

UW

INFORMATION TECHNOLOGY

2012 Annual Report



UNIVERSITY *of* WASHINGTON



Welcome

We believe the mark of a great technology organization is how well it helps others succeed. Whether it's modernizing UW business systems to make staff more efficient, partnering with the eScience Institute to help researchers achieve breakthrough discoveries, or providing next-generation teaching and learning tools to help faculty innovate and students engage, UW-IT's primary focus is supporting—and advancing—the work of the UW community.

Over the past year, UW-IT has worked with UW stakeholders to further one of the UW's most important missions—educating the next generation of leaders. A centerpiece of that effort was piloting and selecting Canvas as the UW's learning management system—giving digitally savvy students and faculty the cutting-edge technologies and coordinated services they want. Another innovative tool, Tegrity, allows instructors to “flip the classroom,” so students can review lectures on their own and use class time for meaningful interactions. We delivered MyPlan, enabling students to build multi-year academic plans, and expanded ViDA, providing students with 24/7 virtual desktop access to high-end software. We also piloted eTexts to explore the benefits of online textbooks, and enhanced student self-service options for financial aid notification and loan monitoring.

All this work was data driven—in direct response to what students and faculty said was important to them in a 2011 Teaching, Learning, and Research Technologies survey. In addition, UW-IT quickly responded to emerging student needs: developing the SpaceScout mobile app to locate study spots and creating MyUW Mobile for wireless access to class resources. This work contributed to significant progress toward meeting the near-term goals of the UW's Two Years to Two Decades (2y2d) teaching and learning initiative, and to improving organizational effectiveness.

UW-IT also improved support for research and updated critical infrastructure. We partnered with the eScience Institute to enhance cyberinfrastructure and cloud-based services for researchers. We upgraded the UW's primary data center to improve research support, built greater resiliency into the UW's network, and increased Wi-Fi performance and coverage. We deepened connections with key corporate partners, such as Microsoft and Amazon, and national consortiums such as Internet2 and Gig.U—expanding the UW's reach and ensuring that we remain at the forefront of technological innovation.

To improve the efficiency of the UW's business operations, UW-IT continued to work with key business partners to replace the UW's aging HR/Payroll (HRP) system. This major undertaking will deliver a modern HRP system that improves support for critical functions, strengthens regulatory compliance, and provides better information for decision making. It is part of a strategy to modernize UW business systems, which also includes significant enhancements to student and financial systems.

To further engage the University community, UW-IT established three boards to govern IT at the strategic, project, and service levels. These boards are intended to make decision making about IT across the University more comprehensive and holistic, and to ensure we are focusing limited resources on the highest priorities.

Technology is becoming a strategic differentiator for modern research universities. In partnership with you, we will continue to leverage the power of technology to drive positive and transformative change—enabling people throughout the University to extend and deepen their impact.

Kelli Trosvig

VICE PRESIDENT FOR UW INFORMATION TECHNOLOGY
AND CHIEF INFORMATION OFFICER

UW-IT Strategic Plan: Progress on Goals



Who We Are

UW Information Technology (UW-IT) is the central information technology organization for the University of Washington, responsible for strategic planning, oversight, and direction of the UW's IT infrastructure, resources, and services. We provide critical technology support to all three campuses, the UW medical centers, and research operations around the world.

Our Mission

- Enable UW students, faculty, and staff to be more effective
- Help the UW manage risks and resources
- Foster a community of innovation



More info

UW Information Technology (UW-IT)
uw.edu/uwit/

UW-IT Strategic Plan
uw.edu/uwit/strategic.plan.html

UW-IT Service Catalog
uw.edu/uwit/services/

UW-IT Strategic Goals	Key Completed Projects
1. Excellent foundation services and infrastructure	<ul style="list-style-type: none"> • Major phone system upgrade, phase 2 • Network upgrade including IPv6 and new architecture • Wi-Fi upgrade; faster speeds, expanded coverage • Data center upgrades and consolidation planning • MediaAMP service for digital media management • Core computing infrastructure enhancements • ITIL training for 87 technology staff at the UW
2. Improved collaboration and productivity tools	<ul style="list-style-type: none"> • Software licensing agreements with Microsoft, Apple, and RedHat • MyUW Mobile: Web app released • m.UW: mobile Web app updated • SpaceScout: mobile app to find UW Seattle study spots • UW Exchange 2010 upgrade • Partner with Gig.U to attract ultra-high-speed networks to local communities
3. Advanced global research support	<ul style="list-style-type: none"> • Upgrades to lolo, a scalable storage system for research computing • Upgrades to Hyak, a high-performance computing cluster for research • eScience partnership to deliver cloud services such as SQLShare • National partnerships to explore cyberinfrastructure for science
4. Innovative teaching and learning tools	<ul style="list-style-type: none"> • Canvas learning management system evaluated and selected for UW • Tegrity Web-based lecture and presentation capture released • eTexts pilot • MyPlan academic planning tool released • Assessing faculty and student experience with Coursera Massive Open Online Courses (MOOCs)
5. Information for decision making	<ul style="list-style-type: none"> • Research awards data in Enterprise Data Warehouse (EDW) • Additional student enrollment data in EDW • Institution-wide data definitions created
6. Modern business information systems	<ul style="list-style-type: none"> • HR/Payroll replacement effort launched; RFP issued • Enterprise Document Management System RFP issued • MyFinancial Desktop enhancements • Online review of faculty effort certification reports • Online supplier registration, in partnership with Financial Management
7. Business continuity, security, and privacy protection	<ul style="list-style-type: none"> • Geographic redundancy for data centers, phase 1 • Business Impact Analysis for critical business applications • UW Policy for Information Security and Operational Practices • Online training for information security and privacy awareness



