to OSU remains an essential element of our success. Technology underlies nearly every aspect of the university's work and our efforts in AY2017 demonstrate our commitment to making information technology function for the benefit of OSU. These pages highlight the ways in which we support the university's strategic goals in our daily work and with the projects we contribute to and lead.

For students and faculty, we introduced new tools and services to the Learn@OregonState digital learning environment and collaborated in the creation of a new undergraduate research and writing studio in support of increasing student media authorship. Wireless coverage was enhanced and the reliability of OSU's network improved. We also played a key role in the cross-campus conversation to provide the necessary data and analytic insight to measure and move the needle on student success.

For researchers, we led a collaborative effort to offer a contemporary suite of global, cloud-based computing infrastructure via Amazon Web Services (AWS). We're also reengineering our wireless network infrastructure to support the next generation of internet appliances, research sensors, and data collection devices.

In support of OSU's administrative operations, IS introduced DocuSign, an electronic signature system designed to improve the workflow of signing and approving documents, providing greater efficiency for administrative processes. We improved interoperability services to better serve the needs of the university. IS also played a key role in the multi-year plan to introduce the BennyBuy eProcurement system to OSU. When complete, the project will revolutionize purchasing at OSU, yielding better pricing, simplified workflows, aggregated analytics/reporting and greater efficiency.

"... our ability to build strong, sustainable working relationships both internal and external to OSU remains an essential element of our success."

I am pleased to present Information Services' annual report for the 2017 academic year. As you browse these pages, you will see the variety of ways in which IS serves the OSU community to meet OSU's strategic objectives and the remarkable achievements the IS staff has made this year. I encourage you to share your questions and comments with me as we continue to serve the people of OSU.

Sincerely,

Lois Brooks
Vice Provost, Information & Technology

Creating a Transformative Educational Experience



MEETING STUDENTS WHERE THEY ARE

Last spring, Information Services launched the OSU Mobile app for students. Our mobile program seeks to provide a contemporary, unified interface to OSU's many disparate systems, meeting students when and where they are ready to interact. The system allows students to access Banner and Canvas information and introduces push notification capability. Going forward, this new capability can be used to send both global and personalized messages that will address critical needs in the area of safety, security and student success.

IMPROVING SHARING, STORAGE AND COLLABORATION

The 2017 academic year marked OSU's first with Box, a new cloud service that offers unlimited data storage and simple, secure document sharing. This service has improved the collaboration process, allowing people to create, partner on and share work on any device, in real time,

globally. Additionally, the Box service eliminates the need for many onsite servers at OSU, reducing the footprint of our on-premise file storage infrastructure. From a regulatory perspective, OSU benefits from enterprise-grade tools allowing oversight and management of the system. At the time of this writing, over 17,000 Box accounts were actively in use by OSU faculty and students.

“As a college IT director, I rely on the relationship between our IT unit and Information Services. Students, faculty and staff see the benefits of this relationship in the seamless user experience between college-specific and university-wide IT services.”

-Todd Shechter, IT Director, College of Engineering

EVOLVING THE LEARNING ECOSYSTEM

Learn@OregonState is an integrated ecosystem of tools and processes enabling next-generation learning modalities to power student success. Powered by OSU's partnership in Unizin, our portfolio continues to evolve in order to support an ever-growing range of learning styles, using technology to power a transformative learning

experience. Last year, IS successfully integrated six new tools into the university's learning management system, Canvas, bringing additional functionality to students and instructors in the areas of collaboration, interaction, localization and accessibility. Notable examples: the UDOIT tool helps instructors to ensure that their content is accessible to all users; the ReadSpeaker TextAid tool can be used to have any Canvas page read aloud to learners.



SUPPORTING MEDIA FLUENCY

In partnership with OSU Libraries and the Office of Academic Success & Student Transitions (ASST), we collaborated in the creation of the Undergraduate Research & Writing Studio located in the Valley Library. The aim of this studio is to support the increasing student interest in instantiating ideas with images, videos and animations, and an increasing interest by faculty to allow the use of media for students to express and reinforce their ideas.

IMPROVING DELIVERY OF SOFTWARE FOR INSTRUCTION

IS supports scores of shared student and teaching workstations that offer specialized software required for teaching and learning. Last year, we deployed an enterprise-level system that manages all of these workstations more efficiently, allowing for the rapid distribution of software to our computer labs and teaching workstations. This has allowed us to address faculty software needs on shared workstations with faster request fulfillment and improved reliability.

