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Letter from the CIO

Hello Everyone,

Another year has come and gone, and thanks to the dedication and hard work of our Information Technology Services (ITS) staff, we have accomplished a lot. One of the accomplishments we are proud of is getting closer to the customer. We did this by first updating our website to a more modern, customer-focused site where one can easily find what one is looking for with just a few clicks. Here you will find the latest news about ITS, a service catalog that can be perused to find what we offer as services and, of course, opportunity to provide feedback. I strongly encourage you to visit the site its.wsu.edu and send us your feedback.

We have also now successfully migrated all the centrally managed mailboxes into the cloud called Office365. This is significant in that now we offer our customers an order of magnitude more storage. This change made it unnecessary for WSU to spend the $500k required to update the on premise servers which supported our (prior) local email implementation. Earlier, we offered OneDrive, a basic storage in the cloud which allows for our faculty, staff, and students to store and access information remotely from any device, at any time, securely.

IT Security must always remain in the forefront inn all that WSU does. Early detection and mitigation goes a long way to limit the spread of viruses and identify compromised accounts. This is done in the integrated Security and Network Operations Center, which commenced operations in the IT Building in May of this year. Working collaboratively with the other campuses, we architected the internet access points so that these connections can be centrally monitored. This in turn has helped reduce threats and minimize compromises. The idea is to identify issues and degradation of services before they become catastrophic.

Better yet, we want to make sure users are neither aware of or affected by these issues.

Working in collaboration with the Office of the Provost, we deployed Guide, a mobile application that connects students with resources they need in a timely manner. We expect tools such as this to help increase student retention and graduation rates.

Kamiak, the high performance computing cluster that we deployed last year, has become a runaway success. Thanks to the excellent collaboration among ITS, Office of Research, the Center for Institutional Research Computing, and the offices of the President and the Provost, this facility has grown to 110 nodes and is poised to go even further. The growth of this cluster has outpaced our projections and we are making changes to support its continued expansion. Proposals worth over $50M have been submitted by WSU researchers to leverage the use of this cluster.

These are just a few of the highlights of the year. This report further expands on additional accomplishments. As always, we are very interested in your ideas and comments on how we can serve you and the WSU community even better.

Go Cougs!

Sasi K. Pillay
Strategic Goals

Information Technology Services (ITS) aligns strategic planning directly with WSU’s four major strategic themes and their supporting goals. ITS’ strategic support moves the university forward from a technology perspective. The following ITS strategic goals are summarized. Full models are available upon request.

**ITS Goals**: Collaborate with administrative WSU units to modernize HR/Payroll/Finance systems, implement Payment Card Industry (PCI) compliant networks and processes, centralize and upgrade imaging system, transition existing email and calendaring.

**WSU THEME 1**: Exceptional Research, Innovation, & Creativity

**ITS Goals**: Collaborate across WSU campuses to provide shareable services, establish strong communication presence across WSU through organizational transparency and strong customer focus.

**WSU THEME 2**: Transformative Student Experience

**ITS Goals**: Enhancements for WSU’s Learning Management System, myWSU; ensure optimum student access in WSU’s residence halls; deploy student success collaborative platform focusing on increased retention and graduation rates.

**WSU THEME 3**: Outreach & Engagement

**ITS Goals**: Collaborate across WSU campuses to create a shareable High Performance Computing Environment, restructure WSU’s fiber networks for greater access and capacity, strengthen.

**WSU THEME 4**: Institutional Effectiveness: Diversity, Integrity, & Openness
ITS Web Presence

Throughout fiscal 2017, roughly 347,000 visits equated to more than 1.5 million pages viewed across multiple Information Technology Services (ITS) websites.

To continue meeting WSU’s needs, Information Technology Services spent the year reassessing its web design and content, introducing a new customer-focused web presence in March of 2017.

Thanks to critical feedback from multiple focus groups regarding functionality, appearance and more, this new site includes a redesigned user experience based on audience, an interactive slideshow providing timely information on current projects, and a service-oriented spine making it easy to find what users need quickly.

