For those who missed the announcement at our November IT Forum, I’m pleased to inform you that the University’s email and calendar systems will be moving to the “cloud” next summer with our migration to Microsoft’s Live@edu product. Live@edu will replace our current email and calendar systems with a web-based service; plus provide enhanced features, including more email storage space (10 GB), individual document storage (25GB) with light versions of Word, Excel, PowerPoint and OneNote applications, and mobile-friendly improvements such as text alerts from your calendar. Live@edu will provide faculty, staff, and students with a common integrated platform for communications and collaboration, along with access to the same productivity tools online that we use at our desks.

I know that some of you are asking — why change? Why now? Why Microsoft?

For the past two years, Information Resources management and staff have been carefully considering the future options for our email and calendar services which have become technically antiquated, costly, and difficult to maintain. We began in 2008 with a divisional research team who also reached out through the University senate to gather feedback and functional requirements from the campus community. Throughout 2009 we continued to follow the evolving best practices in the IT industry and monitored our peers in higher education in particular. Having studied this issue from many angles, in 2010 I decided that the time was right to make our move into the IT “cloud” for our email and calendar services. We expect to achieve all with our move to Live@edu.

And now, a word about a close competitor product – Google Gmail and Google Apps; Google and Microsoft offer two products that are very similar and continue to enhance their offerings in what is shaping up to be a very competitive market. In our final review, IR management felt that, while Google provides an excellent solution for individuals and small groups, the Microsoft offerings were more appropriate for an enterprise-level service where we need to address the entire range of functions that happen on our campus. In particular, the Microsoft offerings will integrate with the Microsoft Office software already used by our campus community. The calendar and mobile features will also integrate more seamlessly with currently supported mobile devices. Finally, I remain concerned about Google’s practices with regard to protecting the privacy of individuals’ information, something the University is obligated to do by law.

I hope that you are as excited as I am about these upcoming changes and all that the Live@edu product has to offer. The Information Resources staff is hard at work getting ready for a June 2011 launch. You will hear more from us during the spring semester as we work with you on all the details that will need to be addressed to make this transition a success. If you have any questions throughout the project, please contact myself or our project manager, Jim Franceschelli, Director of IT Services.
Evisions Argos is a Web-enabled reporting solution designed for schools that utilize the SunGard Banner ERP system. The great thing about Argos is that it can be used for simple, ad hoc queries of data housed in our enterprise (Oracle) database, while providing an easy way to create advanced, business intelligence dashboards and data cubes. Argos was designed so that people in non-IT departments, who need access to university data, can quickly access what they need at the time, but it also has built-in functionality for scheduling and delivery of reports in an automated fashion. It allows the University to leverage the information contained in our databases for more efficient and effective decision making by making it available in real-time in an electronic format.

Argos is now in production. IT Development and Applications (ITDA) is using Argos in earnest, to rewrite many legacy reports. Several offices on campus have been using the tool even more so, to convert old reports, and to develop new ones. Data gurus from the Registrar’s Office, Admissions, Development, Finance and Institutional Research have been working with the Argos tool and the Evisions professional services team since spring to build data blocks and reports, and have made significant progress in their efforts.

ITDA Business Applications Analyst, Jeff O’Malley, serves as the point person for Argos on campus. He worked closely with our Database Administrator, Maureen Castaldi, over several months to determine a way for the initial set of Argos data block designers to get the appropriate access to the data needed to build their reports. As you might expect, data security is of utmost importance, and the configurations used for these accounts in Argos needed to ensure such security.

For the majority of employees on campus, Argos reports will be accessed via the new Employee Applications tab in the my.scranton portal. Those with access to run a report, should see it in the menu (s), and can simply click on the provided menu link to launch it. (For more information about the Employee Applications Tab, please see the related article.)

Over the next year, an increasing number of reports will be produced from the Argos tool. Through the use of Argos, the University has an added environmentally friendly opportunity. The output will either be a CSV (comma separated value) file, viewable on screen and easily imported into Microsoft Excel or a PDF file, viewable on screen in a WYSIWYG format using the free Adobe Reader. Argos report output may also be automatically saved to your “Banner” folder on Royal Drive, or emailed to University email accounts. This is an environmentally friendly improvement over many of the former methods of report printing and distribution as many older reports were set to default output to a print queue, where they were produced in hard copy, and, in many cases, had to be picked up or delivered to offices by Printing and Mailing Services, more than a day later.

The main thing to remember when going green is, “Think before you print!” Printing the output of reports on your local printer is costly and often unnecessary. Many people only need to see a few pieces of data on the entire report and can do this by searching through the output on the screen. Both Excel and Adobe (PDF) Reader have search tools built in, and many other features which allow you to find what you need without printing the document.

Mentor/Mentee System
By: Cindy Hricko, Assistant Director
IT Development and Applications

Molly Piazza and Cindy Hricko have been working with Andrea Mulrine, Director of Development Operations and Analytics, Paul Perhach, Assistant Dean, Kania School of Management, and Janice Dubois, Administrative Assistant, Assessment and Career Development, to create a system to facilitate data gathering, communication, and reporting for the Mentoring Program within KSOM. Phase I includes a new web application for Development to store information on mentors including their preferred method of contact for the mentees, the industry segments they would like to mentor, and the majors they would like to mentor. Phase I also includes a new channel in the Kania School tab in the my.scranton portal which allows juniors and seniors who are majoring in a degree from KSOM or in the Business Leadership Program to apply for the mentorship program. Two new Royal Lists were created for communication between the mentors and mentees. The new Banner 8 Supplemental Data Engine feature is being used to collect additional information needed, but not included within baseline Banner. Phase II of the project will look to match the mentors and mentees - currently a manual and laborious function.
Library Expansion

By: Deanna Beyrent, Desktop Engineer

The first floor of the library has completed the expansion of the 24 hour access area. There are 11 lab PC’s in the new area for the students to access which include 3 group study rooms with a PC in each room. An additional Uniprint Print Station is also located in this area with a new duplex printer. The printer is set by default to print on both sides of the paper charging the students 7 cents per side of print. All wireless desktops and group study rooms on the 3rd, 4th and 5th floors and the Library’s loaner laptops are set by default to print to the new duplex printer with Uniprint.