UW Tacoma Professor Riki Thompson engages students with the latest technology tools.

A Canvas of Possibilities

Enriching the learning—
and teaching—experience

Step inside one of Professor Riki Thompson's UW Tacoma Rhetoric and Composition classes, and you're likely to see small groups of students working collaboratively. Whether they're writing chapter summaries or building annotated bibliographies, they can tackle the same document simultaneously, while Thompson actively supports them in real time, underlining or crossing out passages to make her points.

This approach is possible because of one of the features integrated into Canvas, a next-generation learning management system (LMS) being widely adopted at the UW. "It's great to have students be the drivers," Thompson said. "The whole class can share the experience of critiquing, editing, and refining."

Document sharing is just one example of Canvas's rich array of intuitive features. Canvas simplifies course management, assignment submission, scheduling, and grading, Thompson said. Canvas not only makes teaching more efficient, it enables faculty to experiment and innovate. That's why the Board of Deans and Chancellors and the Teaching and Learning Technology Oversight Committee have endorsed its adoption as a unified LMS for the UW.

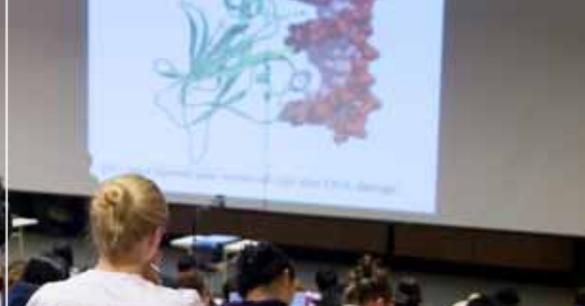
"The neat thing about Canvas is that it's not static. It's about being active and collaborative," Thompson said. "It's great to give students immediate, personal feedback that goes beyond the red pen. I've always used collaborative tools, but they weren't as well integrated into the LMS as they are with Canvas, and could be confusing for students."

Canvas is one of several major UW-IT efforts to improve the student experience. "Because of the Provost's 2y2d teaching and learning initiative, we've adopted a whole range of technologies like Canvas, Tegrity lecture and presentation capture software, and ViDA virtual desktop access," said Tom Lewis, UW-IT's Director of Academic & Collaborative Applications. "Students are more and more digitally savvy. We want to stay a step ahead and provide them with cutting-edge, transformative tools."

Most other Washington state public universities and community colleges have recently followed the UW's lead and adopted Canvas as their LMS, Lewis said. "This provides significant cost savings for everyone. It also creates a uniform, seamless experience for students throughout the state."

Nationally, the UW is sponsoring Canvas as an Internet2 NET+ Service, a portfolio of cost-effective and easy-to-access services tailored to the unique needs of Internet2's 221 higher education member institutions. "Leveraging Internet2 technologies can make collaboration easier among universities," Lewis said. "Imagine professors from Penn State or Harvard logging in to Canvas to help teach a UW class, or students from different schools working together simultaneously on a project."

At the UW, Thompson's students are embracing this collaborative approach. "Companies like Microsoft consider working collaboratively to be the norm," Thompson summed up. "Canvas is one tool that is helping us teach our students key skills that will help them succeed when they leave the UW."



Enhancing teaching and learning with technology

MyPlan online academic planning tool, released this fall, helps students find courses, create a multi-year education plan, track progress toward graduation, and work more productively with advisors. Funded in part by the Student Technology Fee, this tool leverages UW's investment in the Quali Student information system.

Tegrity Web-based lecture and presentation capture lets anyone with a UW NetID develop student projects, faculty colloquia, and staff training. Instructors can "flip the classroom," so students review lectures outside class and use in-class time for interaction. UW-IT provides consultation, workshops, and help. *Up next:* Deploy Tegrity across the UW.

ViDA virtual desktop gives students 24/7 access to high-end software. Adobe Creative Suite (Dreamweaver, Fireworks, Flash, Illustrator, InDesign, Photoshop), Microsoft Windows 7 Enterprise, SPSS, and Mathematica can be accessed on Internet-connected devices. *Up next:* Explore larger-scale cloud deployment.

eTexts pilot explores benefits of online textbooks, evaluating student success, satisfaction, and support needed. eTexts are available via newer browsers, on tablets and smartphones, and offer full-text search, digital highlighting, and annotation. *Up next:* Continue pilots; report findings in winter 2013.