A customer satisfaction survey and service catalog are also part of the new site. Customers can easily sort and select products, then move into ordering mode or contact the appropriate support team.

Along with introducing its.wsu.edu, the ITS website project team updated security.wsu.edu, aligning with WSU branding and ITS style. Moving into the new fiscal year, Enterprise Systems and CougTech’s websites are migrating to be a part of its.wsu.edu. Improving customer experience in all facets continues to guide all ongoing website projects.
Social Media in ITS

ITS joined WSU’s social media community in 2017. Facebook, Instagram, and Twitter are now channels ITS utilizes to educate, connect, and prepare the WSU community for online life.

From month-long campaigns on topics such as the Internet of Things, to a summer media campaign welcoming new Cougs at orientation, ITS worked to educate the WSU community on how to protect data and engage online safely. Our social media is now another reliable ITS resource for encouraging an environment that nurtures transformative student experiences.
Information Technology Building Revitalization

The office space phase of the Information Technology Building (ITB) Revitalization project is now complete. Teams sorted and removed truckloads of worn out office equipment, and prepped floors and walls for more than 100 ITS offices that were equipped with updated paint, carpet and furniture. This resulted in very friendly, updated workspaces for our employees.

As part of this building update, Enterprise Systems Group (ESG) moved from the remote Math Annex building into ITB. This vacated space has now been leased by WSU to Spokane Falls Community College for their Pullman educational and business needs.

Project Manager, Kat Odell, earned an employee award for her outstanding efforts coordinating staff in and out of temporary “swing” offices, organizing the work crew and contractors, and keeping the project on track for its scheduled January completion.
ITS Service Catalog

Information Technology Services offers a broad range of services and support to the Washington State University community. From information infrastructure to security, ITS is on the job.

As part of ITS’ renewed customer focus in 2017, a service catalog development team unified public-facing services into a single, easy access resource.

The end result is the ITS Service Catalog 1.0. Located within the new ITS website, our first generation service catalog is growing into what we expect to be the easiest means for customers to get much-needed resources for work and school.

Whether you search services by name, or by your customer-type, you will find what you need.

PCR360 Work Order Management System

Once customers request services, ITS goes to work processing the orders. 2017 brought a major update to ITS’ ability to track, complete, and bill those orders for customers via the new PCR work order management software.

Partnering with a vendor who will provide long-term software support, ITS successfully migrated away from numerous outdated legacy systems into a new, robust platform for keeping business moving forward.

Now when you visit the service catalog and submit your request, your order is managed all along the way by ITS support staff within PCR, and finally billed out monthly in a new online monthly billing statement site.

ITS staff is trained and ready to respond to customer PCR requests. Service just keeps getting better!
WSU Guide Mobile App

Managing the Student Journey at WSU at the Right Time with the Right Content

The Enterprise Systems Group (ESG), in collaboration with the Provost’s office, began a pilot project focused on providing students with access to a mobile app customized for WSU. The **WSU Guide** mobile app will help students explore majors, find necessary and valuable resources for their degree, organize their schedules, and receive important reminders and timely tips to help them navigate their journey at WSU. The WSU Guide mobile app will customize the student’s journey and provide step-by-step guidance for completing tasks and activities based on the individual requirements and needs of the student.

The project got underway the summer of 2017, beginning with the first few ALIVE sessions. This pilot project allowed ESG to collect valuable insights and generate end user feedback used to modify and enhance the **WSU Guide** app. Once the summer pilot project was completed, necessary modifications were identified. Following successful implementation and testing, the WSU Guide mobile app was ready for all Pullman undergraduate students at the beginning of fall semester with the expectation of expanding to remaining WSU campuses sometime in the near future.

Developing Degree Pathways in myWSU for International Students

The WSU INTO project is a partnership with WSU and INTO, an independent organization, focused on expanding enrollment opportunities for international students and extending the Drive to 25 Initiative.