Mobile Applications Team

By: Timothy Meade, Network Administrator and Connie Wisdo, Director IT Development and Application

Over the summer the Planning and Information Resources division created a mobile application team with a number of goals. The first goal centered on supporting a mobile web presence for the University. Tasks related to this goal, completed over the summer, were (1) to conduct research on the mobile apps that other peer and aspirant schools have developed, (2) to determine what our students want to use their phones for, and (3) to research the pros and cons of various mobile application development approaches. The second goal centered on determining requirements for mobile applications to be used for recruiting and marketing purposes. Towards this goal, the team is currently evaluating vendors, in conjunction with the departments of Marketing/Communication, Admissions, and the Weinberg Memorial Library. In the coming weeks the University plans to narrow the choice of vendors and make recommendations on time frames and next steps. The third goal of the team was to provide extendibility of the University’s mobile apps and mobile web presence through all phases of a student’s relationship with the University, from pre-enrollment to current student and to alumni. This will incorporate applications for teaching and learning, as well as administrative student services, and may be achieved through a mixture of vendor-supplied applications, as well as some developed in-house. The team will continue to work toward the third goal throughout 2011, reaching out to departments across campus, as well as student groups, for input and feedback.

The team, led by Timothy Meade, Network Administrator, includes Diane Jachimowicz, Senior Technology Services Analyst, Dan Phillips, Systems Administrator, Gerard Dombroski, Applications Developer, and Scott Finlon, IT Security Engineer.
Microcomputer Budget Process
By: James J. Franceschelli, Director IT Services

Microcomputer Budget Program packets for Fiscal year 2011-2012 were sent to departmental representatives in early November. Each department is being asked to verify current computer inventory and, more importantly, identify the needs of each area. IT Services’ goal of the central microcomputer budget process is to equip each office with the appropriate hardware in a reasonable timeframe. Only computers purchased through the microcomputer budget process will be included in the ongoing replacement cycle. Departments should not purchase equipment without first contacting IT Services.

Due to the high costs of maintaining and replacing desktop equipment, all departments need to be conservative in their requests. Each employee should have only ONE system. When IT Services replaces a PC as part of the microcomputer budget program, the existing computer must be returned. If a user needs a laptop computer because of work requirements, that same system also needs to be utilized as the office system. Where necessary, a docking station and external monitor can be provided for the employee’s office. Completed Microcomputer Budget Forms must be returned by Monday, December 13, 2010 to be eligible for fiscal year 2011-2012.

Introducing Microsoft Forefront Client Security
By: Diane M. Jachimowicz, Senior Technology Services Analyst

IT Services, in cooperation with the Project Management Office and Network Infrastructure, is in the final stages of preparing to deploy Microsoft Forefront Client Security, the antivirus product chosen to replace McAfee VirusScan Enterprise, on all University owned computers. MS Forefront was chosen as the initial, base product in a layered, end point protection defense against malware because, of all products researched and evaluated, MS Forefront was the least obtrusive product to end point productivity. This means that computer users should recover more processing resources and be less restricted by antivirus protection once McAfee VirusScan is removed and replaced with MS Forefront.

It would stand to reason that a less obtrusive antivirus product on the end point would offer less protection than a more obtrusive competitor product, but that is not the case with MS Forefront. The switch to MS Forefront removes administration of the antivirus product from each individual end point and simplifies administration by centralizing it with one central management console. Additionally, because MS Forefront is integrated with the newly established Active Directory (AD) environment, single polices can easily be configured and rapidly deployed to multiple machines. Policies can also be targeted to specific user and security groups and can include alert level settings configured to specify the type and volume of alerts and events generated by different groups of protected machines. MS Forefront also integrates with the newly established Microsoft Windows Server Update Services (WSUS). Administrative workloads will be reduced at the end points since WSUS can be used to automatically deploy the MS Forefront clients to the end points and can also be leveraged to provide client status information and reports.

IT Services intends to gradually deploy MS Forefront starting in December 2010. Licensing for McAfee VirusScan Enterprise expires May 31, 2011 and all versions of McAfee must be removed from University owned computers by this date. Communications about the removal of McAfee VirusScan Enterprise and deployment of MS Forefront Client Security will be forthcoming from IT Services.

Laptop Support Center
By: Danielle Morse, Associate Director Desktop Services

The Laptop Support Center, located in Hyland Hall, is open Monday through Friday from 9am to 4pm. Certified technicians can perform hardware warranty repairs for student and University owned Dell and Apple computers with a valid warranty. IT Services offers a loaner laptop to students who purchased one of the Dell Latitude laptops specially configured for the University if we can’t repair the laptop within 24 hours.
Where will this road take us?
By: Maureen Castaldi, Assistant Director
Database Systems and Data Processing

In the late 1980’s, Scranton chose SCT Banner, now SungardHE Banner Digital Campus, (www.sungardhe.com) to be the administrative software system for the campus. At the outset of this multi-year Banner Conversion Project, Scranton implemented Banner which included the Student, Accounts Receivable, Finance, Financial Aid, HR/Payroll, Position Control and Alumni Modules. Joining SungardHE which had been using the Oracle Database and supporting technologies since 1987 we also became an Oracle Shop. At that time, Oracle version 6 was the latest release and was installed here on OpenVMS. The technology behind the Banner product consisted of SQL*Forms, SQL*Reports, SQL*PLUS and Pro*COBOL programs. The programming staff adopted these tools to develop in-house applications which supplemented the Banner product. The benefit of using the same toolset as SungardHE allowed the staff to easily integrate in-house applications with Banner as well as troubleshoot bugs and issues with the Banner product many times much faster than SungardHE support. Through the years, Oracle has evolved and right along with that SungardHE’s software has developed using the latest and greatest technologies from Oracle. We have moved right along with Oracle and SungardHE, migrating Oracle from version 6 to 7 to 8 to 9i to 10g and now our latest move to 11gR2 that will be implemented on Linux as we move away from OpenVMS. We have also performed many Banner upgrades over this time, from our initial Banner install at version 1.3 to version 8 that happened almost a year ago. With each Banner release new functionality and/or technology advances occurred. Oracle advances have moved us from SQL*Reports to Pro*C; character-based SQL*Forms to Banner GUI to Internet Native Banner (INB) which uses the Oracle Application Server Forms Service; the inception of Self-Service Banner (SSB) or as many still refer to it as UIS, which uses PL/SQL deployed through the Oracle Application Server; the UTF-8 character set change for internationalization support. As SungardHE has expanded their product line and partnerships, we have adopted other products, such as Workflow, Document Imaging, Evisions Intellecheck, and the Luminis Portal (my.scranton). All of these products augment Banner and integrate with our corporate Banner database. Currently, we find ourselves at a major crossroad. Oracle support for Alpha OpenVMS is ending with Oracle 10g, however, SungardHE is not standing still with their development. In order to offer continued support for basic administrative functions, such as registration, financial aid awarding, grades and payroll, we must forge ahead to 11gR2 in a new environment. This project is well underway and is scheduled for production in summer 2011. At this same time, SungardHE has embarked on a project that they refer to as Banner Evolution to modernize the user experience for Banner’s administrative function as well as technically improve the Banner Architecture. This new interface will make use of different technologies than previous Banner versions. The Java Platform (Java, Hibernate, Spring, Grails, and Groovy), Web 2.0 technologies, Oracle WebLogic, Tomcat, Ajax, jQuery and SOA will be some of the components used in very near future releases of Banner. Much has changed since that early release of Banner about twenty years ago. We could not imagine at that time the growth that we would experience with this product. Through it all, we have strived to gain knowledge of emerging technologies so that quality service could be extended to our campus users. We will continue on that path.