Creating a Transformative Educational Experience

“Sometimes we forget to say thank you when there are no technical problems, but I want to thank the Information Services team. IS’s communicative, proactive, and helpful approach allows our students and faculty to focus on teaching and learning. The future of the arts is dependent on technology and dependent on IS as our partners.”

-Lee Ann Garrison, Director, School of Arts & Communications

LEARNING INNOVATION GRANTS

Last year, IS awarded over \$160,000 in Individual Learning Innovation Grants to support 20 awards for faculty to enhance pedagogy and student experience. In addition, \$200,000 was distributed through Scaled Learning Innovation Grants. These grants were awarded to faculty collaborating across units in order to introduce and scale educational technology projects, improve the student experience, and ensure cross-unit exchange of pedagogical innovations. Two examples of AY2017 awards include:

The School of Arts and Communications received a grant to fund a digital audio recording studio to complement the visualization lab and prepare students for digital audio capture and production, laying the foundation for digital media visualization. These new facilities are being used to teach contemporary skills and prepare OSU’s learners for careers in the digital communications field.

The Colleges of Agricultural Sciences and Engineering received a grant to create an open-source internet of things (IoT) and internet of agriculture (IoA) learning platform called Loom. Loom will enable students from a variety of backgrounds to rapidly build sophisticated sensor and actuator projects; OSU faculty can use Loom to learn about teaching IoT concepts by participating in a professional learning community.

\$360,000
Awarded in grants



Leadership in Research, Scholarship, and Creativity

REMOVING BARRIERS TO RESEARCH

In partnership with the Colleges of Engineering, Science, Agricultural Science, and Earth, Ocean, and Atmospheric Sciences and the Center for Genome Research and Biocomputing (CGRB), IS led an effort to offer a contemporary suite of global, cloud-based computing infrastructure to OSU researchers via Amazon Web Services (AWS). These tools unlock access to a wide array of near-infinite computing resources, providing OSU investigators with access to the computing infrastructure that they need in minutes instead of weeks. Moving forward, this collaboration has laid the ground work for future use of AWS for other areas of the university, reducing duplication of effort across colleges and departments seeking these tools.

“IS has been an essential partner to the CGRB in many ways over the past year, helping to advance our research efforts with improvements to network and computing offerings at OSU. Their network team helped us extend networking to Allen Hall at the University of Oregon where we maintain computing facilities, allowing us to expand resources as the CGRB computing space becomes constrained. We look forward to working with IS on these and other collaborations.”

- Chris Sullivan, Associate Director, CGRB

MATURING OSU'S DATA NETWORK

Last year, network reliability improved significantly as we progressed with our multi-year plan to build a completely reengineered, distributed, and resilient core network for OSU. This work is now 75% complete, with plans to more than double data network capacity in the coming year. With help from a multiyear National Science Foundation (NSF) grant, we have added 10 buildings to OSU's dedicated research network. Going forward, we are working to upgrade the full network core to 100G speeds, which

means that the university's network backbone will be ready to support contemporary, data-intensive research and academic use for years to come. We've continued to upgrade and expand OSU's wireless network as well, improving coverage by installing over 500 access points in academic (Bexell, Moreland, Nash, and Ballard) and student spaces (Memorial Union, OSU-Cascades dining and residential halls). These improvements make it possible to support a greater number of students and faculty using mobile devices to consume and transmit an ever-rising amount of information. We are also reengineering



the environment to work with the next generation of internet appliances, research sensors and data collection devices, unlocking the internet of things and providing researchers, students, and staff with additional flexibility, functionality, and accuracy in data collection and collaboration.

CREATING OPPORTUNITIES FOR ENGAGEMENT

Information Services has created several events to increase cross-unit engagement and promote innovative thinking in order to reach OSU's strategic goals.

Technology Unconference

Last February, IS hosted a free event focused on advancing student success with technology. The unconference brought together over 140 members of the OSU IT community, Student Affairs, Undergraduate Studies, and academic faculty. Topics included CRM strategy, portal requirements, big data and AI.

Researchers' Panel Discussion

In December, IS brought together researchers from four areas of the university to talk about the critical role of technology and computing in the work that they do. Attendees learned about the work of researchers, how technology is applied, and the partnerships and cooperation necessary to support university-scaled research.

