A YEAR IN REVIEW

121 full-time employees

153 student employees and graduate assistants

315,674 long-distance telephone minutes used

14,847 calls received by the SalukiTech Call Center

7,640,400 total malicious emails filtered to protect SIU

8,106 incidents resolved by the SalukiTech Call Center

47,000 ft of CAT network cable installed

14,847 calls received by the SalukiTech Call Center

445,909 pages printed supporting students

5,760,000 phone calls coming into, out of, and across campus

1,425 total students/staff assisted at the Service Center window

1,719 software packages distributed

3,000,000~ total number of CPU hours on BigDawg

11,956 total calls auto-routed through the voice response unit

150 total terabytes (TB) of redundant backup space used

“For SalukiTech, press 2”
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Departmental Aspirations

Drive Continuous Improvement
Establish far-reaching goals and aim toward those goals with expertise, effort, and enthusiasm.

Promote Staff Development
Identify and develop critical skills among our professional staff and mentor the next generation of leaders.

Champion the Value of OIT
Enhance the OIT value proposition to show the critical need for increased funding and the competitive edge to be gained.

Elevate Customer Service
Set an expectation that the OIT will provide excellent “service” to all campus customers and work with all OIT teams to exceed service expectations.

Cultivate Entrepreneurial Thinking
Initiate and support innovative thinking, individual responsibility, and professional accountability.

Enhance Collaborative Engagement
Encourage collaborative and cooperative efforts internally and externally with a focus on enhancing internal and external team experiences.

Enhance Administrative Partnership
Align the OIT with the mission and business purposes of the University, and focus decision makers on technology-centered tools that will propel the University forward and make it more competitive.
Balancing Today’s Needs with Tomorrow’s Requirements

The Office of Information Technology, like all technology organizations, is moving from its long-time role as an organization that provides technology tools to an organization that provides service and solutions that incorporate technology. This shift requires a change in perspective and a realization that we must add communication, collaboration, and customer service to our toolbox to elevate our organization to the status of trusted service provider and business partner.

Scott Bridges
Interim Assistant Provost and Chief Information Officer

Our work in the Office of Information Technology (OIT) is an ongoing test in balancing today’s needs and abilities with tomorrow’s requirements and opportunities. As experts in technology, we hold the responsibility to persuade others that technology can open opportunities for SIU and provide real solutions to the challenges we face as an institution. The key here is developing credibility and trust among our stakeholders. That is now among our top priorities. As we accomplish this, I believe that the campus community will start to see that there is opportunity through change, and that despite the disruption that comes with it, we will have their backs throughout the process.

Building credibility and trust is a challenge in itself. So this is an aspect of “work” that we in the OIT need to embrace and do well before we can successfully bring technology solutions to the table, as opposed to developing technology tools. Creating this dynamic is a unique challenge in a culture where decisions are tempered with patience, thoughtful investigation, and reverence for tradition. This means that as an organization we will need to walk the line where these fast held values meet the need to maintain institutional relevance and viability. OIT serves this institution and supports its business operations, not to mention the rapidly changing needs of each new generation of students. SIU and its students must now be prepared to succeed in a world driven by technology, where change occurs and becomes obsolete in the same moment. OIT holds a critical key to SIU’s future success; our challenge is learning to share it with people who are less passionate about technology as a tremendous asset or a necessary tool.

As always, I would like to provide technology tools and services that better the University, enhance our students’ experience and education, increase the faculty’s ability to teach, and make all SIU employees’ daily work faster, easier, and more accurate.

I want to parallel this ongoing effort with real consideration for the individual people who rely on us. What do they want? What do they need? What are their fears? And in the end: What can OIT offer to address these concerns? We are all learning new lessons as the business of academic institutions and technology service organizations evolve. This year, I want to encourage the OIT staff to step out of what has been our comfort zone—technology development—to add a parallel focus on people and service. We have made strides in the areas of service and communication, but we are just learning what changing to a customer-centered response unit truly means.

OIT now has three teams in place to help develop this customer-centered effort: Technology Services, the Project Management Office, and Client Relations and Communications. As these areas find their footing, I expect our relationships across campus and our reputation as a trusted partner will grow exponentially. If you have thoughts or ideas to contribute, please share your vision with me. I extend this request because I have absolute faith in our OIT professionals and in the people we serve; we all want the best for SIU.

I invite each of you to contribute to the University’s success.

Scott Bridges,
Interim Assistant Provost and Chief Information Officer
ABOUT THE OFFICE OF INFORMATION TECHNOLOGY

The Office of Information Technology (OIT) partners with administrative and academic units on campus to ensure that SIU has the technology tools, services, and security needed to support the University’s mission and its business as a competitive academic and research institution. The OIT is critical in the University’s efforts to propel students and researchers toward opportunity and success. Our professionals provide faculty and staff with the technology tools needed to support the teaching and business activities of the University. Additionally, the OIT leadership team offers SIU administration with innovative ideas and keen perspectives on addressing future needs with technology-based solutions.

Vision
To be an essential and valued technology partner for Southern Illinois University Carbondale.

Mission
To provide technology leadership and guidance to Southern Illinois University Carbondale in direct support of teaching, learning, research, and organizational needs. At our core, we offer University clients perspectives and guidance on technology solutions, information security, and continuous improvement through technology. We also work daily to achieve high-quality, practical solutions through cost-effective design, development, and application of information technology. Fundamentally we challenge ourselves to provide excellent service, deliver professional results, and engage and work with colleagues within and beyond the campus to foster key partnerships. Strategically we work in support of the University mission and strive to be an essential contributor to the success of Southern Illinois University Carbondale.