Office Security Tips

PII (Personally Identifiable Information)
Information that can be used to uniquely identify, contact or locate a single person or can be used with other sources to uniquely identify a single individual.

Safer Web Browsing using Firefox
Use IE to access scranton.edu resources and pages. Use Firefox to browse all other web pages. Mozilla has a plug-in checker that will indicate if a plug-in update is necessary: www.mozilla.com/en-US/plugincheck/

Office Security
Logoff your computer when you leave your office even for a few minutes, shutdown your computer each night and unplug your computer over holiday breaks.

Royal Drive
Store all sensitive files and data on Royal Drive, not on your desktop computer.
Computer Maintenance Center
By: Karl B. Johns, Computer Maintenance Supervisor

The Computer Maintenance Center, part of IT Services, is responsible for supporting many facets of the Information Resources division including but not limited to hardware repairs, office relocations, CSIRT support, student laptop program support, warranty repairs to student and University owned Dell and Apple computers and mobile device technical support for staff and administration. The Computer Maintenance Center continues to assist with various office relocations. For these moves, they are responsible for breaking down the equipment, setting all systems up once received at the new locations, verifying all peripheral devices are working and that network connectivity is available.

During the Fall 2010 semester, the Computer Maintenance Center has been involved in several projects including the evaluation of environmentally safe asset disposition, Apple Certified Technician testing, testing of demo mobile devices, and several special event set-ups for various departments across campus.

All Computer Technicians Apple Certified— that is our goal by December 2010. The process of becoming Apple Certified for warranty repairs requires successful completion of an Apple hardware exam and a separate Apple software exam. As of November, Glen Pace and Karl Johns have both become Apple Certified Technicians. Joe Kitcho and Zack Coffey are expected to complete their certification exams by the end of the year.

With mobile devices coming and going on a regular basis, it is imperative that members of IT Services keep abreast of the new technologies and devices. The ability to easily troubleshoot these emerging technologies is imperative in meeting the fundamental values of our division. Throughout the last several months, we have participated in testing the Devour, Droid X, Droid 2, Samsung Fascinate, LG Ally and, coming soon, the Droid Pro. Through this testing we are able to ascertain the pros and cons of each device from battery life to sound quality and, more importantly, whether the devices work well with the email and calendaring services currently utilized by The University of Scranton. The Computer Maintenance Center along with the Technology Support Center maintains an allotment of specially equipped laptops for special events on campus booked through the OIT equipment request form on the portal. Our most recent setups have included Family Weekend, the Biggest Loser, Wellness Day, Argos training sessions, Volunteer Fair, Spring Concert Survey Series and special for the Kania School of Management Accreditation Board visit.

PIR Division Updates
By: Robyn L. Dickinson, Associate Vice President Planning & Information Management

Two significant staffing changes have taken place in the PIR division this fall — first, John Culkin was promoted into the Senior Systems Administrator position within the Systems group and second, Scott Finlon (formerly our second shift TSC Analyst) was selected to fill our new Information Security Engineer position. Congratulations John and Scott!

As we continue to place emphasis on professional development for our staff, this fall we have two newly certified Apple Technicians — Glen Pace and Karl Johns — in our Computer Maintenance Center. This particular certification also helps to address another of our customer service goals which is to strengthen our support for Apple products. Congratulations Glen and Karl on their accomplishment!

O I T TIP
Teach WITH your technology

When creating a particular lesson plan, be aware of technology available classroom setting and use it to your benefit.

Images or objects with low contrast may not be very discernable on our projection systems to your audience. Fine detail may be best displayed in a high resolution photo imbedded in to your power point presentation. On a similar note a document projected with a smaller font size could be adjusted to a more comfortable and readable size. And as always, less bullet points and more slides make for better note taking.
**Microsoft Windows 7 Standard User Account**

By: Diane M. Jachimowicz,
Senior Technology Services Analyst

MS Forefront Client Security will be the flagship layer for end point protection against malware but additional layers need to be applied to secure not only the end point but the University resources accessed at each end point. A simple, yet often resisted, method for adding additional end point protection is to use the standard user account.

Often maligned and misunderstood, the standard user account is the account everyone should use for day-to-day computer use. It has enough privilege to do day-to-day tasks such as run programs, work with documents, do email and browse the Internet. It does not have enough privilege to make changes to the system that would affect the operation of the system (e.g., deleting required system files) or other people's user accounts. Most importantly, it does not have enough privilege to allow malware to make harmful changes to the system.

In an enterprise environment, establishing all users as standard users is a best practice and IT Services would be remiss if it did not adopt this practice. IT Services will soon begin deploying Microsoft Windows 7 and all Windows 7 user accounts (IT Services' daily use accounts included) will be established as standard users. IT Services and all of Planning and Information Resources acknowledges that the adoption of standard user accounts is a culture change for our organization and that there may be some challenges to the process of further securing the end point in this manner. Please be aware that the implementation of standard user accounts is only intended to secure the end point and University resources and is not an attempt to restrict individuals' access to resources or daily functions.

**Telephone Services**

By: Lisa Notarianni,
Manager of Business and telecommunications Services

Network Infrastructure has completed the conversion of all Resident Assistant telephone lines from Verizon’s Centrex service to IP based services. Resident Assistants can use analog telephone sets as the implementation includes ATA IP to analog conversion ports.

Voice over IP telephone implementations continue as we are extremely busy with many office moves around campus. The General Counsel Office suite relocated to St. Thomas Hall and the new Cisco IP telephones easily accommodate moves as they simply connect their phones to network ports and they are up and running. As Purchasing moved to O’Hara Hall, the department was outfitted with new Cisco IP phones. Phones were also configured and installed at the new SBDC office suite in the downtown AdLin Building. The staff has also been investigating several new telephone set offerings from Cisco that might fit well at the new Science Center.

Network Infrastructure continues to focus on selecting a best practice solution for audio recording within the Public Safety office. We are presently sorting through technical details to selectively deliver a recording to tone to only the telephone sets where recording is required and while this sounds simple, we’re finding it challenging to accomplish. We will shortly be implementing Cisco VoIP telephones throughout the Joyce Maintenance Building that will include an overhead paging speaker system. Our telecom business manager continues to migrate voicemail and caller menu services off of our legacy Octel platform so that we can plan for the removal of this hardware and associated battery components.

Our team also continues to work with the Blackboard Connect ED system as related to fall semester setup. The my.scranton portal is configured to prompt users to review their emergency contact details. A new group was created on the Connect ED system that will be used by Residence Life to communicate via text to their Resident Assistant staff. The Residence Life staff has been trained on using the Connect ED system with only three staff members having authority to generate and distribute messages.

