Internet Edge and Border Refresh Ensures the Best Internet Experience Along with Enhanced Information Security for WSU Spokane

For several months, the Network team has been working behind the scenes to design and test a network edge and border architecture that will better manage internet and network traffic, as well as increase information security for our campus. In March, they were able to successfully implement the new system.

The new architecture includes multiple layers of redundancy provided both on an internal and external level. For instance, the Network team has contracted three different Internet Service Providers (comprised of six connections) in order to ensure diverse connectivity and increased network reliability and resiliency. Furthermore, they have implemented dual border routers and dual application-aware firewalls which will provide optimal traffic routing with increased internet and network traffic visibility.

As a whole, these changes will provide faster internet speeds and data transmission while drastically enhancing campus information security. Capacity was also increased internally to the internet border module from 1Gbps to 40Gbps. This new structure will allow WSU Spokane to scale rapidly and efficiently (as needed) in tandem with the campus growth. Jason Minton adds that “As the campus grows, we have the ability to scale this from the current 2.2Gbps all the way up to 36Gbps when we need to expand.”

The Network team has also introduced new technology that can balance outbound traffic. This change guarantees that no internet circuit will experience traffic overload, which could result in loss of internet connectivity. The new network architecture has mechanisms that are able to provide the best user experience based on measurements of bandwidth and real-time path information for each individual connection. There is much more granular control and influence over our internet traffic with the new deployment. This is remarkable because it provides many more options to route around potential issues and to truly utilize all of the connections. Additionally, ingress and egress traffic is handled with much more sophistication and efficiency than the architecture that was previously in place.

Minton explains, “Basically, we’ve become a mini-service provider network, similar to the ‘big’ ones, such as Verizon, CenturyLink, or Time Warner. We’re using the same technology and innovations they do in order to make sure our customers receive unparalleled network security and internet service. Every key piece that a major service provider uses to build their networks has been woven into the fabric of our new architecture. It’s now truly providing internet and network service that is secure, scalable, highly available, and agile.”

Virtual Desktop Coming Soon

Virtual Desktop Infrastructure (VDI) is end-user computing of the future. The technology allows users to purchase inexpensive VDI hardware to replace their desktop computers. Their entire workspace will then be stored in the data center, readily available and much more secure. Users will be able to access their workspace from anywhere, including home.

VDI’s are also significantly less expensive than desktop computers, as they average $200 per year, while the typical computer might cost $700-$1200. Since desktops must be replaced every 3-4 years, the savings are considerable.

The Systems team is in the testing phase of VDI’s and hopes to make them available by late spring or early summer.
High Performance Computing Cluster Expansion Gives Campus a Technological Edge

Expansion of the High Performance Computing Cluster (HPCC) has been successfully completed. The new computer will help catapult WSU Spokane into the big leagues of life sciences research and produce important discoveries that will impact the entire world.

This project has required hard work and dedication for many months. In September of 2015, the NSF (National Science Foundation) awarded WSU Spokane with a $500,000 grant to build the framework for a full-sized HPCC to replace the mini HPCC. Since then, the Systems team has been collaborating with researchers in order to purchase, spec, and install the new computer.

The HPCC provides storage and computing power previously unrealized, allowing researchers to conduct complex analyses on large amounts of data. The Genomics core has also added supplementary equipment, which will significantly expand computing and storage power of the unit.

ITS will continue to play an integral role in this technology, assisting researchers with computing and analysis. For the active computing, which is where analysis is done, the ITS Systems team manages the process.

With these added tools, the scope and potential of research on the WSU Spokane campus has been drastically transformed. These changes provide opportunities for growth and evolution, giving the campus a technological edge at this exciting and important juncture.

Accessible Technology

The Education Technology team has continually sought to implement accessible technology and assistance for all WSU Spokane students, faculty, and staff with disabilities.

Karla Ealy-Marroquin has created trainings on how to create accessible Word documents, which includes tips such as using headings to help visually impaired students more easily navigate information. She has also created a blog in collaboration with Student Affairs to offer helpful tips and tricks. These are necessary and important strategies for all faculty to use in order to create an equal learning environment for all.