Values
- See employees as vital resources.
- Promote and value diversity.
- Encourage innovative thinking.
- Require the utmost in integrity and ethics.
- Encourage open communication.
- Encourage buy-in and require accountability for work efforts.
- Foster collaboration and mutual respect within the department and across the campus.
- Define guidelines, policies, procedures, and standards.
- Train employees to meet these efforts.
- Apply and use resources effectively.
Our Work in Employees

Full-Time Staff
The OIT professional staff performs all essential technology services for all centralized departments on campus and works collaboratively with and in support of decentralized technology professionals across campus.

In FY 2019 the OIT began recruiting skilled professionals to fill a number of key positions throughout our 10 internal departments/units. Adding 14 technology professionals to the OIT team increased our workforce to 121 staff members. Nonetheless, the SIU staff remains lean, with an FTE headcount that is 80% of the size of Public Doctoral Institutions with similar enrollment (Source: EDUCAUSE).

The OIT teams have developed and maintained SIU's core systems and infrastructure during five consecutive years of declining funding, resources, and personnel. Our recent successes are attributed to the innovative solutions of the OIT's professional staff.

During FY 2019, we have had the opportunity to add new staff members in key positions, which should result in even better results for departmental efforts, plus more resources, tools, and services for faculty, staff, and students.

Student Employees
Student employees are a critical part of the OIT workforce. They provide keen insight and a direct connection to our most important client base, SIU students.

In FY 2019, the OIT employed 153 students and graduate assistants to supplement our lean professional staff. This is approximately one-third more student employees than our peer institutions. We rely on our student employees to fill in gaps in our workforce, as well as extend and expedite our services. Student employment with the OIT is a reciprocal relationship—students provide us with the hands and minds that we need to accomplish our mission—and we provide students with the opportunity to learn and practice workplace skills.

OIT student employees graduate with a toolbox of truly sellable skills and go to work for some of the most desirable technology employers in the nation.

Our Employee Count

<table>
<thead>
<tr>
<th>Full-Time Employees</th>
<th>Student Employees and Graduate Assistants</th>
</tr>
</thead>
<tbody>
<tr>
<td>121</td>
<td>153</td>
</tr>
</tbody>
</table>
Our Work in Service

Through Technology Services, the OIT provides the individuals who teach, conduct research, work, and study on campus with the technology services, tools, and support they need to get their work done. Technology support for individuals is provided through SalukiTech, comprised of the Solution Center, Campus-Wide Printing, Software Licensing and the Computer Learning Centers. Whereas SalukiTech often assists individuals with personal technology needs and repair, our Desktop Support Team services University equipment and departmental requests. The OIT provides service to administrative areas through several departments—each providing specific tools or services.

The shift to digitally-focused business needs and customer expectations increases demand on IT organizations. The OIT has long provided sufficient and appropriate support to the University and FY 2019’s successes support this. Nonetheless, our role cannot remain one of supporting operational needs. The OIT must focus future efforts on driving outcomes that are closely tied to and enhance the University’s key business goals. We are developing ways to respond quicker, anticipate future needs, and offer value-added service.

Requests by Faculty, Staff, and Students

During FY 19, OIT serviced the campus community’s technology needs. Whether simple or complex, OIT finds solutions to satisfy our customers. The following shows the types of work requests we resolved throughout the year.

<table>
<thead>
<tr>
<th>Service</th>
<th>Requests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account Management</td>
<td>7,285</td>
</tr>
<tr>
<td>Communication &amp; Collaboration</td>
<td>1,001</td>
</tr>
<tr>
<td>Computers &amp; Technology</td>
<td>1,235</td>
</tr>
<tr>
<td>Enterprise Applications</td>
<td>1,543</td>
</tr>
<tr>
<td>Enterprise Systems</td>
<td>629</td>
</tr>
<tr>
<td>Information Security</td>
<td>623</td>
</tr>
<tr>
<td>Networking</td>
<td>2,696</td>
</tr>
<tr>
<td>Service Center</td>
<td>1,039</td>
</tr>
<tr>
<td>Software</td>
<td>2,346</td>
</tr>
</tbody>
</table>
Our Work in Dollars

The OIT continues to provide reliable technology despite budgetary restrictions and continuous change. In fiscal year 2019, the annual budget for the OIT was approximately $12.1 M. This represents a $4.7 M reduction from the department’s FY14 budget of $16.8 M. This annual decline over the past five years totals approximately $14.2 M in lost funding; we expect that the budget will continue to tighten further. To meet the OIT’s basic business responsibilities, and continue to support the University mission, the OIT’s executive staff and teams developed creative ways to increase productivity, reduce costs, and maintain service. A critical component of the OIT’s cost-saving efforts comes from team members who have worked both harder and smarter.

Managing Against Change

The OIT staff includes expert innovators, communicators, and negotiators, all of whom happen to work in technology. These professionals consistently develop solutions that allow our team to meet our obligations and allow us to leverage opportunities despite ongoing budget reductions. To this end, OIT has streamlined services, while working to boost customer satisfaction. OIT continues to re-evaluate vendor contracts and renegotiate lower costs and/or better terms. OIT is laying foundations to instill service management standards and principles. Additionally, the entire OIT staff is doing a remarkable job of managing costs and maintaining expenses. These combined efforts allow OIT to provide reliable technology tools and services to the campus, while implementing the new technologies that are critical to SIU’s future success.