The staff has also worked closely with our IT software developers and the Human Resources staff to refine the annual telephone directory applications to accommodate user data review and updates as well as the online version of the telephone directory. User data updates are presently open to all faculty and staff and when complete, a final printed publication will be generated using simpler HTML formatted pages. After this year, printed directories will be offered for a fee from our Printing Services department.
Data Center Modernization
By: Ron Skutnick, Director Network Infrastructure

The primary data center located in the basement of Alumni Memorial Hall has been showing its age of late and was badly in need of modernization. Being constructed over 20 years ago, the environmental subsystems that provide cooling, power distribution, battery backup and fire protection were all due for a refresh. But how does one renovate a data center while running a full shop of production hardware? Add to this the knowledge of new equipment deliveries and installations that the environmental subsystems cannot handle. The solution was to engage our Enterprise Infrastructure department, Facilities Operations department and our Vice President for Finance to assemble a plan and obtain project funding. The plan also engaged the engineering services from HSA Associates and information technology solutions from Integra One.

Rather than impose large downtime windows while updating environment subsystems, the project was broken into two phases with the first focused on building a new data center right next to the existing data center. Building a new data center today is comprised of solutions that are vastly different than those used 20 years ago. Raised flooring systems are rarely used any longer as replaced by overhead utilities feeding modular equipment racks. Equipment racks are now built into enclosure configurations with two adjacent rows having a roof to contain all of the heat being exhausted from fans on each piece of equipment. In row coolers are added to each row of racks that cool and remove the contained hot air back into the data center room. This method of cooling is simpler in design and highly efficient to operate.

Once the new data center space was constructed, work focused on the installation of new environmental subsystems. Electrical service and distribution was also engineered and rebuilt from scratch. It was proven to be more efficient and affordable to build subsystems that are powered by three phase 480 volt equipment. The new cooling subsystem was built with redundant chillers and a fresh air cooler that would be used in cold weather to produce a chilled water system that would cool the equipment rack enclosures. Having redundant chillers, the likelihood of downtime to address maintenance and repairs is significantly decreased. Using chilled water to provide cooling to heat producing computer equipment is also highly efficient and environmentally friendly adding to the green aspects of the overall project.

480 volt electrical service was added to Alumni Memorial Hall in July enabling the new cooling subsystem to become operational. Equipment racks, power distribution, battery backup systems, in row coolers and enclosures were assembled by APC in August. A new FM2000 fire suppression system was installed to complete the environmental controls needed within the new data center space. A 400 kilowatt diesel fueled backup generator was also installed to provide power during any campus electrical disruptions. Low voltage cabling was installed to provide connectivity to the new space and the systems and network administrator staff began a series of coordinated equipment moves into the new data center space.

As production equipment was removed from the old data center space, renovations began along with the extension of the new environmental subsystems to this space. The old data center space was also reconfigured to create three distinct new spaces to house network operations, network vendors and an operator’s space. Renovations were highly complicated as all network electronics had to remain operational and in place while the work took place. Network carriers relocated their racks and fiber optic feeds into the new vendor space. New environmental controls were completed allowing the network equipment racks to be reconfigured by APC to create another hot aisle rack enclosure. Extensive work was required by the network infrastructure team to reconfigure the racks housing all of the network electronics allowing them to be incorporated into the new APC enclosure. The old suspended ceiling was removed and replaced with a new lighting plan and that space is presently being painted to complete the second phase of the modernization project.

The data center modernization project was vast in scope and managed by Bob Collins and Ron Skutnick along with the dedicated assistance of Mark Murphy from Facilities Operations. It is significant to note that downtime was minimized throughout the entire project considering the heavy impact of equipment moves and the integration of all new environmental subsystems. Penn State Mechanical provided project management and installed the new cooling subsystem. Walsh Electrical handled all the high voltage installations throughout the project. New Era Technology installed all of the low voltage communication cabling on the project and AJ Guzzi provided construction services. We anticipate more formal communications on the project as well as an open house event to showcase the new green technologies and solutions.
my.scranton Portal Team — Progress Report
By: PIR Portal Team

The my.scranton Portal Team has been making subtle but significant enhancements to the my.scranton portal. Staff members at Technology Support Center now have the ability to post announcements to the my.scranton portal. This will allow the release of announcements in a more timely manner (outside of core business hours and when the TSC is staffed) for information needed immediately by the University Community. Some recent announcements that required expedited posting pertained to targeted, phishing emails that had the potential to expose computers or email accounts to attack.

The team received a recommendation from the Information Management Advisory Committee (IMAC) in June to consolidate all password-related functions into a single, easy-to-access channel located in the upper-left corner of the Home tab. Larry Hickernell implemented this change in production right before the beginning of the Fall semester. The new Emergency and Password Information channel includes links to the Local Contact/Emergency Notification System Registration, Password Reset Questions, resetting your single sign-on password, and a new application, written by Gerard Dombroski, to reset your Tiger password. The IMAC committee also requested consistent terminology regarding portal announcements so all references to announcements now read “Personal Announcements”. The team is currently looking at a channel for IR Downtime notices and different options to accomplish this. Maintenance of this channel is key to its success.

The my.scranton portal runs on software licensed from our ERP vendor, SunGard, called Luminis. The Luminis 4.2.3 (maintenance) release will be installed in our test environment during the first quarter of 2011. We expect Luminis 5, the next generation of the portal software environment, will bring a whole new look and feel to our my.scranton portal later next year, as well as a platform allowing for easier maintenance on the part of our Systems and IT Development and Applications staff. The new version builds on the value and core competencies of the existing Luminis platform solution but includes items such as a revamped technology foundation, greater reliability, new content/applications/tools, simplified management, new community capabilities, an improved user interface experience and increased deployment and configuration flexibility. Installation of this release is tentatively planned for 3rd quarter 2011, following the conversion of our ERP environment to Linux next summer.

Desktop TIP
Slow Computer?

Is your computer running a little on the slow side these days? You may have picked up adware and spyware while surfing the web. Please remember to update and run Spybot on a regular basis.

Double-click the Spybot-Search & Destroy icon on the desktop
Click on Check for Problems button
Make sure all boxes have a Green Check Mark
Click on Fix Selected Problems
Click Yes
Click OK
Click on the X to close
(Instructions compliments of Wendy Diehl)
Mobile Device Mania
By: Diane M. Jachimowicz, Senior Technology Services Analyst

2010 was a frantic year for mobile device support and 2011 isn’t shaping up to be much different. Just consider some of the smartphone devices that were released thus far in 2010: Apple’s iPhone iOS 4.x, HTC’s DROID Incredible, Motorola’s DROID X, Motorola’s DROID 2, and Samsung’s Fascinate. Keep in mind, this list only includes the devices that are currently being supported by IT Services. It fails to mention the numerous devices available on cellular networks other than Verizon Wireless such as Sprint’s HTC EVO 4G and the new Windows Phone now available on AT&T and T·Mobile. Blackberry devices are also missing from this list.