Ethernet Refresh at South Campus Facility

As the WSU Spokane community grows, so too does the need for fast network connections across campus. In order to create better scalability and speed, the Network team has refreshed the 1Gbps fiber connection in the South Campus Facility to a new 40Gbps multi-connected architecture. This consisted of both an aggregation layer refresh and an access layer refresh.

This change has already garnered positive feedback from researchers. For instance, the Sleep and Performance Research Center needs quick network speeds to transfer large data files. Before the refresh, it took all night to complete a file transfer. With this upgrade, it now completes in a matter of minutes. This project will continue to produce positive results for researchers as well as students in the WSU Spokane community.

Tips and Tricks: Outlook

Microsoft Outlook has a tendency to prompt users for passwords at startup, which can cause frustration and inconvenience. To remedy this issue, users can go to the Credential Manager on Windows.

Click the “Start” menu and type “credential” in the search bar. Windows Credential Manager should immediately be visible in the menu. From the Manager, delete all passwords that have to do with Outlook or connect.wsu. Now, Outlook should open without prompting for passwords.
Technology eCommerce Website will Aid Purchasing of ITS Approved Products

Since January, the Systems team has been hard at work on WSU Spokane’s new technology eCommerce website, with hopes of public implementation in early April.

The website will allow end users to purchase ITS approved products independently, making the process more convenient and efficient. Administrators and accounting staff will also have greater visibility for their college or department purchases as well as for inventory tracking. Products will include desktop computers, laptops, headphones, tablets, and more.

Delivery of the equipment will still come to the Technical Support Center for installation. Bryan Valley explains, “This means that service is still provided to our customers. ITS technicians will do the installs and help users with software education, but there won’t be the stock gap for purchasing. It benefits users in every way.”

New Equipment Allows Computer and Audio Recording in Classrooms

Over the last year, Kevin Wilkinson has championed a project that allows computer and audio recording within WSU Spokane classrooms. The new equipment will be advantageous for both instructors and students, as lecture capturing technology will be more widely available.

Additionally, the Audiovisual team is exploring camera options so instructors can record camera video. If lecture capture usage continues to grow over the next two years, Daren Noe predicts that cameras will become more essential.

This has been a low cost project, but has required a significant time commitment as cabling and sound system adjustments were needed in each classroom. To date, Wilkinson has completed 33 classrooms (SAC, HSB, SSCF, SPBS, and SHER). He is currently working on a plan for the six classrooms in SNRS and will then address the final 17 classrooms in SEWC.

Tips and Tricks: Windows 10

The Windows 10 upgrade is available to all members of the WSU community. It is recommended that everyone upgrade to the latest version, especially those running Windows 8. Users can upgrade by contacting the TSC at 358-7748 or spok.it.help@wsu.edu.

Optimization of VC Technology

The Audiovisual Engineering team has been conducting classroom and conference room surveys in an effort to provide cost savings and to make certain that equipment is upgraded in the rooms with the highest frequency of videoconferencing (VC). Two strategies were implemented for optimizing the VC technology on campus following last spring’s survey.

First, it was determined that four rooms with out-of-date VC equipment could be retired and rooms with upgraded equipment could be utilized instead. This strategy resulted in a cost savings of approximately $80,000.

A second strategy was implemented to address single attendees using Spokane conference rooms for recurring VC meetings. Instead of reserving a conference room for just one attendee, the Audiovisual team installed VC software, cameras, and microphones on their personal computers so they can attend meetings from their own offices.

The Fall 2015 Classroom-Conference Room Usage Report was just completed and results show improved use in almost all areas on campus. Based on this information, the Audiovisual team has repurposed VC equipment that was not being utilized. This equipment will replace the aging 9-year-old VC equipment in SAC 415, rather than purchasing new equipment. This provides an additional $20,000 savings, resulting in $100,000 of direct savings in the first year of room usage reporting alone. This information will help make other renovation decisions on campus, allowing for informed decisions regarding upgrades to aging audiovisual and VC technology.

Trainings Available for Faculty and Staff

Education Technology offers training throughout the year in order to assist faculty and staff learn about new and existing technology available on campus. Trainings include Blackboard Learn: Getting Started, Blackboard Learn: Grading, Panopto Basics, and more.