Administrative and Business Services
- Procuring technology and negotiating contracts for the entire campus

Enterprise Applications
- Identifying enterprise-wide savings and renegotiating contracts

Security and Enterprise Systems
- Securing University data and assets, preventing catastrophic loss

Network Engineering
- Maintaining existing infrastructure and reevaluating suppliers

= ~$2,022,866 in savings
Within each unit, the OIT has developed teams that manage specific tools and services—some as finite projects and others as ongoing resources. Members of each team work within one of the OIT’s units (listed above) to perform the day-to-day tasks that are essential to University business or our students’ progress. In addition to their daily responsibilities, team members take on roles within a team to work on efforts that address the University’s ever-evolving needs.

**Administrative and Business Services Teams**
- Accounting
- Inventory Management
- Personnel Services

**Client Relations and Communications Teams**
- Events
- Internal/External Communications
- New Student Orientation
- Web Development

**Enterprise Applications Teams**
- Administrative Systems (AIS)
- Enterprise Applications Architecture
- Foundation Services (FSS)
- Student Information Systems (SIS)

**Enterprise Systems Teams**
- Data Center
- Linux
- Web Infrastructure
- Windows

**Information Security Teams**
- Cyber Security
- Risk Mitigation

**Network Engineering Teams**
- Network Architecture
- Wired/Wireless Networks

**Project Management Teams**
- Change Management
- CIO Project Portfolio
- Disaster Recovery and Continuity
- Project Management and Oversight

**Research Computing and Cyberinfrastructure Teams**
- BigDawg HPCC
- XSEDE Campus Champions

**Telecommunications Services**
- Customer Service
- Services Technology

**Technology Services Teams**
- SalukiTech
- Computer Learning Centers (CLC’s)
- Desktop Support
- Service Management
Unit Descriptions and Annual Highlights

Administrative and Business Services

Administrative and Business Services (Business Services) manages all financial accounting, record-keeping, and budgeting for the OIT in the most efficient way possible. Business Services supports individual areas within the OIT to allow each business unit to focus on providing service to the University as an organization, and to the faculty, staff, and students whose work depends on reliable technology tools. This centralized approach allows Business Services to provide the CIO with a clear overview of the departmental budget.

Our team worked extremely hard, as always, to save the department and the University hundreds of thousands of dollars by renegotiating contracts and terms with vendors, and making strategic changes to leverage SIU’s purchasing power. I am proud of the entire team—they work together and they work hard to keep the OIT running smoothly.

Laurie Holley, Business Manager, Administrative and Business Services

Client Relations and Communications

Client Relations and Communications (CRC) is a new resource for the OIT organization. The CRC leads communication efforts for the OIT—distributing information from the department to the campus and to the community. The team also prepares the campus community for technology change by providing information and tools to foster confident and comfortable technology implementation. The CRC also shares the OIT’s successes with both the campus and external constituents. Through communication and interaction with constituents, the CRC elevates the department’s brand and perceived value. The CRC is a collection of creative and talented OIT evangelists who are determined to elevate the OIT as a University partner and an essential resource for academic excellence.

The Client Relations and Communications (CRC) is a forward-thinking concept for technology organizations. I began developing the OIT communication effort and now have an innovative and creative team to help the department become a valued University resource. Our complementary talents and work styles allow us to work toward big goals and achieve great results!

Olinda Hubbs, Associate Director, CRC
Enterprise Applications

Enterprise Applications (EA) engages with University constituents to understand their business requirements, and then proposes and/or develops technology solutions to meet those and future needs. EA manages and maintains the computer systems that run the business of SIU, particularly those used for administrative, student, and Foundation/Alumni Association work. This unit integrates applications within other OIT units such as Enterprise Systems, Technology Services, Network and Telecom, and Administrative and Business Systems. EA also integrates enterprise-wide applications with departments that function independently of the OIT, such as Athletics, Department of Public Safety, Office of Special Projects, Student Health, and the Rec Center. EA staff includes application developers, SQL developers, configuration specialists, business analysts, project coordinators, and database administrators.

The Enterprise Application teams: AIS (Administrative Information Systems), FSS (Foundation Support Services), SIS (Student Information Systems), and Enterprise Architecture all deserve praise for their efforts! The individuals and teams in Enterprise Applications work hard to keep the University’s major business systems operational. They are dedicated to making sure that SIU has the academic and business tools needed to be successful.

John Ahrens, Director, Enterprise Applications

Enterprise Systems

Enterprise Systems (Systems) manages the operating systems and hardware, as well as data and backup storage for hundreds of University servers and systems, both on and off campus. This includes central storage, as well as the public and private cloud systems that support critical software infrastructure servers. Enterprise Systems’ work keeps SIU business, office productivity, and communication systems functional and secure. A variety of applications, systems, and services (managed by various SIU units) are built on top of these servers. The Systems’ staff includes system administrators, system operators, and technical support specialists with expertise in server hardware, as well as Windows and Linux operating systems.

I was impressed with the collaborative efforts between Systems and other OIT teams on several major projects with very aggressive timelines. These projects include Phase I of the Identity/Access Management implementation, the campus lab VDI implementation, and BigDawg upgrades. True “team” work across OIT led to successful outcomes on each project.

Jerry Richards, Director, Enterprise Systems

Enterprise Applications

Highlights 2018-19

- Implemented Tableau analytic/reporting software to provide users the ability to collect and/or analyze University information in real-time and create comprehensive reports.
- Automated procedures for tracking grants to ensure grant money is managed as mandated.
- Completed the Banner 9 Administrative pages conversion to add power and flexibility to the Student Information System (SIS), and initiated the transition to Banner 9 for Student Self-Service.
- Completed the Advance upgrade, which included acquiring system support and enhancing performance.
- Began upgrades on various systems including Xtender and the Foundation’s UBW system.
- Implemented RNL Call Center system to enhance engagement capabilities for the Foundation and Alumni Association.