Smartphones are hot items and the market is relentlessly competitive. According to Gartner, users bought 417 million mobile devices in third quarter 2010 with Apple and Android smartphones driving the record sales. The Nielsen Company also reports that as of third quarter 2010, 28 percent of U.S. mobile subscribers now have smartphones. Among those who acquired a new cell-phone in the past six months, 41 percent opted for a smartphone over a standard feature phone, up from 35 percent last quarter. Additionally, Informa Telecoms & Media reports that smartphone users are generating two-thirds of mobile cellular traffic worldwide despite the fact that only 13 percent of mobile subscribers use smartphones.

How does IT Services plan to keep pace with such a rapidly growing market? First, IT Services stays abreast of current research and product releases which is more fun and interesting than it sounds. Second, IT Services acquires from Verizon Wireless as many demo devices as Verizon Wireless will allow. Third, in preparation for the migration to a new campus wide mail and calendar system in 2011, IT Services is already investigating how mobile devices will be configured to access that new system.

What devices are on IT Services’ radar for 2011? Apple’s iPad still reigns as the most successful media tablet device currently available and its practical application for the enterprise and higher education remains to be seen. Competition in the media tablet market is expected to grow with offerings from corporate giants, Cisco, Blackberry and Samsung, competing with lesser known companies, Archos, enTourage, and Kno. The Motorola DROID Pro on Verizon Wireless is the first Android device to offer a full (albeit tiny), physical, qwerty keyboard on the face of a device. It may be a niche product that successfully lures the remainder of Blackberry users to the Android platform. Dell, our primary computer supplier, continues to reinvent its mobile offerings. Dell’s current offers include the Dell Streak, a 5-inch, 3G Android tablet, and the Dell Aero, an Android smartphone, both available on AT&T’s cellular network.

CyberSecurity Awareness Month
By: Linda Scherer, PIR Office Manager

October was National Cybersecurity Awareness Month and this year’s theme was “our shared responsibility.” The Internet is a shared resource and everyone is responsible for securing it. This includes the computers and devices we use on all of our networks.

Everyone is encouraged to create strong, complex passwords. Complex passwords should be 9-15 characters in length and include upper and lowercase letters, numbers, and special characters. A strong, complex password will assist in protecting electronically maintained, personally identifiable information (PII) for staff, faculty and students.

A letter, bookmark, and toothbrushes imprinted with security tips and the information security website (www.scranton.edu/infosec) were distributed to students. During the month of October, any faculty or staff member who changed his/her my.scranton password was automatically entered into a random drawing to win an iPad. Frani Mancuso from the Public Relations Department was the lucky winner. Congratulations, Frani!

Remember, the purpose of the information security program is to protect integrity, confidentiality and access to the University’s resources. This cannot be fully accomplished without your attention and assistance. “It is a shared responsibility!”
Thin Clients
By: Vince Merkel, Senior Technology Services Analyst

If you have been around long enough, the term “thin client” will be more familiar to you under a different name: dumb terminal. Although the use of dumb terminal here is technically inaccurate and somewhat tongue-in-cheek, there are similarities. A dumb terminal was essentially a “window” (pun intended) to a mainframe or minicomputer that was somewhere other than where you were although not on the other side of the world as may happen today. Working with a text-based interface, you typed commands to this remote computer, it did the work, and the results were displayed on your screen in text as well. It was most often one integrated keyboard/display device without a mouse.

The paradigm you are familiar with is that you interact directly with the computer assigned to you for doing your work. Even if the computer that creates the information that you ultimately see is somewhere else, it is your computer using its resources to talk to the other computer and present the results to you in the pretty formats you are now used to. Most people reading this use a computer with Microsoft Windows XP installed.

With a thin client, the copy of Windows that you use actually runs on a remote computer known as a server. As a matter of fact most persons connecting to this server share the same copy of Windows. When you move your mouse or type something the “computer” that reacts to your actions and responds is somewhere other than on your desk or on the floor next to you. The results are displayed on your screen and look the same as what you would see from that old reliable Windows XP computer.

Thin clients have no computer; just a keyboard, a mouse, and a monitor. There will also be a little box that actually is this mysterious thin client. It is only as smart as it has to be to find the remote copy of Windows and send your mouse movements and keystrokes out and display the results that come back.

One major advantage of the thin client approach is that it has the potential to reduce the support and maintenance costs for PCs especially in lab facilities. The thin client solution can also extend the lifetime of existing PCs as it allows low level PCs to run state-of-the-art PC applications from a server. Some of the other benefits we hope to leverage by using thin clients are a standard software environment, reduced network congestion, remote access, centralized management, less expensive hardware,
What is the Project Portfolio?

By: Lorraine T. Mancuso, Director
Project Management Office

The Project Portfolio is a compendium of mission critical projects, under the purview of the PMO, classified as “divisional.” A project is classified as divisional if it requires resources from multiple departments within the Planning and Information Resources division. Many times resources from multiple departments have conflicting priorities. The PMO assists with coordination and conflict resolution to achieve successful completion of the project. The benefits realized from PMO oversight are described later in this article.

A number of divisional projects are scheduled this winter. The ERP Migration Project began in 2009. The migration is required due to diminishing SungardHE support for our current VMS environment. In March 2010, ERP migration was identified as a divisional project requiring resources from IT Development & Applications (ITDA), Systems, Networking and the Technology Support Center. The main components of this project are acquisition of new equipment, training on the new LINUX environment, and migration of all Banner and auxiliary data housed in the ORACLE database. The new LINUX environment will also impact shared storage (Royal Drive) and printing. Within the scope of this project it is also necessary to migrate the job scheduling tool and to convert a series of reports to the Argos Reporting tool. By the time we are ready to move to production, our work will have been through its paces first in a pre-test “development” environment, secondly, in the Quality Assurance “QA” environment (QA is what we know as “test” in the VMS environment). Production is scheduled for a weekend in summer 2011. While no date is optimal for all, a date offering the least disruption will be announced before the end of this year.

After several years of research, analysis and debate, a final decision was made to outsource email and calendar services. This project is on an aggressive schedule and the implementation will bring enhancements to mail and calendaring as well as budgetary savings. A team, comprised of members of IT Services, Systems and IT Development and Applications has been assembled to develop the implementation plan with a migration completion date of Summer 2011. Major tasks include migration of existing mail and calendar entries, training on the use of the new tool and a communication plan which began with the IT Forum held on November 18th.