The Enterprise Systems Group collaborated with the WSU INTO program team in FY 2017 to configure myWSU, Washington State University’s Student Information System to accommodate new academic pathways for international students. Enterprise Systems Group configured myWSU with both undergraduate and graduate pathways to support and transform the international student experiences.
myWSU Campus Solutions 9.2 Upgrade Project

Enhancing the User Experience within myWSU

Enterprise Systems Group is progressing through the Campus Solutions (CS) 9.2 upgrade project within the myWSU environment. This upgrade will allow WSU to leverage the new features and robust capabilities within the new CS 9.2 version to develop a more modern and flexible user experience including a richer mobile platform. This project will be completed in two phases with the first phase focused on the technical upgrade. The technical upgrade will include provisioning new servers, installing the CS 9.2 software, converting from the CS 9.0 to the CS 9.2 version and configuring the new CS 9.2 version to integrate within our myWSU environment. This phase was completed the first week of July 2017 and students, faculty and staff will notice little or no difference after the technical upgrade is completed.

After the initial deployment of CS 9.2 in early July 2017, ESG will now launch into the second phase of the project, which will be focused on implementing and delivering innovative myWSU experiences. These new experiences will use the fluid user interface to provide a consistent and mobile-friendly access for our student self-service pages (Student Enrollment, Academic Advising, Financial Aid, Student Financials, Admissions and Campus Community) and for our administrative pages. The new user experiences will be available for students beginning November 2017 and to all myWSU pages by July 2018.
Washington State University College of Medicine

The Washington State University School of Medicine was established by the WSU board of regents in 2015 after the state legislature amended a 1917 statute that gave University of Washington in Seattle the exclusive right to grant degrees in medicine in this state.

As the Washington State University School of Medicine prepared to admit the first cohort of 60 students starting Fall 2017, the Student Information System (myWSU) support team collaborated on different modules configured to match those business needs. This included but was not limited to academic structure, admissions, student records, financial aid, and student financials. The Washington State University School of Medicine will also be using Entrada as their learning management system and myWSU will provide course data to Entrada.

Digital Measures/Activity Insights

Historically, the locally developed WORQS (WSU Online Review and Query System) system provided WSU a valuable faculty review resource. However, ITS’ Enterprise Systems spent time in 2017 assisting in the Digital Measures Activity Insight implementation for WSU faculty’s self-reporting portion of the updated annual review process.

The software is already at work for WSU, with Carson College of Business being a current user of the remotely hosted Activity Insight. A critical component of this transition is the identification and conversion of data feeds used to populate WORQS for use with Digital Measures to ensure continuity in this important service.
WSU Border Security Enhancement Project

WSU’s Information Security team is a critical partner across Washington State University. As important as connectivity is to our academic community, staying engaged both across and outside of WSU’s information borders comes with serious risk. The challenge for WSU’s information security team is constant examination of network access from a cyber-attacker’s perspective: how do we stay ahead of an attack?

When looking at information security’s threat landscape, efforts must include the full scope of WSU. Attackers are not targeting a location; cyber attackers are targeting Washington State University. Therefore, just as multiple WSU campus ITS staff collaborated successfully for on the spot connectivity earlier this year, in the fall of 2015 ITS security teams began implementing a full scope collaboration to strengthen WSU’s information borders.

The outcome of those efforts? Summer of 2017 finds WSU with a highly responsive, collaborative ITS security program reaching across the state. Thanks to an investment of close to $3 million over the past two years, WSU now employs a newly updated security operations monitoring center equipped with industry-leading tools and state of the art WSU-wide monitoring equipment, as well as critical local threat protection monitoring and mitigation capabilities at Pullman, Spokane, Vancouver, Tri-Cities, and Everett campuses.

WSU is now poised as a higher education leader in information security operations. As President Schulz discusses in the Drive to 25 initiative, WSU transforms lives and contributes to a better society. Through its connectivity and security enhancements, ITS is excited to support the groundbreaking work of WSU’s researchers, faculty, and staff. Information Technology Services supports transformative student experiences through more secure, more reliable access to student services, online course resources, and the constant connections students require while studying at WSU.