Students take charge of debt with an improved Financial Aid Status tool, managing financial aid awards and tracking accumulated federal loan debt. Based on need, they can accept, reject, or request reduction of loan awards. Developed with the Office of Student Financial Aid.

SpaceScout mobile app helps students find the perfect study spot, showcasing over 200 great study spaces in 26 UW Seattle buildings. SpaceScout is available on the Web, in iTunes, and soon for Android. Developed with UW partners and funded by the Student Technology Fee. *Up next:* SpaceScout for UW Bothell and UW Tacoma.

Providing assistive technology and IT accessibility resources. The DO-IT Center celebrated 20 years of increasing the success of individuals with disabilities in college and careers, using technology as an empowering tool. Its Access Technology Center provided equipment, consulting, testing, and Braille translation. *Up next:* Assess accessibility of Tegrity, Canvas, eTexts, and HRP software.

Class lists update in near real time (not overnight) thanks to innovative, event-driven architecture employed by UW-IT. *Up next:* Provide students with faster notification of available courses.

More info

Improving the Student Experience
uw.edu/uwit/init.html

Learning and Scholarly Technologies
uw.edu/lst/

DO-IT
uw.edu/doit/

What's next

- **Support Canvas adoption** across the UW. Sponsor Canvas as an Internet2 NET+ service.
- **Upgrade and expand Washington's K-20 network**, connecting 99.8 percent of Washington state classrooms.
- **Assess faculty and student experience** with UW's Coursera classes.
- **Continue implementing Quali Student Curriculum Management system** to manage curricula information published in UW's General Catalog.
- **Enhance MyPlan in FY 2013** to provide mobile access for students, advisor-created sample plans, and Time Schedule information to support planning.





School of Social Work Director of Finance & Administration Vicki Anderson-Ellis looks forward to the benefits of a modern HR/Payroll system.

A Great Leap Forward

Bringing the UW's human resources and payroll operations into the 21st century

When the UW's online payroll system launched more than 30 years ago, it was cutting-edge and the Bee Gees' "Stayin' Alive" dominated the charts, said Vicki Anderson-Ellis, Director of Finance & Administration for the School of Social Work.

Now, three decades later, the UW is operating on a payroll system that lacks basic human resources functionality and cannot support the increasingly complex business needs of a growing university.

"It creates challenges every single month," Anderson-Ellis said. "Today the UW is a \$4.6 billion global enterprise. We're the third largest employer in the state. It's the 21st century, but we're still doing redundant manual entry. We're constantly forced to invent end-runs to get information we need to pay people and support their careers. It requires a lot of time, and there's a lot of frustration. While our peers have moved toward automation and self-service, we still struggle with basics."

But relief is in sight. In September, the UW released a Request for Proposal, undertaking a major effort to implement a modern, highly automated HR/Payroll system that can chart every employee's career, provide information needed to manage the UW's business operations, and keep up with a rapidly changing regulatory landscape.

"A modern HR/Payroll system will give us an entirely new level of support for our operations," said Lisa Yeager, Director of UW-IT's Human Resources/Payroll Program. "It's going to improve services and create efficiencies and productivity gains throughout the UW. We'll have the flexibility to quickly respond to changes in our regulatory environment. And it's going to give us the tools we

need to attract, support, and effectively manage our world-class faculty and staff."

This project is part of a larger effort by the University to modernize the core administrative systems that run its critical business operations, according to V'ella Warren, UW Senior Vice President and lead Executive Sponsor of the HR/Payroll Replacement Project. While the University can tackle only one project of this scale and complexity at a time, incremental improvements are also underway for the UW's student and financial systems.

"We see this as the beginning of a complete renewal of all our core business systems and processes," Warren said. "Without modern systems, the University will be at a competitive disadvantage with other institutions. Our faculty and staff have to work harder, process more transactions, and operate without complete data."

In preparation for a new system, the UW is engaging HR and payroll staff and leadership across its three campuses in a Business Process Redesign effort to identify opportunities to streamline and standardize current business processes so they will function optimally in the future. "We're laying the groundwork for success," said Yeager. "We've interviewed peer institutions who've done similar projects to find out what they've learned. And we're undertaking a change management effort to make sure we're providing the right information and training at the right times in the process. We're determined to do it right."

"These systems touch everyone who's part of the UW," Anderson-Ellis said. "We're all excited to move forward and find a great system that can grow with us over the long term."



Moving into the 21st century

From data to decisions—delivering better information through a new architecture for UW's Enterprise Data Warehouse (EDW) that enables integrated analytics and reports across subjects and new analytic capabilities. Institution-wide data definitions and business rules built into data enable users to visualize and discover trends and patterns using desktop tools. Data on research awards is available, and new student data has been added.