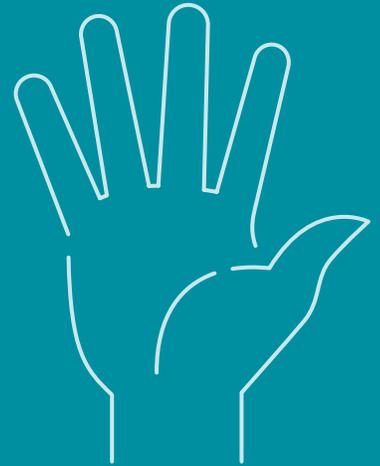
Hackathon

In May, IS held its second-annual Hackathon, a full-day event to promote creativity, technology and collaboration, and the role that each of these play in advancing shared institutional goals. The Hackathon has produced a number of tangible outcomes for the university including a new, mobile-friendly campus map.

Summer Symposium

Last September, IS organized an event to orient academic faculty on the use of academic technology in teaching and learning. This peer-led symposium offered an opportunity for teaching faculty to develop skills and awareness around the latest additions to OSU's portfolio of pedagogical technology.

Leadership in Research, Scholarship, and Creativity



Strengthen Impact & Reach Throughout Oregon and Beyond

HELPING OSU GROW

This past year, IS continued its role as a key partner for OSU-Cascades in technology planning and implementation. In collaboration with faculty colleagues, we coordinated the successful installations of the new campus data network as well as audiovisual technology for the classrooms. To serve the IT needs of the growing campus, we partnered with OSU-Cascades leadership to introduce the first dedicated IT manager for the new campus. IS executive staff

also remains engaged in the long-range development planning steering committee, helping to design a modern, 21st century university in Bend. In Newport, we partnered with Hatfield Marine Science Center (HMSC) leadership and received an NSF grant to upgrade the network infrastructure. We also contributed our experience to the creation of a new IT director position for the campus. IS remains engaged with our HMSC partners as OSU looks ahead to the expansion of the HMSC with the Marine Studies Initiative.



PARTNERING, SHARING, LEADING AND LEARNING

Information Services invests in relationships both on-campus and off as a way to exchange ideas, make decisions, and participate in the national conversation that surrounds our work. Through these engagements, we are developing and evolving a deep understanding of the technology arena in which we operate, as well as influencing the development of products, processes, and services that make technology work at OSU.

Internal to OSU

- Instructional IT Governance Council
- Learn@Oregonstate Steering Committee
- Web Customer Advisory Group
- Mobile Customer Advisory Group
- Data Governance Council
- Information Security Governance Council

Edu partnerships

- Northwest Academic Computing Consortium
- EDUCAUSE
- Canvas R1 Peers
- Unizin Alliance
- Internet2
- Higher Education Security Council
- SANS Edu Advisory Group
- Research and Education Networking Information Sharing & Analysis Center

Advisory & Governance

- Instructure/Canvas
- Acquia
- Ellucian
- Salesforce
- Kaltura
- TeamDynamix
- IMS Global Learning Consortium
- International Information Systems Security Certification Consortium
- FBI InfraGard

BUILDING A NEW STATE-WIDE NETWORK

Last year, we began a collaboration with partners including the State of Oregon, University of Oregon and Oregon Health and Sciences University to create a new state-wide network to deliver greater coverage, performance, reliability, resiliency and value to serve Oregon

institutions. As a result, we've received approval to rearchitect and improve connections between OSU's campuses, while adding extension sites and 500+ other government offices to the list of those served by it. The plan also bolsters the institution's disaster recovery capability; all of these benefits will come at an overall lower cost to OSU.

Strengthen Impact & Reach Throughout Oregon and Beyond

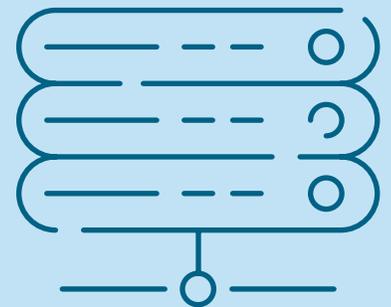


Other Areas of Distinction

CONNECTING UNIVERSITY SYSTEMS

We understand that technology and data underpin everything that OSU does—we also understand that being able to access and remix that information on the fly is essential to the usefulness of OSU's systems. Last year, IS worked to fundamentally reestablish our approach to data interoperability, creating an API gateway and a data extension service to bring real-time transactional capabilities to university systems. These technology improvements allow us other advantages as well, including flexibility, reliability,

security, and access to high quality data. From a business perspective, the new capability will allow us to deliver personalized, contextualized experiences to OSU students and staff, creating meaningful new opportunities in the area of student success. Our focus on data interoperability is now paying benefits: in the last year we implemented 20 new applications and performed 57 data integrations—more than double the year previous. Notable deployments and integrations include the MAAPS early alert pilot done in partnership with Undergraduate Studies and the Banner integration for the BennyBuy eProcurement project.