Cyber-attacks are constant. WSU’s ITS Security group is prepared to respond today and into the future.
Fiscal Year 2017 Information Security Activity

Malicious Actions Detected
653,460,658
(including phishing)

Phishing Emails Sent to WSU email accounts
3,326,107

Phishing Emails Blocked Prior to reaching user mailbox
3,083,765

Tickets submitted to Information Security Operations Team
70,936

Tickets are created by emailing suspicious emails to abuse@wsu.edu.
The more you forward, the stronger our information security response.
Information Security Services hosted over 100 students and professional WSU staff who came to hear industry experts such as FBI, FireEye, and Proofpoint.

ITS is looking forward to its 2nd annual event on October 25th!
Information Security Systems

In spring of 2017, Washington State University (WSU) completed the development of an integrated security and network operations center. The objective in developing the security operations side of this center is to proactively increase visibility and understanding of the scope and magnitude of information security threats facing WSU (and higher education institutions in general). With this increased visibility, WSU is better positioned to monitor, detect, and respond to IT and information security threats. While the Information Security & Network Operations Center (ISNOC) currently monitors incidents primarily from the Pullman campus, our intent is to ultimately monitor for IT and information security events university-wide.

Once deployed, this solution dramatically increased university central logging and monitoring capabilities, resulting in material increases in WSU’s security analysis capacity. Another key benefit to WSU is earlier detection of security-related incidents and more efficient incident response processes.

In addition to these dynamic improvements, Information Security Systems (ISS) further deployed additional advanced inspection capabilities that detect and/or prevent many of the network based security threats employed by attackers today as well as advanced host-based malware detection capabilities to augment WSU’s existing network-based threat detection defenses.

The deployment of these security monitoring and detection tools allows ISS to provide timely, actionable threat responses, improved institutional information systems and data protection, and more sophisticated threat intelligence data regarding security threat sources and capabilities. With the additional information, WSU is capable of better understanding information security and privacy risk with respect to both institutional and regulatory requirements. Gaining a better understanding of WSU’s overall risk posture will enable university senior leadership to better manage institutional information security and privacy risk while meeting university goals and objectives.
Renovation began with demolition and crews carefully removing legacy fire protection, wiring, and more before improvements began.

Our renewed facility is equipped with state of the art technology and highly trained staff members working to serve WSU’s operations and information security needs.

Members of the WSU Board of Regents, and Salah Elgiadi from Spokane ITS, enjoyed a personalized tour with Dr. Pillay, Vice President of Pullman ITS, and Dawn Barnard, Assistant Vice President of Pullman ITS, prior to our ribbon-cutting event in May.
High Performance Computing: Meeting WSU Research Needs

ITS’ Enterprise Linux Services (ELS) group is the “service provider of choice” to the Center for Institutional Research Computing (CIRC) which owns and operates the Kamiak High Performance Computing (HPC) cluster. Composed of computing, storage, and network infrastructure and associated software, this cluster is administered by ELS in a tightly integrated fashion with the CIRC director, their computational scientist, and advisory board. ELS’ responsibilities include overall lifecycle-based processes such as performance, capacity, architecture, engineering, and operations management.

Current focus of the integrated team is the onboarding of new faculty and investors and looking forward to the coming year’s planning for the next-generation HPC cluster, Kamiak II.
OneDrive

Information Technology Services now provides OneDrive subscription access to its network of WSU customers. OneDrive provides a terabyte of free, cloud-based file storage for all active students, faculty and staff associated with their WSU Network ID.

Offering device independence, user files stored on OneDrive are available from multiple devices via the internet. Files can also be synchronized on local devices so that they can be used offline. Collaboration is built into OneDrive, providing research and communication networking opportunities both inside and outside of WSU.