Faculty certify effort reports online with a new Electronic Faculty Effort and Cost Sharing (eFECS) service that reduces administrative burden, eliminates tracking of paper reports, improves compliance, and saves time. *Up next:* Enhancements to support cost-share grant tracking, management, and compliance with federal effort reporting requirements.

Online budget reconciliation is simpler with source documents linked to posted transactions in MyFinancial.desktop. Paid invoices, ProCard information, and long distance charges are a click away. *Up next:* Automated revenue and journal vouchers.

Making purchasing faster, more efficient with a Procure-to-Pay initiative. This effort with the Office of Financial Management is greatly reducing the cost of processing purchase orders and invoices. *Up next:* An integrated system to analyze and manage spending, and more efficiently process requisitions, expense reports, invoices, and reimbursements.

Partnered in launch of U-PASS powered by ORCA. Issued 6,400 new Husky Cards with smart chips for U-PASS holders; activated over 15,000 cards at Harborview and UW. Created MyUW feature to let students and employees confirm U-PASS activation.

Preparing for emergencies and ensuring geographic redundancy for critical business systems by beginning to build out UW's remote data center in Eastern Washington, creating a permanent Unit Response Center facility for UW-IT, and updating Business Impact Analysis information for critical business applications needed for system recovery.

Promoting green computing

- **Partnered on Smart Grid project, saving energy** by installing intelligent electrical meters, water meters, and lighting controls in most UW Seattle buildings through participation in the Pacific Northwest Smart Grid Project.
- **PC power/patch management software**, now widely available at UW Seattle, is reducing desktop power consumption.
- **UW Tower data center operating efficiencies** are saving energy and lowering UW's carbon footprint. Server load increased by 63 percent with only a 0.3 percent increase in power use, resulting in three million fewer pounds of carbon released into the atmosphere.

What's next

- **Move forward with HR/Payroll replacement** and complete Business Process Redesign. Assess bids, recommend a new system vendor, and seek Board of Regents' approval to issue a contract (fall 2013). System implementation expected to start in 2014, with functionality delivered in phases starting in 2017.
- **Reduce paper use and increase efficiency.** UW has released a request for proposal for an Enterprise Document Management System to capture, store, and manage electronic content. System implementation to begin summer 2013.
- **Improve UW-IT business processes and streamline financial information** with a new financial accounting and reporting system, Microsoft Dynamics AX.
- **Pilot new visualization tool for Enterprise Data Warehouse (EDW)** to help decision makers easily visualize data

More info

Information Management
uw.edu/uwit/im/

HRP Replacement Project
uw.edu/uwit/im/HR/replacement.html

Decision Support (EDW data and tools)
uw.edu/uwit/im/ds/



to spot trends and see patterns. Add more data, including student credit hour data needed to support UW's Activity Based Budgeting.

- **Pilot Microsoft Dynamics Customer Relationship Management** with stakeholders on projects to improve student engagement.



Chemical Engineering Professor Jim Pfaendtner leverages UW's computational power to drive science.

Computing Power Drives Discovery

Cutting-edge resource gives UW scientists a distinct advantage

The interview had reached a critical point. The rising-star post-doc candidate, who Chemical Engineering Professor Jim Pfaendtner hoped to attract to the UW, posed a pointed question.

"He asked how much time he'd have to spend on computer administration for his data-hungry work of simulating biochemical processes," Pfaendtner said. "I was proud to tell him zero. At the UW, your job isn't computer administration. Your job is to do great science."

That was the moment the post-doc said yes.

Like Pfaendtner, scientists and students across the UW can focus on breakthrough research thanks to the combined efforts of the eScience Institute and UW-IT to create and maintain world-class scientific computing. One key element is Hyak, a shared high-performance computing cluster, backed by Iolo, an enormous, scalable storage system, and the super high-speed networks that tie the whole thing together. Another important effort is focused on managing big data by broadening awareness and facilitating the use of cloud-based services such as SQLShare, a database service that makes it easier for researchers to manage and query large datasets.

"Three years ago, central support for large-scale computational science at the UW really took off," said Chance Reschke, the UW-IT research consultant most responsible for building Hyak. Since then, this support has enabled a diverse group of UW scientists to take leadership in compute- and data-driven discovery, Reschke said. This research ranges from complex physics and astrobiology to climate science and bioinformatics.

"The UW offers amazingly strong support for scientific computing," Pfaendtner said. "That transforms my ability to compete for funding, to publish papers in leading journals, to make an impact in the world, and to really get students excited about the work. Hyak is miles beyond what most of my peers have." With Hyak and the other computing support, Pfaendtner said his Ph.D. chemical engineering students can now pose a complex question, design an experiment, and have an answer in five days.