Enterprise Systems

Highlights 2018-19

- Launched a new Identity Access and Management solution.
- Leveraged PowerBI and SCCM to provide reporting and additional tools for encryption and updates.
- Initiated the use of cloud storage for tertiary and long-term backups.
- Updated Domain and Forest to Windows Server 2016.
- Began the proof-of-concept for Microsoft Teams VOIP.
- Installed a new hyper-converged infrastructure (VxRail) into a secondary data center.
Network Engineering provides all maintenance and upgrades to the data network and communications infrastructure at SIU. Although their work is behind the scenes, Network Engineering ensures that students, faculty, and staff have a stable, reliable, and secure system to connect with people across campus and around the world. Network Engineering provides the secure infrastructure needed to support the academic and administrative functions of the University at the most fundamental level. This unit also implements, maintains, and supports wired and wireless networks. Network Engineering professionals consult with other campus units, internal and external, that have an interest in the University network.

I am proud that my Network Engineering team continues to provide a variety of reliable, needed, and critical services to the University despite the challenges created by ongoing funding cuts. Having limited resources, whether people, tools, or infrastructure components, pushes everyone to work harder…and, I am proud to say, they also work smarter. It is the innovative ideas, strategic planning, and hard work of the NE team, in spite of limited resources, that keeps SIU connected.

Michael Shelton, Director, Network Engineering

Information Security

Information Security (Security) works continuously and diligently to reduce cybersecurity risks across campus—those that have the potential to affect our institutional systems, as well as those affecting our students, faculty, and staff. Information Security’s work is critical to the University because cybercrime can have a catastrophic impact on University assets and on SIU’s reputation. Additionally, cyber threats are relentless; the number of threats and their level of sophistication increases every day. Because threats come through systems, across the network, and from University and personal devices, Information Security works closely with all areas of the OIT to intercept or eliminate threats. This team is staffed with technology experts who are trained and certified in various types of security management. Their staff also includes a number of student employees and graduate assistants pursuing degrees in SIU’s Computer Science (CS), Electrical and Computer Engineering (ECE), and Information Systems Technology (IST) departments.

I am really proud of what the Information Security (IS) Team accomplished this past year. The team oversaw campus security operations in a time of scarce resources and held a primary role in implementing the new Identity and Access Management (IAM) system. The implementation went amazingly well and continues to run smoothly. Maintaining an effective security infrastructure requires collaborative work between all of our OIT departments and the campus; the IS Team continues to bind these efforts together effectively. Good work!

Scott Bridges, Director, Information Security

Network Engineering Highlights 2018-19

- Upgraded the Thompson Point Wi-Fi network to support use in student housing.
- Changed data network vendors from Cisco to Extreme Networks as a major cost savings initiative.
- Initiated the Edge network upgrade to maintain reliability and security.
- Continued removal of end-of-life hardware to increase reliability and prevent catastrophic failure.
- Worked on Microsoft Team proof-of-concept for voice communications.

Information Security Highlights 2018-19

- Planned and assisted with campus-wide encryption effort, during which the Technology Services team encrypted 98% of the university-owned Windows machines on campus.
- Installed a new Intrusion Prevention system to increase network throughput while inspecting network traffic.
- Helped deploy the new Identity and Access Management system (IAM) to allow optional self-service, two-factor authentication for all campus users.
- Worked with ISAT students to develop security training videos for campus users.
- Presented sessions during Security Awareness Month to train campus users about security threats and preventive measures to avoid becoming a victim.
The Project Management Office (PMO) works internally with OIT departments to help all teams manage resources and people better. The PMO provides team members with the skills and techniques needed to understand their individual roles and responsibilities within a project, to communicate within and across departmental lines, and to work toward agreed upon projects results and completion dates. On large implementations, the PMO plays a similar role between the OIT, other University departments, and campus constituents. The PMO consolidates information about top-priority OIT projects in the CIO portfolio, and then maintains information about the progress and completion of each project. This document helps top-level management understand departmental priorities and manage toward them. The CIO Portfolio is also a valuable communication tool to show OIT work to University decision makers.

The first phase of the Fischer Identity and Access Management (IAM) project was a massive undertaking. Project Management collaborated with various OIT teams, and with Fischer consultants to develop project parameters and plans. Over the Memorial Day weekend, we all pulled together to push the system out. The entire team worked hard, delivered on time, and exceeded expectations. The implementation went smoothly. I really appreciate their work!

Brian Skouby, Director, Project Management Office

Research Computing and Cyberinfrastructure (Research Computing) is an asset to the University in its quest for continuous ranking among research universities; it is invaluable to SIU researchers whose work requires extreme computational speed and power. At SIU, the High-Performance Computing Cluster (HPCC), BigDawg, is available without cost or restriction to researchers, as well as to SIU faculty and supervised students. This is highly unusual as most universities with HPC clusters control time on their systems and judge the value of projects before granting access to what is an expensive and limited resource. BigDawg is included in XSEDE’s list of university-based high-performance clusters. The Research Computing staff includes Computer Science and Engineering experts in Computational Computing.

Bringing Deep Neural Network computing to Carbondale was daunting, but through persistence and teamwork Research Computing got the job done! The Enterprise Linux Team, and Graduate Assistant Majid Memari implemented CUDA®, a system developed for AI Deep Learning, on to SIU’s HPC cluster BigDawg. This extraordinary resource is now available to SIU researchers and faculty.

Chet Langin, Acting Deputy Director, Research Computing

PMO Highlights 2018-19

- Managed the procurement (RFP) of a new Identity and Access Management system.
- Drove the Phase I implementation of the new Identity and Access Management system to a successful launch in May 2019.
- Facilitated, managed, and wrote all compliance/response documentation for the FY2018 and FY2019 external audit.
- Hired and trained a second, full-time project manager.
- Morgan Malott completed PMP certification in April 2019.