The Identity and Access Management (IAM) project planning began in January 2010 based on a best practice recommendation that an Active Directory (AD) implementation be provisioned via an Identity and Access Management system and to meet security compliance requirements. As a result, a search commenced for a vendor capable of implementing an IDM solution which would also provision Active Directory. CampusEAI was selected and work is underway to establish IAM and AD in a test environment by January 2011. This program is especially critical since Active Directory is a pre-requisite for the ERP Migration project, the email migration project and the Forefront Client Security rollout.

Forefront Client Security will replace McAfee VirusScan Enterprise on all University owned computers. The deployment of Forefront Client Security is being closely coordinated with the AD implementation. Major project requirements include establishing several architecture components, testing the removal of McAfee and the installation of Forefront to ensure a smooth end-user experience, and planning a scheduled rollout process.

The Data Center Modernization project is in its second phase and is expected to be complete by the end of this year. This project required careful coordination with the Physical Plant and outside contractors. We are all aware of the construction of the Unified Sciences Center and the Mulberry Street project is a reality. It won’t be long before the services of the Networking, Systems and IT Services groups will be needed for the installation of cabling, activation of network ports, deployment of phones, desktops, laptops, digital displays, projectors, smart boards, card access and probably a couple of things I’ve missed. And target dates are scheduled for when? Yes! Summer 2011.

Notice that most of our projects have completion dates in the summer 2011 timeframe. While the summer provides one of the best opportunities to roll out new or enhanced services, it stresses the IT Division. As with many organizations today, given the current economic climate, we are all being asked to do more with less. This is why prior planning and clear definition of requirements is becoming so critical to success.

Continued on Page 13
What is the Project Portfolio? (continued)

We feel we can meet these demands because of our project management approach. While not yet a mature methodology, our projects are being orchestrated based on project management best practices. That best practice industry standard is defined by the Project Management Institute (PMI) in their Project Management Body of Knowledge (PMBOK) Guide. The benefits we have realized thus far as a result of a standardized approach are:

Project Value: There is a better understanding of why the project is important by establishing a direct connection to our tactical plan. It is clear if the project saves the University money, improves a process, or supports a key goal of our strategic plan and/or tactical plan.

Commitment of PIR staff: All team members are aware of the role they play and how others are impacted. Team members who manage resources are asked in advance how the work requirements will fit into their already busy schedule and affords them the opportunity to clarify and balance priorities. The subject matter expert is the best person to assess the requirement for any given task.

Communication Improvements: Each divisional project is assigned its own folder on RoyalDrive. All projects utilize Microsoft Project as a standard for task management, with the detailed Microsoft Project plan stored on RoyalDrive within its project folder. It is within the project folder that team members find any and all details about the project such as start and finish dates, deadlines, task responsibility, task status and supporting task notes. The ability to reference the plan from a central, shared location greatly reduces ambiguity and the need to obtain project information from others.

Do you have questions about the PMO or Planning & Information Resources’ projects? Email me at mancusol1@scranton.edu. I look forward to hearing from you.

IT Forum Presentations

By: Elisa S. Cosner, IT Services

IT Services brought back the IT Forum series for faculty and staff in September 2009. The IT Forums are an information session held during lunch, provided in a non-technical manner, focusing on specific technology topics or upcoming technologies.

Over the past year, IT Services has covered the gamut of topics from “The New Information Resources,” by Jerome P. DeSanto, VP and CIO last September to Cyber Security Awareness Month by Anthony Maszerowski, Windows 7 by Diane Jachimowicz, Technology in the Classroom by Rob Kennedy and Jason Oakey and Royal Drive by Tony Gazoo. The first-ever, non-divisional presenter, Mary Kay Aston, Assistant Provost for Admissions and Enrollment, presented in April 2010 on the Accepted Students Portal and Forms3 Tab. The Fall 2010 series began with Diane Jachimowicz presenting on mobile technologies, taking those in attendance back to the early stages of mobile devices and PDA’s with the Apple Newton and bringing the crowd up to date with demonstrations on various Android devices and the Apple iPad. In keeping with the theme, the Director of IT Services, Jim Franceschelli, presented in October on Desktops of the Future. His presentation gave the crowd a glimpse at the cloud desktops will soon be residing. He discussed the necessity for more stringent computing and information technology policies and the route Information Resources must take to get The University of Scranton there. November’s forum proved to be just as interesting, with Jerome P. DeSanto, VP and CIO along with Jim Franceschelli and Diane Jachimowicz introducing the University community to the next generation of email, Live@edu, which will be the campus email and calendar solution by June 2011.

We appreciate all those that take the time to attend the IT forums however we realize that not everyone has the ability to attend all the sessions. For those who are unable to attend the sessions but would like to review the presentation may do so by going to http://matrix.scranton.edu/informationresources/re_irforum.shtml. The IT Forum series will return in the spring so mark your calendars. The IT Forums are scheduled for February 17th, March 17th and April 21st from 11:30am to 1:00pm in Brennan Hall, Room 509. As always lunch will be served, prizes will be given away and a time for questions from the audience will be provided.
Computer Security Incident Response Team (CSIRT)
By: Gustavo N. Fernández, Desktop Engineer Supervisor

CSIRT (or potential CSIRT) cases typically start in one of two ways, they are either self reported by end users calling the TSC to notify that they’ve received a malware warning or that their system is behaving oddly, or they are flagged by our Information Security Manager, Tony Maszeroski, for creating unnecessary, suspicious amounts of outbound traffic or by specifically visiting a web known to host malware.

Whichever the case, the process for dealing with a CSIRT is the same:

- The end user is notified of the situation and a Computer Technician removes the system from the user’s office.
- The computer’s hard drive is removed and imaged by a forensics device before ever being turned on in order to prevent tampering with any potential evidence. Two copies are made. One for evidence, the other for investigation.
- The evidence drive is stored in a secure location and the investigation drive is passed to the Information Security Officer or a CSIRT member investigating the incident.
- To expedite the return of the system to the end user, the complete system is simultaneously passed to the Desktop Engineers who clean the malware from the system, to avoid backing up infected data. All of the end user’s data is transferred to the end user’s Royal Drive MyDocuments folder.
- The system’s hard drive is wiped with specialized software to remove any and all potential traces of the malware.
- Once wiped, the system is ready to be rebuilt. In most cases, IT Services has created an image of the “standard setup” for the different models of system available on campus. This allows us to speed up the rebuild process. Unfortunately, the wide variety of hardware, the age of the systems and the availability of storage space make it impossible, if not impractical, to keep an image for every type of system. In the case when an image is not available, the complete system must be manually rebuilt from scratch.
- Once the system has been rebuilt the end user’s email and favorites are copied back to the system (data stays on Royal Drive) and the system is returned.

