

# 2014

## OFFICE OF INFORMATION TECHNOLOGY

David B. Allen | Associate Director

### SERVING THE SGU COMMUNITY

Under the leadership of Chief Information Officer Anthony Schmidt, JD, and Managing Director Dominick Albertelli, the Office of Information Technology provides computing and telecommunications services and support for the University community's academic, administrative, operations, and research activities. Services include:

- **Technology Help Desk:** Providing assistance to our community of students, faculty, and staff
- **System Support:** Implementing and maintaining the University's central information systems
- **Application Development:** Developing internal applications and integrating vendor solutions
- **Network and Data Center:** Implementing and supporting the University's technology infrastructure
- **Educational Computing:** Developing and delivering software and hardware training and support
- **Technology Research:** Evaluating new technologies and recommending solutions to the University
- **Business Intelligence:** Providing information and analytics to support operational and strategic decision making
- **Project Management Office:** Facilitating governance of strategic initiatives and managing technology projects
- **Multimedia:** Supporting audio and video technology on campus and managing University media site solutions

### INVESTMENT IN INFRASTRUCTURE: BUILDING A FOUNDATION FOR THE FUTURE

The Office of Information Technology, partnering with Facilities and Operations leadership, achieved a significant transformation of the University's technology infrastructure. Efforts focused on three major areas: Data center improvements, network and switching improvements, and WiFi deployment.

#### Data Center

Just as the 2011 rebuilding of the New York data center led to a flagship computing facility in the US, recent infrastructure advancements in the University's Grenada data center have made this modern, high-tech facility a centerpiece for computing on campus. Strategic improvements include:

- **Superb fire suppression** - A new, state-of-the-art dry fire suppression system can detect pre-fire chemical reactions and trigger immediate investigation. In the event of flames, the system discharges a vapor that immediately suppresses the fire. The chemical used is harmless to humans and evaporates within minutes, requiring no cleanup and making recovery much faster.
- **Improved cooling and climate control** - When cooling fails, a data center can generate enough heat to reach critical temperatures within minutes. For improved protection, the University has installed advanced rack cooling systems with 100% redundancy. These systems also provide the humidity control required to prevent static discharges and to ensure component integrity.
- **Uninterrupted power management** - Data center power must stay uninterrupted even during periods of commercial outages. The University recently supplemented its capabilities by adding redundant power distribution and improving existing battery backup and on-site power generation.
- **Enhanced security** - Data center security is paramount and has recently been enhanced through the implementation of additional video surveillance, improved motion detection, LED emergency lighting, and improvements to both rack level and parameter access controls.

Additional work has commenced on data center virtualization and migration to enhanced Storage Area Network (SAN) solutions.

## Network

The University's rapid expansion reached a point where the demands on the network and switching infrastructure outgrew the original architectural design and network management strategies. The Office of Information Technology initiated a program to drive multiple projects for remediation and foundational change.

The network's relatively flat structure had grown organically as the University quickly expanded and needed to evolve to a more distributed and layered architecture. This project reengineered and implemented changes to the core, distribution, and access layers of the University's network.

Another project focused on upgrading and adding redundant network components and on optimizing voice, video, and data traffic over the network. This included the implementation of redundant and diverse routing for the Wide Area Network (WAN) between the Grenada and the New York data centers, as well as significant increases in network capacity. Current focus is on implementing improved Virtual LAN (vLAN) segmentation and restructuring the IP address schema.

## WiFi

The University's multi-year strategic initiative to provide ubiquitous WiFi coverage seemed daunting at best. Fortunately, the faculty, staff, and especially the students continued to provide great support and patience. Working closely with the Committee for Technology-Based Teaching and Learning (CTTL) and the Student Government Association (SGA) officers, the Office of Information Technology was able to maintain a prioritized list of coverage areas and to keep deployment on track.

WiFi deployment had to overcome several impediments. Because large lecture halls required 800+ WiFi connections, Wireless Access Points (WAPs) had to be strategically placed based on complex WiFi coverage designs. Channel configurations within and across WAPs had to be adjusted to eliminate conflict and enable handoff between WAPs. Another obstacle existed within the structural design of the dormitories. For maximum support in high-winds, metal rebar was integrated into both exterior and interior walls, causing several challenges with signal strength and coverage.

Currently, the University has deployed 1500+ WAPs across campus, all of which are monitored and maintained by the Office of Information Technology through management consoles. Strategic areas have been upgraded to 801.11ac technology, with plans to continue further upgrades. Overall, the project has been a notable success, thanks to the dedication of our technicians, technical and project management, and to the support from our executives and user community.

## STUDENT EMAIL: REALIZING BENEFITS OF THE CLOUD

The Office of Information Technology is taking advantage of a cloud-based student email solution, as are many other universities. The decision to migrate all current students and alumni from Lotus Notes to Microsoft Office 365 was strategic. Extensive project planning and management of the migration ensured a smooth, successful process, allowing SGU to avoid the challenges and surprises experienced by some universities.