RCC Highlights 2018-19

- Supported 20 Ph.D. students in their research using the BigDawg HPC cluster.
- Earned recognition as one of only 40 XSEDE national, HPCC resources.
- Pushed BigDawg to almost 100% capacity throughout the 2018-19 fiscal year.
- Improved security and job scheduling speed with and after the transition to BigDawg.
- Provided researchers with artificial neural networks that predicate deep machine learning and create environments for faster and more complex computation.
- Mentored five graduate assistants in HPCC maintenance and operation.
- Developed opportunities for researchers to run projects in a simulated, quantum-computing environment.
Technology Services

Technology Services provides customer service and assistance to future, current, and past students through SalukiTech. Desktop Support, another Technology Services unit, serves University administration, faculty, and staff. A major, permanent change for Technology Services in 2018-19 has been the consolidation of services in the new SalukiTech Solution Center in Morris Library. The Solution Center houses the call center, as well as printing and software services; provides face-to-face support and intake for repairs; and will eventually provide technology training for the campus. Technology Services’ goal is to provide value-added service and support to the campus community. This unit also provides support for centralized areas that rely on the OIT for technology resources. Technology Services is the largest OIT unit, consisting of professional staff and a large number of student employees.

Telecommunications

Telecommunications (Telecom) works to maintain reliable and high-quality phone service to keep the campus connected by phone. Telecom works diligently to maintain the campus infrastructure for telecommunication services; recently this has included strategic efforts to keep an aging system operating and developing plans and alternative ideas for future phone “systems.”

Technology Services Highlights 2018-19

- Encrypted ~98% of all Windows-based devices across campus to increase data security.
- Deployed VDI in our Computer Learning Centers to create flexible access to OIT tools and software.
- Improved user access to the OIT Self-Service Portal and enhanced technician dashboards to improve workload management.
- Worked on Microsoft Teams proof-of-concept for voice communications.
- Established SIUC Technology Partners to increase strategic planning and collaboration with decentralized IT groups.
- Implemented a CIO Dashboard to produce reports on the operational status of OIT services.

Telecommunications Highlights 2018-19

- Expanded the campus fiber plant.
- Supported the SOM Family Medical Clinic relocation.
- Replaced phones and equipment that failed or were at risk of failure.
- Installed fiber and copper data cabling for remodeling projects.
- Worked on Microsoft Teams proof-of-concept for voice communications.

The VDI team, led by Randy Greer, Stephen Jones, and Taylor Reed, did a fantastic job implementing virtual desktop computing (VDI) in the Computer Learning Center and Allied Health labs. Their expertise, and smart use of technology, allowed us to deliver responsive computer classrooms, and to further support student learning and success.

Wil Clark, Director, Technology Services

The Telecom team manages all of the phone systems on campus; they keep SIU connected with each other and the world, and they do it well. The team is known for their service, which is something we have worked very hard to develop and take pride in. In the coming year, Telecom will be taking on new projects to provide the best and most cost-effective telecommunication services to the campus.

Michael Shelton, Director, Telecommunications
Strategic Goals and Progress

Every year brings projects to a close and opens new doors. In the 2018-19 fiscal year we found new ways to organize projects, pursue goals, and manage challenges. Budgetary uncertainty remains a consideration, but we continue to meet this reality with strategic plans, innovative thinking, and absolute determination. Our teams have become experts at both managing vendor efforts and leveraging their knowledge and expertise. Additionally, the cliché, “Do more with less” has been replaced with the idea of “Working smarter not harder.” The following section shows our major goals and accomplishments during 2018-19. Many of our goals were met, while some remain works in progress.

Current efforts are listed in the CIO Project Portfolio. The project portfolio represents the highest-priority projects for the department. All efforts coordinated around and are focused on portfolio projects first.

Goal 1: Support the University Mission

**Research Support** 100% Annual Effort
Completed the BigDawg upgrade to provide greater access and power to computationally heavy research in Agriculture, Business, Chemistry, Computer Science, Curriculum and Instruction, Electrical and Computer Engineering, Fisheries, Forestry, Geography, Geology, Mechanical Engineering, Microbiology, Neurology, Physics, Physiology, Plant and Soil Science, Plant Biology, Political Science, Quantum Methods, Wildlife, and Zoology.

**Mentorship and Student Inclusion** 100% Annual Effort
Employed 153 students and graduate assistants. Created opportunities for these students to learn work habits, build IT-centric skills, and gain professional experience. In 2018-19, the OIT participated in career development activities with Career Services to enhance student development. Several members of the OIT are passionate about mentorship and go above and beyond to give students experience to increase their professional skills and open career opportunities for them.
Goal 2: Enhance University Operations

Slate 30%
Supporting SIUC Admissions implementation of Slate as a replacement for our Customer Relationship Management (CRM) tool Radius. This new system provides tools to streamline Admissions processes and increase staff efficiency. Slate promises to be valuable in recruiting students and improving the admissions process for both undergraduate and graduate students. Key members of the SIS team are supporting Admissions to get Slate up and running, a system that will greatly enhance the admissions process for incoming students.

Tableau Executive-level Reporting 100%
Completed the proof of concept for Tableau, a business intelligence and visualization tool that converts raw data into valuable information and allows for real-time analysis of that information. Users can see trends in retention, graduation, donations, applications processed, and budgetary accuracy, giving decision makers the ability to make better decisions. The OIT continues to negotiate purchase options for the SIU system.