"Ten years ago, a Ph.D. student would be lucky to do one of those calculations in two years. Even that would require heroic effort—and we'd be less sure of its accuracy. Now a Ph.D. student can do 10 or even 100," Pfaendtner said. "When I can show prospective students a second-year Ph.D. who has published two papers, has great results and cool visualizations, it's a big deal," he said. "UW-IT is my backbone. I wouldn't look anything like I do today without its support."

Using Hyak, Pfaendtner and his research group recently developed a new method to tightly couple their simulations of biomolecules on surfaces with experimental data from the labs of their collaborators. It's the kind of basic discovery that could have long-term implications for everything from medicines to biofuels.

"To figure out the right way to do these calculations, we needed over 400 processors running simulations for over two months," Pfaendtner said. "Five years ago, people couldn't even dream of doing this. Having the capability drives the science—it gives us the ability to try new ideas and take risks in ways we never could before."



Advancing research and discovery

Helping scholars tackle computational challenges by providing access to and management of IT resources and expert consultation. UW-IT continues to enhance its cyberinfrastructure services, Hyak and lolo, to efficiently meet research needs through standardized tools and shared infrastructure. These services operate in partnership with the eScience Institute, with oversight by the Hyak Governance Board.

Collaborating with the eScience Institute to deliver new cloud-based services, such as SQLShare, and represent UW interests with vendors. SQLShare manages data for researchers and attracts users and external funding for research and development. New partnerships with Amazon Web Services,

Microsoft Research, and Google led to discounts and grants for UW researchers and are fostering collaboration with other universities.

Partnering on a national level to explore cyberinfrastructure for science by co-hosting workshops—with UC Berkeley, Internet2, the eScience Institute, and Microsoft—that identify special data management needs and how to acquire tools and resources.

Expanding research capabilities with new high-speed Ethernet from Seattle to Chicago. Northern Wave, a shared, 10G Ethernet facility funded by NSF and run by the Pacific Northwest Gigapop, enables participants to exchange traffic at high speeds with each other and international networks.

Promoting a culture of security. The Office of the Chief Information Security Officer (CISO) promoted awareness of information security and privacy risks, including developing online training. CISO also provided consultation, tools, and resources, and it published a new UW Policy for Information Security and Operational Practices.

Helping UW researchers manage survey responses better with enhancements to the WebQ online survey tool. New features include ability to track who has started, viewed, or submitted a survey.

What's next

- **Seek funding to implement and support a dedicated 40G Research and Science Network**, with 10G bandwidth to research locations, including Hyak (UW high-performance computing cluster) and data storage. Taking advantage of flexible architecture, software-defined network protocols, and utilizing high-performance computing and storage, the campus 40G network will connect to the 100G Pacific Northwest Gigapop and Internet2 fabric.
- **Continue to work with the eScience Institute** to provide cloud-based computing resources, and explore solutions with Amazon, Microsoft, and other vendors.
- **Collaborate with national peers on Internet2 NET+ program**, a portfolio of cloud services offered by Internet2, a consortium of universities focused on advanced networking. UW-IT is part of a working group introducing vendor products into the NET+ service catalog. Internet2's purchasing power provides cost-effective, scalable services.
- **Expand capabilities of the UW's Hyak high-performance computing cluster** to meet UW researchers' demands for technical consultation services, computation speed, storage space, and software.
- **Build regional partnerships to share cyberinfrastructure for collaborative research** with organizations such as the NW Climate Center, NW Transportation Center, and the Coalition for Academic Scientific Computation.
- **Pilot an OpenFlow-enabled testbed** among a subset of UW Seattle buildings to improve network traffic management. Funded by NSF and implemented with UW Computer Science & Engineering.
- **Continue UW data center consolidation** to reduce sites from five to three, saving about \$1 million per year in operating costs, reducing UW's environmental footprint, and increasing efficiencies.

More info

The UW eScience Institute
escience.uw.edu

Office of the Chief Information Security Officer (CISO)
ciso.uw.edu

Hyak Governance Board
sig.washington.edu/itsigs/WIKI_for_Hyak_Governance_Board





UW Bothell senior Avalon Willows collaborates anywhere, anytime using cloud tools.

Collaboration Made Simple

Cloud services make it easy to share and access work anywhere, anytime

On her summer study trip to Chile, UW Bothell Global Studies and Media Communications senior Avalon Willows was able to travel light. That's because with cloud computing services offered by UW-IT, Willows was able to access all of her UW resources and stay in touch abroad with just one small device.

"All I took was my iPod touch," said Willows. "It was great to access everything in the cloud. I used Google Docs to keep up with class notes, and email to arrange financial aid, make plans, and keep in touch. I worked in my hotel room, in the lobby—anywhere with Wi-Fi—to write my class reflection paper. By the time I got home, my thumbs were sore from so much typing."

According to Tom Lewis, UW-IT's Director of Academic & Collaborative Applications, having access to documents—anytime, anywhere, from almost any wireless capable device—is just one of the many possibilities cloud applications open up for faculty, staff, and students like Willows. Google Docs and other cloud-based software are another huge benefit.