The current training schedule is available at www.spokane.wsu.edu/its/education-technology/training-schedule. You can find more information here, or by contacting ITS at spok.it.help@wsu.edu or 358-7748.

Ed Tech “Tip of the Week”

Every Wednesday, the Education Technology team posts a new “tip of the week” to the morning announcements in order to assist faculty, staff, and students with their technological needs. Past tips have included “How to check for any Blackboard issues,” and “How to check a Word document for accessibility.” Keep an eye out on Wednesdays for new tips and tricks!
Contact the TSC for Best IT Support Experience

For the best IT support experience, all faculty and staff are encouraged to use the ITS Technical Support Center (TSC) for their technological needs, available at spok.it.help@wsu.edu or by calling 358-7748. Contacting specific staff members can result in greater wait times if those members are unavailable. However, the TSC allows for more efficient service, as queries are automatically logged into the system and addressed quickly by ITS staff on duty.

If you need assistance with any technical needs, such as Blackboard, Panopto, internet, phones, email, and more, please contact the TSC or stop by for a visit at SAC 311.

Building Bridges Conference

All ITS staff will be attending the Building Bridges conference in mid-April in order to further their knowledge of on-campus technologies.

This conference seeks to bring educators, technologists, researchers, librarians, and leaders together to facilitate a forum on how technology can be used to transform education. Topics include “Say ‘Yes’ to Classroom Innovation” and “Cross-Campus Collaboration.” ITS staff will be using this opportunity to understand how technology can be used effectively to maximize student success on campus and beyond.

Portable Videoconferencing Equipment in Testing Stages

This winter, David Noble assembled the portable video-conferencing cart. During the Spring 2016 semester, Noble will lead testing of the new cart in actual classroom scenarios in order to assess its functionality. If this goes well, the Audiovisual team will look for interested parties for live testing in the summer.

Portable videoconferencing technology is advantageous for both instructors and the University, as it makes the service more accessible, while providing drastic cost reductions. Daren Noe says, “We are excited at the opportunity to be more efficient with costly videoconferencing technology.”

Tips and Tricks: Passwords

New WSU security policies mandate that all users update their passwords every 180 days. This can be difficult to do twice a year, but ITS is here to give you some quick tips on how to create a secure and memorable password.

1. Think of a word or phrase that will be memorable to you (and try to stay away from pet names—these can be very easy to hack). For instance, you could use your favorite motto. Let’s say your motto is “Be all you can be.” Now you’ve got something you can remember.

2. To make a password secure, you need to have capital letters, numbers, and symbols. Do this systematically. For capital letters, perhaps you want to capitalize all b’s, especially since “b” comes first in the phrase. Now you have: BeallyoucanBe.

3. Next, choose a letter or group of letters to change into symbols and numbers. In this case, you may want to change the a’s into @’s. Now you would have Be@llyouc@nBe.

4. Finally, choose a letter or group of letters to change into numbers. For instance, you could change all e’s into 3’s. Now you have B3@llyouc@nB3. That would be a difficult password to hack!

There are many variations of this, and only you know what you can remember. However, having a secure password is the first step to keeping your information and identity safe.

You can reset your password on your computer when prompted at startup, by going to reset.wsu.edu, or by contacting the TSC at 358-7748 or spok.it.help@wsu.edu.

Change Management Publication

In an effort to make ITS operations more transparent to the general WSU Spokane population, the Systems team has made all Change Management notifications public and accessible via the ITS SharePoint site. These publications notify users of changes to IT infrastructure that might affect their experience. Previously, users were notified by email or by their Change Advisory Board Member (each area has a member on this board) when changes were made that would directly affect them. But now users may opt in to receive all notifications.

The ITS SharePoint site also includes information about new and upcoming projects, as well as ITS Service Status, which informs users of the status of wireless, internet, and email across campus. Bryan Valley says, “Ultimately, we want to create more transparency. Opting in to receive all Change Management notifications will allow people to see exactly what’s going on, whenever they want.”

To opt in, users can subscribe to the RSS feed and view changes approved here: https://it.spokane.wsu.edu/.

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