Office 365

WSU students moved to Microsoft Office 365 two years ago already, and it was time to move the rest of the WSU community to cloud mail and calendaring services! ITS coordinated mailbox verifications of more than 12,000 central exchange mailboxes for employees, rooms, locations, and departments across WSU. All mailboxes migrated from WSU’s on premise email service to Office 365, area by area, over the summer of 2017. After completion, over 95% of all WSU Staff, Students, and Faculty are now on the same email/calendaring system with a dramatically increased email storage capability of 50 gigabytes.

Centralization of WSU student and employee email/calendaring function provides:

⇒ Enhanced collaboration thanks to calendar sharing capabilities.
⇒ Single mailboxes for students who are also employees.
⇒ Increased security thanks to reduction of duplicate security profiles and configurations.
⇒ Reduced cost through elimination of redundant systems providing the same type of services across WSU.

Office 365 provides WSU a variety of cloud-based collaboration services across its campuses.
ITS implemented a Change Management Process in FY 2017 now responsible for coordinating weekly review of all proposed changes (maintenance/upgrades/shutdown, etc.) to existing systems and services, emphasizing timely communication of potential impact and support resources to both customers and other technical staff within and outside of central ITS.

The Change Control Board (CCB) areas of responsibility include review and approval of production change scheduling, review of change results, and finally, review of problem resolution. Multiple Pullman campus areas and WSU campuses voluntarily participate in the board and contribute feedback to these change reviews.

With more than 325 changes being processed and reviewed since its inception a year ago, this new change management process is highly effective in reducing unplanned outages and assisting customers and staff to better plan for infrastructure and information security changes.
Completion of **Office 365**
Email system migration for WSU community

Collaborated to complete rollout of **kb.wsu.edu**, a central knowledge base of commonly used information across all of WSU campuses

Retired the unsupported MeetingPlace collaboration software with cloud-based **Skype for Business** solution

2017 transition to provider **Level3** will ensure customers enjoy resilient Voice over Internet (VoIP) support structure and less cost.
WSU Wireless

In 2017, Information Technology Services was pleased to announce universal access to “WSU Wireless” services from Pullman, Spokane, Everett, Vancouver and Tri-Cities campuses. Anyone from these five campuses with a WSU Network ID can instantly access the wireless network whether you are at your home campus or at one of the other four. No additional sign in, access requests, or guest user limitations are required for those with a WSU Network ID.

Personnel from all Campuses worked collaboratively to deploy this service. Our intention is to make similar access possible across extension offices and research extension centers located throughout the state.

Next, ITS will look at providing access to wireless networks for WSU students, faculty and staff using WSU Network ID, globally, wherever Eduroam is supported. At the present time, the WSU Spokane Campus has already deployed the Eduroam service.
Everett Campus

A new WSU building, recently opened on the campus at Everett, is the first non-Pullman campus building to implement telecommunication ‘fiber to the desktop’ GPON (Gigabit-capable Passive Optical Networks) communication network infrastructure. The 95,000 square foot North Puget Sound at Everett building, designed with the latest GPON technology using the new Zhone MXK-F1419 chassis which can support over 7000 ONT’s (Optical Network Terminals or end-user communication access points), is compatible with the XPON standard (10Gbps+). It is also the first WSU building to implement a Cisco Meraki wireless solution. The Cisco Meraki wireless is managed from the cloud with none of the locally installed wireless controllers standard for most other wireless deployments. The new building also includes a large datacenter used to house both local and backup servers for both campuses.

Pullman Campus Construction

While they are not the first GPON buildings, The SPARK and Troy Hall are the first GPON buildings on the Pullman campus that use the new Zhone MXK-F1419 chassis as standard equipment. These two new buildings, along with the newly remodeled Chinook and the WSU soccer complex, are the latest ‘fiber to the desktop’ buildings to come online over the past year. Additionally, housing and dining has updated the network infrastructure in Chief Joseph apartment complex B and C, Nez Perce Village, Streit Hall, Perham Hall, Streit/Perham and Rogers Hall. These buildings were completely redesigned from category 3/switched infrastructure to ‘fiber to the desktop’ GPON infrastructure including a full redesign and update of the wireless infrastructure.

Connectivity and reliability are top priorities for ITS’ telecommunications team.