Technology Refresh Initiative 100% of the year’s allotment situated—Ongoing
Reinstituted strategic desktop replacement. This is one of the most common questions to the OIT: "When will I get a new computer?" Replacement efforts started again in 2018, and continue to date with almost 503 units being replaced. Secondary to device replacement is evaluating requests to continue use of outdated equipment, and securing older machines to prevent network intrusion. Replacing technology throughout the department and the OIT data center(s) is a secondary part of this initiative.

Goal 3: Manage and Deliver Quality

Defining Technology Service Methods and Standards 10%
Identified implementation of IT Service Management (ITSM) methods and standards as a goal and started evaluating concerns and working toward a culture shift in OIT.

PMO CIO Portfolio Development 100% Ongoing
Created the CIO Portfolio, a comprehensive, living list of all the OIT involvement and efforts that meet “project” status. The list indicates current project status to keep the OIT staff accountable and moving forward and to provide the CIO and constituents real-time information on projects.

Project Management Efforts 75% Ongoing
Implemented project management as a concept, and are now learning to lead projects to meet timelines, manage stated scopes, and deliver results. Accountability at all levels is a key focus.

PMO Standards Training 100%
Provided multiple educational sessions to educate staff of the practices and standards used to keep formal projects on-time, within scope, and aligned with client expectations.
Goal 4: Ensure Technology Infrastructure Integrity

VoIP Planning and Installation 20%
Moving toward VoIP as the University “phone” system. This move is intended to replace aging phone technology, which becomes increasingly prone to failure and could leave SIUC without voice services for weeks/months. Started the VoIP proof-of-concept in 2018-19 and will expand that effort to OIT staff in the coming fiscal year. Conversion to VoIP will ultimately be more affordable and more manageable for Telecom. The transition will take a good deal of work with the University staff and faculty to ensure a smooth transition across campus.

Fiber Expansion 95%
Planning expansion of optic fiber cabling for voice and data network connectivity to several buildings on campus. These locations need to have fiber installed before they can be converted to VoIP.

Data Center Utilization 50%
Promoting the virtualization of server infrastructure to the Wham Secure Data Center. The OIT offers all departments/units on campus the opportunity to use the OIT equipment or to move their own technology equipment to our Tier 3 data center. This cost-saving opportunity provides reliable onsite monitoring and off-site backup of equipment in a climate controlled and virtually secure environment.

Air Core Cable Replacement 20%
Replacing the air core cable used by all campus voice services users. Lifespan for the air core is approximately 20 years—SIU’s air core is 32 years old. The most efficient and cost effective replacement plan is to convert to VoIP first and then replace the air core cable.

Hardware Device Removal/Replacement 90%
Removing or replacing many end-of-life hardware devices to improve performance and reduce security vulnerabilities.

Edge and Core Network Upgrade 80%
Continued efforts to upgrade the “edge” and core network—the data network components used to keep SIUC connected to the Internet.

ISP Move 25%
Moving one of three Internet service providers from the Student Center to McLafferty Annex. This move locates one service provider at an independent site to ensure business continuity if service from any one of our three providers is disrupted on a short- or long-term basis.

Virtual Desktop Infrastructure (VDI) 90% Ongoing
Pursuing VDI with the goal of restructuring lab (centralized and departmental) use across campus. Purchased VDI infrastructure and licenses to replace 300 physical workstations in our CLCs and the AIS/SIS lab in the Northwest Annex. Infrastructure installation and configuration are complete and the team has built the virtual machines with the appropriate applications to support the labs. Expanding course and software specific environments in 2020.
**Goal 5: Evaluate and Implement Cost-Saving Measures**

**Enterprise Applications Cost Reductions**  Ongoing
Negotiated immediate and multi-year savings on new and existing contracts. Savings: $1 M~.

**Infrastructure Cost Reductions**  Ongoing
Realized $8 K~ in savings due to contract renegotiations. Evaluating and transitioning to a new hardware vendor to capture substantial savings in FY 2020 and beyond.

**University-wide Savings**  Ongoing
Spent $425 K~ to replace aging computers in 107 departments across campus. Captured $100 K~ in savings by leveraging bulk orders and discounts.

**Goal 6: Elevate the OIT Internal, Campus, and External Communications**

**Development of the Client Relations and Communications (CRC) Unit and Team**  100%

**IT Day Conference**  Annual Event
Hosted this full-day event in 2019. Offered presentations, workshops, activities, and networking to promote OIT and SIU across the campus and to the regional business and educational communities. The 2019 event included ~400 registered attendees from at least four states. Technology and business professionals, as well as educators from higher ed, community colleges, and K-12, attended.

**CRC Website Publication**  100%
Designed and published the Client Communications and Relations website to outline CRC services for the OIT staff.

**OIT Annual Report**  100%/Annual
Developed the first Annual Report to provide a comprehensive overview of the OIT’s efforts and accomplishments during the preceding year.

**OIT Security Awareness Month**  Annual Event
Completed a month of educational activities and learning sessions to promote cyber security to faculty, staff, and SIU students. This event is scheduled for October of each year and has been successful for the past four years.
Goal 7: Enhance Information Security

Desktop and Laptop Encryption  98%
Continued installation of Microsoft Bitlocker Administration and Monitoring (MBAM) software to encrypt desktops in centralized areas. Decentralized areas are using MBAM to encrypt laptops. Limiting network access to all non-encrypted devices before fall 2019. Expanding efforts to MacOS and Linux machines in FY2020.

Information Security Policy Development  85%/Ongoing
Increasing information security throughout the OIT in software, hardware, systems, and networks. Promoting security awareness across campus. Developing the necessary framework to systematically mitigate risks posed to informational assets of the University.