Moving to a leading cloud-based solution has benefited the University in multiple ways. It:

- Provided a new and improved email platform for our students
- Reduced licensing costs
- Streamlined upgrades and other support processes
- Leveraged hosted infrastructure
- Simplified integration with Identity and Access Management platforms

## EVOLVING THE PMO: GOVERNANCE, TAILORED BEST PRACTICES, PREDICTIVE MODELING

As the Project Management Office (PMO) continues to evolve, the mission has grown to encompass facilitating alignment of resources and capital with the implementation of prioritized enabling technology solutions. The PMO strives to help the University deliver the most effective technology to advance teaching and learning, administration, technology infrastructure, and operation of the University.

Together with the following governing bodies, the PMO has matured to facilitate governance and strategic technology

investments for the University:

- **Committee for Technology-based Teaching and Learning (CTTL)** - The CTTL is made up of faculty, students, and administration focused on the University's academic portfolio of technology projects. Faculty chairs the committee.
- **University Systems Integration Committee (USIC)** - The USIC consists of leaders throughout the University focused on the administrative portfolio of technology projects. The USIC also provides governance and prioritization across portfolios, as required.
- **Committee on Technology Infrastructure (CTI)** - The CTI consists of IT leadership focused on the Infrastructure portfolio of technology projects.

The PMO drives the advancement of project and program management knowledge and practical application within the University. It accomplishes this by conforming the unique needs of the University to Project Management Institute's (PMI) best practices and by providing training and coaching for project teams and departments across the University.

Emphasis for the coming year includes advancing the University's technical resource modeling capabilities and driving improvements in tracking, managing, and the strategic allocation of the University's limited technical resources.

## **ADDITIONAL INITIATIVES: A LOOK AT 2014 AND 2015**

In addition to the initiatives highlighted above, during 2014 the Office of Information Technology supported the successful deployment of numerous technologies prioritized by the governance committees, including:

- Deployment of a new platform to support performance tracking, student advising, and other student services
- Implementation of a new Housing Management System, which includes an innovative student portal
- Development of a custom Alumni Relations platform with integration to the University's ERP system
- Implementation of MyCampus, SGU's new Enterprise Portal for students, faculty, and staff
- Support for distance learning in initial MOOC efforts and a new Medical School Assessment Program (MSAP)
- Development of a secure, self-service document download center for students
- Technology support for an innovative off-site retreat for the School of Veterinary Medicine faculty

In 2015 the Office of Information Technology will be focused on supporting many technology initiatives, some of which are:

- Implementing an Enterprise Constituent Relationship Management platform with ERP integration
- Deploying a new Facilities Management System to support improved preventive maintenance and inventory
- Improving door access control systems and access administration for greater security and control on campus
- Migrating legacy custom development platforms and applications to new technology platforms and solutions
- Continuing improvements to disaster recovery and business continuity solutions
- Sunsetting the legacy Student Information and Post Graduate Tracking Systems

## **THE ECT: IMPROVING TEACHING AND LEARNING METHODS THROUGH TECHNOLOGY**

In keeping with the goal of delivering the highest possible quality of education at the University, the Educational Computing Team (ECT) continues to provide technology training and support to faculty, staff and students, fulfilling its mission to improve methods of teaching and learning at the University through greater utilization of cutting-edge technology.

Teaching with Technology Tuesdays (TwTT) workshop-style educational sessions, which were introduced in Spring 2013, have been well received. The series initially focused on mobile technologies. The workshops allowed the ECT to collaborate with faculty on innovative ways to integrate technology into their teaching and learning platforms. The series continues in Spring 2015 with a new goal: Energizing the Teaching and Learning Environment. During these workshops the focus will be on enhancing online classrooms, making learning more interactive, and improving the effectiveness of presentations. The new series will begin with a panel discussion on these topics, with participants representing faculty, students, and the ECT. This series will also include a showcase of applied technology. One faculty member will receive the Excellence in Teaching with Technology award based on his or her use of technology in teaching.

The ECT provides group training sessions covering a wide variety of administrative and academic applications, as well as individual software training sessions. The student services section has expanded, as more technical assistants are required to support the increasing number of computer labs and print room facilities on campus. The ECT also continues to:

- Deliver student orientation presentations on the use of campus technologies
- Introduce new faculty to the University's teaching technologies
- Educate visiting academic advisors on University resources and technologies available to students

## **LOOKING FORWARD**

As innovative approaches to teaching and learning dominate the future landscape, the Office of Information Technology stays dedicated to preparing for quick adoption of these emerging technologies. From the emphasis on social media, to the explosion of mobile devices, to real-time predictive analytics of student success, we attempt to proactively prepare our infrastructure, as well as our academic and administrative platforms, to provide the best learning environment possible for our students.

The Office of Information Technology continues to identify and evaluate tools that enhance customer service. We strive constantly to provide faculty, students, and staff with the best available connections to the information, training, and technical resources they need to achieve their objectives.

Editors

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