Willows agrees. "During the school year, when we do group projects, I insist on using Google Docs. It takes so much of the pain out of group work. Everybody can contribute directly to a shared document in real time, which can be really hard to do through email."

The benefits of total access and easy collaboration extend much farther, Lewis said. The Google suite alone features nearly two dozen cloud programs—everything from conducting live, remote meetings, to developing a portfolio of student work, to blogging.

And that's just Google. In Winter Quarter, UW-IT will begin to offer Microsoft's Office 365 email suite with a 25GB mailbox and rich calendaring. The service fully complies with HIPAA, the Health Insurance Portability and Accountability Act, so Health Sciences and UW Medicine will be able to use it. Other specialized cloud-based applications, such as Tegrity, give faculty an unprecedented ability to capture and share lectures and presentations, Lewis said.

"In the past, large institutions like the UW often built email or other services from the ground up. The cloud changed that," Lewis said. "Today, UW-IT engineers add value to the UW's cloud applications by stitching and weaving innovative add-ons," such as the one just created for Tegrity that allows anyone with a UW NetID to use the lecture capture tool in any way their inspiration takes them.

"Our job now is about integrating cloud and campus systems to deliver even more innovation more quickly to students, faculty, and staff," said Lewis. "And when you're working with companies like Microsoft, Amazon, and Google, you know they're going to keep innovating and updating too. That kind of future-proofs us."

Like many other students, Willows has embraced these innovations. "When I started at the UW, my binder was stuffed. Everything was on paper," Willows said. "I do everything digitally now. It's accessible from anywhere. It's so simple to have all your work available through one account. It makes life a lot easier."



More mobility, better capability

Wi-Fi upgrades bring faster, next-generation service. More than half of UW Seattle's buildings have been upgraded in a three-year effort to increase wireless speed by 600-800 percent, improve support, and expand capacity. An additional \$500,000 from the Student Technology Fee Committee is bringing more speed and expanded coverage to popular student gathering spots.

The MyUW Mobile Web app, released this fall, provides students with current information about textbooks, instructors, and classrooms. Also, the m.UW mobile Web app was updated and has a new site.

Major telephone system upgrade brings enhanced reliability and features. The second phase of a multi-year UW telephone system upgrade to replace aging hardware and software is targeted for completion by the end of 2012.

Licensing agreements provide popular software at significant savings. Continuing agreements provide current and new Microsoft and Apple software and the RedHat Unix operating system at no additional cost on UW-owned computers, and help to keep them up-to-date and in compliance.

IPv6 deployment keeps UW at forefront of networking technologies. IPv6, the next-generation Internet protocol, provides almost unlimited IP addresses, plus configuration and security improvements, and is supported transparently on newer operating systems. IPv6 is part of a major network refresh that included implementing a new architecture.

Boost innovation and lower costs with MediaAMP, a new cloud service offered by UW-IT to manage, store, and distribute digital streaming video and audio to mobile devices, Web platforms, and enterprise systems. MediaAMP meets the standards for protected health information and enables global-scale collaboration.

Local high-speed network proposal is part of national Gig.U effort. UW is working with the City of Seattle to secure private sector investment to bring ultra-high-speed fiber to nearby areas including the U District, South Lake Union, and UW-owned tracts downtown.

The popular UW Blogs Network makes it easy for faculty and staff to create a publicly accessible, UW-branded WordPress blog.

Core computing infrastructure enhancements made this year included Kerberos authentication upgrade, Web publishing, load balancing, application programming interfaces for a financial Web service, server replacements, and virtualization.

What's next

- **Continue major UW network refresh to bring state-of-the art capabilities.** By early 2014, UW-IT will meet demand for bandwidth, enhanced security, and 10G virtual private networks for research. This cost-effective, reliable network will be easier to maintain and able to support future needs. New services will include unfettered off-campus access for researchers, centralized firewalls, and support for expanded Voice over IP.
- **Continue unified communications and phone system upgrades.** Move customers to a new system that integrates voice, chat,

videoconferencing, and desktop and document collaboration.

- **Continue UW Exchange upgrade,** leveraging Microsoft Office 365, to offer a 25GB mailbox, ubiquitous calendaring, and HIPAA compliance.
- **Continue cell, TV, and Wi-Fi upgrades:** Improve cellular coverage in and around UW Seattle, including AT&T and T-Mobile 4G LTE updates. Improve HuskyTV service for UW Housing, UW Medical Center patients, and campus locations. Encrypt UW Wi-Fi, to better protect transmitted information.
- **Enable additional Google services.**

More info

UW-IT Service Catalog
uw.edu/uwit/services/

MediaAMP
mediaamp.org/

Gig.U
www.gig-u.org/





UW Computing Directors Betsy Tippens, Mark Baratta, Barb Prentiss, and Scott Barker work together to provide better service.