Security Awareness Training/Education  Ongoing
Devoted the month of October to Security Awareness in conjunction with National Cybersecurity Awareness Month. Informed centralized and decentralized IT staff on current security trends and cyber threats and shared SIU-specific efforts to maintain and increase security measures. Held four staff-focused, security training sessions through the month to inform SIU staff on security threats to University assets, to the campus community, and to themselves. These are show-and-do sessions where they learn about security risks and work through scenarios.

Goal 8: Improve Service Management

Establish an IT Service Management (ITSM) Program  20%
Explored the Information Technology Infrastructure Library (ITIL) as our service management (ITSM) framework. Continued the internal effort to identify ITIL concepts that seem most important to the OIT and applicable within the current institutional culture.

ITSM Tool Enhancements  90%
Made incremental improvements to the IT Service Management (ITSM) tool resulting in a more complete Self Service Portal and better technician dashboards for managing workloads.

Rebranded SalukiTech and Created the Solution Center  100%
Rebranded all services as “SalukiTech” and moved all forward-facing services to Morris Library, initiating the SalukiTech “Solution Center” concept. This change streamlines staff and provides the best possible service to students.
Goal 9: Maintain a Skilled Workforce

Staff Optimization 85%  
Bringing staff levels up to optimum levels for performance with an emphasis on filling expertise gaps.

Professional Training 40%  
Purchased Pluralsight online training to establish and enhance new skills for the OIT staff. Allowed employees to select needed or desired training. Several employees were able to attain certification based on Pluralsight training. Increasing use is the challenge for 2019-20.

OIT Hiring Plan 85%  
Working diligently to attract, hire, and retain qualified technology experts. The OIT has developed and is on the verge of implementing its strategic hiring plan in an effort to reach appropriate staffing levels, elevate salaries, and engage and retain current staff.

Goal 10: Identify and Provide Innovative Solutions

Voice over Internet Protocol (VOIP) 20%  
Conducted a preliminary proof-of-concept (POC) and will further the exercise by pushing VoIP out through the OIT (and then the campus). Working toward replacement of the University’s aging phone system. We will be laying the groundwork to start phone system replacement in 2019-20.

BigDawg Enhancements Ongoing  
Enhanced the new BigDawg high-performance computing cluster (HPCC) to further increase security and enhance scheduling efficiency. Working on optimal accommodation for the growing pool of users.

Virtual Desktop Infrastructure (VDI) 90% Ongoing  
Furthered efforts to implement VDI with the ultimate goal of restructuring lab (centralized and departmental) use across campus. Purchased VDI infrastructure and licenses to replace 300 physical workstations in our CLCs and the AIS/SIS lab in the Northwest Annex. Infrastructure installation and configuration are complete and the team has built the virtual machines with the appropriate applications to support the labs.

Single-Sourcing ERP System 50%  
Working to find a single solution to replace the two current ERPs, the student and administrative information systems. Annual costs and resource expenditures are tremendous and cannot be sustained in the long-term.

Two-Factor Authentication (2FA) 20%  
Commissioned a working group to determine how best to roll out 2FA to the campus. Two-Factor Authentication is a best practice security measure that will assist us with compromised accounts (mostly students) and address audit concerns.

Identity and Access Management (IAM) 100%  
Implemented (with Fischer International Security) a new Identity and Access Management solution. The smooth transition was completed over the 2019 Memorial Day weekend.

Microsoft Office 365 Teams Ongoing  
Implemented Microsoft O365 Teams in OIT for testing and vetting as an appropriate tool for campus-wide use. The OIT initiated and “required” all staff to organize workgroups and manage communication within these workgroups. These have had mixed adoption rates, but have been successful. The OIT plans a strategic and thoughtful rollout across campus starting in 2019.
Employees are Our Best Resource

New Employees

Jay Anderson
Network Engineer I
Network Engineering

Dan Chester
Accountant I
IT Business Services

Taylor Calloni
Desktop Support
Technology Services

Jon Followell
Windows Server Systems Administrator
Enterprise Systems

James Kelley
Desktop Support
Technology Services

Jooil Lee
Desktop Support
Technology Services

Jennifer St. Louis
Branding & Media Specialist
Client Relations and Communications

Aimee Taylor
Application Developer
Student Information Systems

Michelle Weihman
IT Manager/Admin Coordinator–Project Coordinator
Administrative Information Systems

Employees in New Positions

Olinda Hubbs
Associate Director
Client Relations and Communications

Afton James
IT Manager/Admin Coordinator–Technical Lead
Student Information Systems

Morgan Malott
IT Manager/Admin Coordinator–Project Coordinator
Project Management Office

Dawn Moake
IT Manager/Admin Coordinator–Project Coordinator
Administrative Information Systems

Melissa Pierce
Desktop Support–Team Lead
Technology Services

Abby Razer
Assistant Manager
SalukiTech

Ben Swayne
Desktop Support
Technology Services

Hello, my name is...
## Conferences / Workshops / Training Attended

### Conferences
- **16th Annual ASQ Lean-Sigma Conference**
  - Rodney Emery

- **Dell/EMC Data Offerings Conference**
  - Jerry Richards

- **Educause Annual Conference**
  - John Ahrens
  - Scott Bridges
  - Wil Clark
  - Jerry Richards
  - Brian Skouby

- **Ellucian E-Live 2018**
  - Treina Basham
  - Amy Eaton
  - Rickey Kondoudis
  - Derrick Wright