Many factors influence how long it takes to return a system to the end user – the number of CSIRT cases being handled simultaneously, the number or complexity of the malware affecting the system (the malware still needs to be removed to avoid backing up infected data), the availability of a standard image, the number of non-standard software and, of course, any unexpected problems that might arise. IT Services makes CSIRT cases a priority so, rest assured, that great care and effort is taken to ensure that your system is returned to you as quickly as possible. Remember, if you currently store your data files on Royal Drive, should something happen to your computer, you can still access your work files from any computer and continue to function until your computer can be fixed and returned to you.

VoIP Tip
By: Lisa Notarianni

From your VoiceMail menu:
* Press 4 for Set up options
* Press 1 for greetings
* Press 3 to edit other greetings
  (All will be saved separately and none will be erased unless you choose to do so).
* Press 1 for Standard Greeting
* Press 2 for Closed
  (You can use this greeting if you would like to have a schedule set up during your closed hours. This will automatically play.)
* Press 3 for Alternate
  (This greeting is used if you will be away for a short time (vacation, conference etc...) )
* Press 4 for Busy
  (This will play if you do not want to see a second caller while you are on your phone. You will only receive 1 phone call and the next caller will hear this greeting.)
* Press 5 for Internal
* Press 6 for Holiday
  (If your department would like a Holiday schedule set up, this greeting will play during those holiday days and times.)
Stop. Think. Click. — Gone Phishing
By: Anthony Maszeroski, Information Security Manager

Phishing is a scam where Internet fraudsters send spam emails to lure personal and financial information from unsuspecting victims. Recently, the University community has been the target of several phishing campaigns aimed at harvesting users’ credentials (i.e., your my.scranton login name and password). Please help protect the University and yourself by increasing your phishing knowledge and avoid getting hooked:

Keep your passwords in a secure place (like a password vault), and out of plain sight. Don’t share them on the Internet, via phone or email.

- Representatives from IT Services, the Technology Support Center and/or Information Resources will never ask for your user login or password information via phone or email.
- Don’t reply to emails that ask for personal or financial information, and don’t click on links in the message. Don’t cut and paste a link from the message into your Web browser. Phishers can make links look like they go one place, but that actually send you to a different site.
- Communication of secure information or hyperlinks will only be provided to Faculty, Staff and Students via the my.scranton portal.
- Don’t ever email personal or financial information unless you are certain who you are sending the information to and that the communication is secured via encryption mechanisms. If you are not sure that both criteria are met – do not click send!
- Be cautious about opening any attachment or downloading any files from emails that you receive, regardless of who sent them.
- At a minimum, please forward phishing emails as an attachment to abuse@scranton.edu and is-spam@labs.sophos.com. You may also forward phishing emails to spam@uce.gov, reportphishing@antiphishing.org, and to the company, bank, or organization impersonated in the phishing email. (In Thunderbird, you can forward a message as an attachment by first highlighting the message, then in the top toolbar click on Message -> Forward As -> Attachment.)
- Some scammers send an email that appears to be from a legitimate business and ask you to call a phone number to update your account or access a "refund." Because they often use Voice over Internet Protocol communications, the area code that you call does not reflect where the scammers really are. If you need to reach an organization that you do business with, call the number on your financial statements or on the back of your credit card.
- Review credit card and bank account statements as soon as you receive them to check for unauthorized charges.
- If you believe that you have been scammed, please visit the Federal Trade Commission’s Identity Theft website at http://ftc.gov/idtheft for helpful information about what steps you need to take immediately to protect yourself. Please direct all questions and comments to: security@scranton.edu

To learn specific features of Royal Drive, sign up for Royal Drive sessions held monthly. Training sessions are available to all students, faculty, and staff and are held at the CTLE Lab (STT 590). Reservations can be made on-line at academic.scranton.edu/department/training/seminars or by emailing Vincent J. Yanusauskas at yanusauskav2@scranton.edu. Please give a 24 hour notice if you plan to cancel your reservation.

DESKTOP TIP:

To make sure your documents get saved to Royal Drive, you should login to Royal Drive every morning before starting your work.
Over the last several years, Network Infrastructure has observed a steady increase in the use of our wireless infrastructure, especially among our student community. Network metrics show that roughly 75 percent of students that connect to our network do so wirelessly. This, of course, comes as no surprise. In the days of social networking, online media, and e-learning, mobility has become less of a convenience and more of a necessity.

To respond to this growing need, Network Infrastructure must change its approach to wireless engineering. In the past, we have focused on providing wireless coverage. As wireless usage increases, coverage is not enough and we need to refocus our efforts on wireless density. Currently, we have roughly 300 wireless access points (WAPs) deployed, providing coverage to most areas on campus. In order to increase our wireless capacity, we are planning on increasing this number to close to 1000 WAPs. In addition, we plan on phasing out older (and slower) wireless technology (802.11b/g) and replacing it with newer technology capable of handling today’s demand on the network (802.11n).

Over the last year, Network Infrastructure has been gathering information from a variety of wireless vendors. More recently, we have narrowed our focus down to two vendors: Cisco Systems and Aruba Networks. Both of these vendors are ranked as industry leaders in the wireless marketplace and have a reputation for quality and innovation.

We are currently in the process of completing on-site evaluations of both vendors’ offerings. There are many features we are focusing on during these evaluations, including scalability, centralized management, and security. We are evaluating each vendor’s ability to provide a rich feature set while maintaining a simple and consistent end-user experience.

We expect to complete our evaluations and make a final decision in early December. Stay tuned to IT Matters where we plan on announcing our decision and our implementation plans.

---

What happened to your data files
By: Danielle Morse, Associate Director Desktop Services

To better protect your documents and the University in the case of a security breach, IT Services has begun to move ALL user files to the user’s MyDocuments folder on Royal Drive. Royal Drive is a web-based space to store, share, and back up files. It has many great features, but the best feature is the ability to access folders and files from anywhere, at anytime, from your office or from home. Users have complete control in deciding who does and does not have access to their folders or to specific files within them.

Treat Royal Drive as you would any drive, disk, or folder, but know that you can access it from any computer which has Xythos Drive client installed. You can also access it from the web without installing Xythos Drive just by clicking the Royal Drive link from within the my.scranton portal.

To find your MyDocuments folder on Royal Drive double click the Users folder then double click the folder with your own username. As long as you have logged into Royal Drive first, your work will be saved to Royal Drive.