Best Practices, Better Service

Creating a shared vision of great service
across UW's diverse IT community

Betsy Tippens, Assistant Vice Chancellor for Information Technologies at UW Bothell, remembers a time when getting great service from UW-IT depended way too much on knowing who to call.

"When I started working here 13 years ago," Tippens recalled, "I felt like I needed an org chart. Who worked in central IT? What were they responsible for? If you didn't know, it could be challenging to get the service you needed."

That's all changed, thanks to UW-IT's online Service Catalog, which makes it easy to find what's offered, how much it costs, and how long it will take to activate the service. "The Service Catalog made a real difference in my life," Tippens said. "The people behind the services are still really important—but I no longer need to go to them directly."

UW-IT's Service Catalog is just one highly visible element of a major, multi-year effort within the organization to adopt the world's most widely used IT service best practices framework. Called the Information Technology Infrastructure Library (ITIL), this framework is a comprehensive guide for providing great service from the time a need is identified until the service is retired. UW-IT has expanded this effort to improve collaboration with IT professionals across the University by offering them ITIL best practices training.

This training is helping to change the IT landscape across campus, according to Barb Prentiss, School of Medicine Director of Information Technology. Almost 90 IT professionals from across

the UW participated in the UW-IT-sponsored ITIL Foundations training; 30 were from 13 academic departments in the School of Medicine.

"We're now having conversations with UW-IT at a level of understanding and enthusiasm we never had before," Prentiss said. "I really like the ITIL part of the equation. It helps so much to have a clearly defined direction that's nimble enough to change."

ITIL training is also having an impact at the College of Built Environments. It's helping their IT staff face the challenge of rapidly changing technology, according to Director of Computing, Mark Baratta. "Having ITIL as a framework to think about change is helping us move toward a world where we're becoming a community of practice—rather than being the IT guys in the basement who know what magic to perform," Baratta said.

Scott Barker, Director of Information Technology at the Information School, agrees. "Fundamentally, with ITIL, we're all going to be able to provide much better service to students and faculty," Barker said. "UW-IT has done many different things to improve services across the University over the last several years. ITIL is one part of that."

"ITIL gives us a framework to work in partnership across the University in ways we've never done before," said Erik Lundberg, UW-IT's Assistant Vice President for IT Services & Strategic Sourcing. "It's a continuous cycle of improvement, with ITIL helping us to manage our services and keep making them better."



Improved service

UW-IT is undertaking a major effort to implement ITIL, a widely used IT service best practices framework. This will help UW-IT to be more efficient, deliver better customer service, and align with campus needs. Initially, UW-IT is using ITIL to improve how services are offered, requests fulfilled, and incidents responded to and resolved.

UW-IT is sponsoring ITIL training sessions for UW technical staff to provide a common language and strengthen collaboration.

Annual service assessments will ensure UW-IT services are aligned with customer, financial, and strategic objectives.

New IT governance

A new information technology (IT) governance process for the UW launched this fall to provide advice and guidance on IT strategies, priorities, and services. The goal is to ensure that decision making about critical IT services and resources is comprehensive, holistic, and includes the right level of engagement across the UW.

Three boards guide IT decision making: The IT Strategy Board on strategic issues and long-range directions, the IT Service Investment Board on priorities and funding levels, and the IT Service Management Board on optimal design, delivery, and operation of IT services.

Metrics online

To help ensure transparency and accountability, UW-IT is reporting performance in six key areas: services, finances, support for strategic goals, customer satisfaction, employee satisfaction, and peer benchmarking.

More info

ITIL
itsmfi.org/files/itSMF_ITILV3_Intro_Overview.pdf

IT Governance
uw.edu/uwit/governance/

UW-IT FY 2012 Metrics
uw.edu/uwit/metrics/

UW-IT Service Catalog
uw.edu/uwit/services/

By the Numbers: What UW-IT Supported in FY 2012

10 petabytes
 Data the UW exchanged over the Internet—
equals 133 years of HD video

1 petabyte
 Capacity for scalable scientific computing
 with Hyak and Iolo

1.3 billion
 Email messages processed—
almost two-thirds spam

28 million
 CPU hours spent in scientific
 calculation using Hyak

1.3 million
 Business transactions processed
 on peak days

641 thousand
 Logins to computers in Odegaard
 Undergraduate Library Learning Commons

287 thousand
 Unique devices that used the
 UW wired network

283 thousand
 Unique devices that used the
 UW wireless network

217 thousand
 People who used their
 UW NetIDs

128 thousand
 Reports run using the Enterprise
 Data Warehouse

30 thousand
 People in 24 countries (including USA)
 who accessed UW's mobile apps

21 thousand per month
 Requests/incidents managed through
 the Technology Service Center

3 thousand per minute
 Student course registration
 transactions during peak times



UW-IT's Annual Budget: Fiscal Year 2013

Sources (Revenue)

State Appropriations, Tuition, and Indirect Cost Recovery	\$ 42,787,014
Technology Recharge Fee	18,400,000
Self-Sustaining Services	19,630,608
Student Technology Fee	1,801,454
Total	\$ 82,619,076