Other Areas of Distinction

GETTING BUSINESS DONE

Last year, IS introduced DocuSign, another example of a contemporary, cloud based service that decreases overhead and risk while increasing efficiency, security, and regulatory compliance. DocuSign is an electronic signature system designed to improve the workflow of signing and approving documents in a way that is simple, secure, and fully digital. The tool is dramatically reducing delays in administrative processes and circulated forms, especially when multiple signatures are required, reducing the time to sign and approve documents from days or weeks to hours. Though migration to DocuSign from existing processes is just beginning, more than 1,500 people have used the service since it launched in February 2017.

IMPROVING DATA ACCESS

The security of OSU information is essential, and each member of the university community is charged with protecting and safeguarding the data that OSU collects. This charge must be balanced against the very real need for access to data in OSU's day-to-day operations. Last year, the Vice Provost for Information and Technology updated the university data management policy, making it easier for colleges and departments to get the data needed to get business done. This important policy change removes unintentional barriers and updates OSU's approaches to reflect contemporary practices around real-time data and its responsible use.

PUTTING SERVICE FIRST

IS recognizes that we are a service organization. As such, we strive for ever-greater engagement and partnership with our customers, evolving our services and interactions to respond to business needs.

As part of an ongoing effort to unify IS operations and improve our support services to students and faculty, IS has adopted a single, standardized support framework across the organization. This shift consolidated our customer support tracking from multiple systems into a single enterprise-level service management system called TeamDynamix. We launched this system last year to improve our efficiency in providing support, allowing us to achieve predictable and measurable service levels that will help us make ongoing improvements in our support of students and faculty.

Another successful service initiative has been the Drupal Open Lab: each Friday afternoon, our web team hosts a drop-in session for digital communicators of all types to attend. The open lab represents a “flipped” experience—rather than a lecture-based training or an email-based support interaction, our customers bring us their projects and questions and we work through them side by side in real time. The experiment is working. We regularly see 20+ of our customers at the weekly event, and the open lab format has since been replicated in two other divisions of the university.

ENHANCING DIVERSITY

In support of OSU's diversity initiative, IS partnered with Enrollment Management to deploy preferred name, an important change to allow students to express their personal identity at OSU safely and in the way that they wish. Our division is also proud to have increased diversity in our workforce over the past year: across IS, we hired underrepresented minorities at more than 150% of the rate that they were previously represented in our organization. Within Client Services, our largest unit, the Service Desk speaks 10 different languages, and 45% of our student workforce comes from underrepresented groups.



BUILDING EFFICIENCY

Last year, we launched an internal Simplification Initiative with the goal to move IS toward operational excellence, detangle historic complexities, remove redundancy, and create a more robust, supportable, secure and scalable enterprise. We engaged with IS staff and university IT leaders to understand the

opportunities in this area; as a result of these engagements, 17 service and process changes were identified. Six of these changes are underway and 11 are in the planning stages. By realizing the goals of this initiative, IS will leverage our collective resources more efficiently and productively, leading to a better learning and working experience for students and faculty.

PREPARING FOR THE WORST

In even the best situations, things can and will go wrong. IS has worked to anticipate and plan for non-ideal situations—these investments have been made to decrease risk, minimize downtime, and maximize the utility of our services.

Formalizing Incident Response
Information Services established a new set of protocols to identify, communicate, and resolve major technology incidents. Informed by best practices in emergency management, we have built a process that fits neatly within the university's broader incident management framework.

Building a new onramp
We are preparing to go live with a second internet connection into OSU at the west edge of the Corvallis campus. When the initial connection is made, this change will significantly decrease risk and improve network resiliency and uptime for approximately 40 core campus buildings.

Moving to the cloud
Last October, we migrated the university homepage from a static, OSU-hosted site to a best-in-class cloud hosting environment to be a part of the rest of the university web ecosystem. As a result, the homepage can easily be changed to reflect the latest news, developments, or important information. Together, these two changes increase the availability and utility of the homepage and remove dependencies on networking and hardware on the Corvallis campus.

Bolstering information security
OSU's systems and staff repel millions of "micro-attacks" each day. Growing and improving our security practice is critical in preventing and defending against these threats. To protect OSU's data resources and decrease risk, we have increased funding for security practices, adding additional headcount for proactive client education as well as threat monitoring, analysis, and incident response.

Other Areas of Distinction