Once files are secure on Royal Drive, if something happens to your computer the files are still accessible from any computer until your computer is repaired and returned to you. Storing your data on Royal Drive will shorten the time it takes to deploy new computers to offices since IT Services will no longer need to migrate data from the current computer to the new computer. We can simply deliver a new computer to an office, remove the old computer, and all your files are already available to you.
Apple Authorized Service Center
By: Danielle Morse, Associate Director Desktop Services

IT Services now has two certified Apple computer technicians on staff that can handle Apple repairs on in-warranty computers. This includes student-owned and University owned Apple computers. Repairs to items under warranty are fully covered. Replacement part costs will be charged for work on computers that are past the warranty period. Apple repair services are for computers only and do not include repair service for peripheral products such as iPods. Every Macintosh comes with 90 days of telephone support and one year of service coverage at an Apple-authorized repair center. By purchasing the AppleCare Protection Plan with a Mac, warranty coverage can be extended three years from the computer’s purchase date. Accidental damage protection is not included. AppleCare extends telephone support from 90 days to up to three years, and adds two years of hardware repair coverage to the one-year limited warranty.

Introducing the my.scranton Employee Applications Tab
By: Connie Wisdo, Director IT Development and Applications

IT Development and Applications is working to improve the ways customers interact with custom-written applications by introducing a new tab in my.scranton called Employee Applications. The Employee Applications tab will provide faculty and staff with tools that allow them to run well-known applications by simply typing in the name of the application, while also creating a customized, “favorites” list of authorized applications they use most often and order the list any way they choose.

The Employee Applications tab contains many exciting, new features. One feature include a public channel that contains a list of applications that are available to all employees, all the time. The Employee Applications menu has been improved as well. Gone is the “Auxiliary” category, which became a catch-all for all applications that didn’t fit into any of the other categories. The menu has been expanded to include categories for all departments that use custom-written applications. Individuals will still only see the categories (a.k.a. systems) they are authorized to see, and similarly, within each category, only the links to those applications they are able to run.

The new Employee Applications tab will now be the home of the Banner channel, and will house a new Argos channel (see related article). The Argos channel will give authorized Argos report writers access to the Argos software, similar to how the Banner channel gives authorized Banner user access to our ERP. Reports that have been re-written in Argos will appear in the Employee Applications menu, and can also be added to the “favorites” channel. You don’t need to be an authorized Argos report writer to run the reports.

The Employee Applications tab is scheduled to go into production on November 30th, at which time the Banner channel and the Employee Menu channel will be removed from the Employee tab. The Employee tab will continue to offer information and features relevant to faculty and staff. Please note that Employee Self-Service will remain on the Employee tab.

If you have suggestions for items to post on the Employee tab, or recommendations for improving the new Employee Applications tab, please send an email to portal-team@scranton.edu.

LAN Migrations to Royal Drive
By: Tony Gazoo, Applications Administrator

Significant progress has been made on the transition from the use of departmental servers and local area networks (LANs) to Royal Drive on our campus. Dan Phillips, Systems Administrator and Tony Gazoo have been working together to make those transitions as smooth as possible. To date, thirteen departments have had data migrated from departmental LAN drives (a.k.a. shares) to respective group and user folders in Royal Drive. Finance and Human Resources joined eleven other departments that previously had their data migrated to RoyalDrive including: Financial Aid, Office of the Provost, CPTD, Leahy Community Health and Family Center, Public Safety, Physical Plant, Purchasing, Student Affairs, Career Services, Residence Life, and the Weinberg Memorial Library. Five additional LANs are scheduled for migration prior to the end of the year.
Our Own Private Cloud
By: Lee J. DeAngelis, Systems Administrator

Did you know that there is a “Cloud” in the basement of Alumni Memorial Hall? I don’t mean some floating mass of white, puffy condensed water droplets, but a state-of-the-art data center equipped with some of the most innovative technology the IT industry has to offer today. It’s the University’s very own “Private Cloud”. By now many of you may have heard of “Cloud Computing” in TV commercials or read about it in a magazine. It’s the latest buzz word in IT. But what does “Cloud Computing” really mean? And what is a "Private Cloud" versus a "Public Cloud"?

Some analysts define Cloud Computing as any IT service that can be purchased and delivered over the Internet. Others say that anything consumed outside of an organization’s firewall, including conventional outsourcing, is “in the cloud”. Some examples of cloud services would be Google’s Gmail as well as Microsoft’s Live@edu Suite of products. These types of offerings are considered to be part of the “Public Cloud” because they are not housed inside of the University’s firewall.

To some organizations the public cloud is perfect because it offers a way to increase capacity or add capabilities on the fly without investing in new infrastructure, training new personnel, or licensing new software -- but there are some risks, including security, performance trade-offs, networking costs and loss of full manageability and control.

Enter the "Private Cloud". Private clouds are owned and managed by an organization and restricted to particular users who can provision their own services in-house. It retains all the benefits of the Public Cloud including rapid deployment, high availability, computing efficiency, backup and disaster recovery but also allows organizations to secure important data and manage their own cloud computing resources.

Over the past year the IR division has heavily invested in its own private cloud in the form of a highly sophisticated data center capable of virtualized computer processing and advanced data storage. At its core this new data center has three next-generation components that work seamlessly together to form an environmentally friendly, secure, highly available, cost effective, and advanced private cloud computing environment.

The first piece of this cloud is a compact yet extremely powerful computing platform called Cisco Unified Computing System (UCS). The Cisco UCS streamlines data center resources to reduce total cost of ownership, scales service delivery to increase business agility, and radically reduces the number of devices requiring setup, management, power, cooling, and cabling. It also leverages “Stateless” computing in the data center allowing applications and server operating systems to move from server to server during hardware upgrades or failures.

Loaded on the UCS is software called VMware vSphere 4.1. This Software allows dozens of servers to be run on a single physical computer, a concept called virtualization. vSphere uses a unique technology, called a hypervisor, that carves up a server’s memory and processors to be shared by many applications at once. In the past the institution would have needed to purchase dozens of servers to support its multiple applications, now only a few are needed because of the groundbreaking technology of vSphere.

The backbone of the UCS and vSphere is a storage array from Netapp that allows vast amounts of data to be stored safely and securely. This array is essentially a collection of disk drives that use many advanced technologies including deduplication, snapshots and snap mirroring. Deduplication is a specialized data compression technique that eliminates redundant data on the storage array and is constantly working to free up disk space. Snapshots are point in time recovery points taken of the data on the Netapp. If data corruption were to occur a snapshot would allow the data to be recovered from an earlier point in time. Finally, snap mirroring replicates the data on the storage array to a secondary site. It provides disaster recovery protection for business-critical data and allows for timely recovery in the event of a disaster.

This integrated technology from Cisco, Netapp and VMware work seamlessly together to form a state-of-the-art private cloud. In the coming years it will allow the University to maintain a dynamic data center that will streamline operations, improve security, provide effective disaster recovery and provide business continuity. It is a truly “green” cloud computing solution that will reduce costs, improve application availability and increase IT efficiency.

There are many exciting new technologies on the horizon. The investments made in our “Private Cloud” over the past year will allow us to successfully deploy these technologies and maintain a competitive advantage in the higher education IT arena. It will truly help to further our divisional goals of being customer focused, and both technologically innovative and agile.