Uses (Expenses)

Administrative Systems	\$ 24,833,596
Data Networks	18,924,488
Telecommunication Services	8,207,519
Managed Servers and Workstations	3,659,314
Data Centers and Facilities	3,545,923
Campus Software Licensing	3,215,119
Teaching and Learning Tools	3,188,514
Identity and Access Management	2,711,756
Email, Calendaring, and Collaboration Tools	2,475,848
Information Security and Privacy	1,911,569
Student Technology Fee — Funded Initiatives	1,801,454
Emergency Preparedness and Business Continuity	1,308,677
UW Support for UWTV and KEXP	1,150,179
Backups and Mass Storage	997,316
Web Publishing	874,619
Office of the Vice President and CIO	863,047
Accessible Technologies	806,595
Technology Spaces and Labs	663,267
IT Consulting	572,610
Enterprise Portal	476,114
Cable Television	431,553
Total	\$ 82,619,076

Specific UW-IT Priorities for FY 2013

Improve the student experience:

Enhance MyPlan student academic planning tool. Support Canvas learning management system rollout and UW adoption. Sponsor Canvas as a national Internet2 NET+ service. Further deploy Tegrity Web-based lecture capture and enhance for non-course uses. Develop course availability notification software. Support a new admission system.

Better support for research: Upgrade the research network backbone to 40G to support scientific applications, contingent on funding. Deploy second phase of Hyak, UW's shared high-performance computing cluster. Deploy lower-cost options for long-term storage of research data. Experiment with OpenFlow and other "software-defined networking" technologies. Deploy EduRoam to improve researcher collaboration. Co-host cyberinfrastructure for science workshops. Partner with eScience Institute to explore Windows Azure and Amazon Web Services cloud platforms.

Deliver core infrastructure: Continue third phase of phone system upgrades, and expand server and storage offerings. Improve Wi-Fi coverage, business continuity, security, and privacy protection. Continue emergency preparation. Improve geographic redundancy for critical business systems by building out UW's remote data center in Eastern Washington.

Modernize UW's business systems: Move forward with the HR/Payroll replacement project by completing Business Process Redesign and selecting a vendor. Implement an Enterprise Document Management System. Automate purchasing and accounts receivable (procure-to-pay) to facilitate business-to-business transactions. Enhance MyFinancial Desktop by automating revenue, bulk, and GL journal vouchers. Build out the Enterprise Data Warehouse (EDW) with research and student credit hour data. Launch a new EDW visualization pilot to help staff quickly spot trends and patterns.

Enhance collaboration: Offer Microsoft Office 365 for email, calendaring, and collaboration across campuses and medical centers. Lower the cost of virtualization with HyperV technologies. Pilot Microsoft Dynamics Customer Relationship Management software with partners to improve student engagement. Deploy hundreds of Windows 8 desktops as part of an early adopters program. Enable additional Google services.

Engage the UW community: Work within the new IT governance structure to obtain input on strategies, priorities, and services. Use the ITIL framework to engage UW partners to improve service delivery and accountability. Engage stakeholders across the UW to obtain an end-to-end view of UW's HR/Payroll business processes and to plan future improvements.

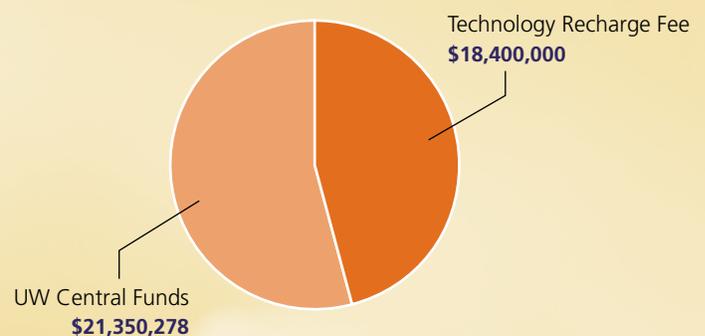
Basic Bundle of IT Services

Almost 50 percent of UW-IT's FY 2013 budget (\$39,750,258) is dedicated to providing a basic bundle of critical information technology services to all UW students, faculty, and staff.

These basic services are supported by \$21,350,278 in UW central funds and \$18,400,000 from the Technology Recharge Fee. This fee was established in FY 2011 to provide a sustainable, long-term funding model for information technology. It replaced an outdated recharge model based on phone lines, which did not fully cover the cost of services. The Technology Recharge Fee is a per capita rate paid by all UW academic units, UW administrative units, and Medical Centers.

Funding Sources

Total: \$39,750,278



Credits

Feature writing: Rudy Yuly; Writing and editing: UW-IT Communications Team; Design: Karin Mellskog, UW Creative Communications; Feature photography: Mary Levin, University Photography; Other photography: Brian DalBalcon, Rick Ells, Kilian Frey, Doug Plummer, Dennis Wise

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