- **IT Pro Forum**
  - Linda Hubbs
  - Abby Razer

- **Microsoft Ignite Conference**
  - Richard Smith

- **Extreme Network Products Conference**
  - Greg Pangrazio

- **Higher Education User Group’s (HEUG) Alliance 2019 Conference**
  - Amy Eaton
  - Ellen Jahn
  - Angie Lin
  - Sam Ramirez
  - Arun Subramanian

- **Internet Peering Conference**
  - Troy Wiseman

- **IPATHE**
  - Scott Bridges
  - Linda Hubbs
  - Wil Clark

### Workshops
- **Environmental Health and Big Data: from Epigenetics to Electronic Health Records**
  - Chet Langin

- **LCI Workshop**
  - Chet Langin

- **Continuous Improvement in Technology**
  - Linda Hubbs

- **Foundations of Project Management Workshop**
  - Morgan Malott

- **Practice and Experience in Advanced Research Computing (PEARC18)**
  - Chet Langin

- **Proofpoint ITIL**
  - James Hibdon

- **Supercomputing 2018 (SC18)**
  - Chet Langin

### Internal Training
- **OIT secured quality training for all employees.**
- **81 OIT Employees Used Pluralsight**
- **345 Unique Courses Taken**
- **784 Training Hours Completed**
Conferences / Workshops / Training
Provided by the OIT

Conferences

IT Day 2019—Technology Conference

Volunteers

Rodney Emery
Olinda Hubbs
Gail Odaniell
Suelynn Rowden
Jennifer St. Louis
Lisa Threlkeld
Debbie Ahrens
Malik Alassaf
Devin Beasley
Tiare Cassidy
Cara Doerr
Bobbe Emery
Evan Emery
Jeff Gainer
Victoria Halfacre
Megan Hall
Rowen Harder
Nathaniel Huffman
Sai Sharath Japa
Lee Kirchner
Blake Lauder
Stephen Moss
Alexis Myers
Taylor Presley
Abby Razer
Brian Rhodes
Rachel Richey
Juliana Roznowski
Karen Schauwecker
Austin Stallman
Richard Tucker
Stacey Vinson
Chris Weatherwax

Presentations

A Modular, Community-Driven Framework for Developing High-Throughput Plant Phenotyping Tools
Chet Langin

Big Data: Challenges and Algorithms
Chet Langin

Championing Research Computing Plenary
Chet Langin

Communicate With Impact: Elevate Yourself as a Leader
Olinda Hubbs

Don't Be Out Smarted by Your Smart Phone
Melissa Pierce
Abby Razer

Fewer Devices, Less Expense, More Access—Driving Value with Virtual Desktop Computing
Wil Clark

IT Service Management—An Approach to Drive Value Within the Organization
Wil Clark

How Big is Big?—Using DeNovo Assembly and Annotation for Goat Rumen Bacterial and Fungal Meta Genomics as Examples
Chet Langin

Remote-Sensing Big Data and its Applications in Agricultural Decisions
Chet Langin

Re-programming Example from Serial R to Parallel R
Chet Langin

Chet Langin

Security 101
Richard Smith

What You Should Know About Sensitive Data and Keeping it Safe!
Steve Aldridge

Training and Workshops

Introduction to Cherwell
Rodney Emery

Communicate With Impact: Elevate Yourself as a Leader
Olinda Hubbs

Practice and Experience in Advanced Research Computing
Chet Langin
Degrees and Certifications

Student Employees

Administrative Information Systems
Hong Jung
MS Quality Engineering Management

Computer Learning Centers
Angel Galeana
BS Computer Science
Jasmine Remmer
MS Social Work
Nashawn Turner
BS Arts and Applied Science

Enterprise Systems
Adam Barron
BS Computer Science
Michael Mueller
BS Computer Science
Santhosh Venteru
MS Computer Science

Network Engineering
Jay Anderson
BS Information Systems Technology
Bernie Burke
BS Information Systems Technology
Ben Fairbanks
BS Information Systems Technology
CJ Hines
BS Information Systems Technology

Full-Time Employees

Olinda Hubbs
Continuous Improvements in Technology Certification
Olinda Hubbs
ITIL AXELOS Certification
James Hibdon
ITIL Proofpoint Training

Jacob Kupres
BS Information Systems Technology
Alejandro Maldenado
BS Information Systems Technology
Logan Moore
BS Information Systems Technology

SalukiTech Service Center
Garrett Ferguson
BS Computer Engineering
Sai Krishna Kancharla
MS Mechanical Engineering
Lazar Kuzmanov
BS Business Economics
Alana Lev
BS Fashion Design Merchandising
Michael McCarthy
BS Information Systems Technology
Murali Mekala
MS Computer Science

Madhuha Pasya
MS Computer Science
Noel Tindall
BS Social Work
Jaya Gautami Tummuru
MS Computer Science
Kinga Wojdak
BS Accounting

Morgan Malott
PMP Certification
Shannon Newman
MBA Finance
Our Graduates Go To Work at Great Employers

Administrative Information Systems
Hong Jung, MS QEM
ProTek

Network Engineering
Jay Anderson, BS IST
SIU Network Engineering

Network Engineering
Bernie Burke, BS IST
APCON

Network Engineering
Ben Fairbanks, BS IST
Anderson Technologies

Network Engineering
CJ Hines, BS IST
Express Scripts

Network Engineering
Jacob Kupres, BS IST
Sentinel Technologies

Network Engineering
Alejandro Maldenado, BS IST
Walmart IT

Network Engineering
Logan Moore, BS IST
Boeing

SalukiTech Service Center
Michael McCarthy, BS IST
Ulta Beauty Corporate Headquarters

SalukiTech Service Center
Sai Krishna Kancharla, MS ME
PureForge

SalukiTech Service Center
Noel Tindall, MS SW
SalukiTech Service Center

Enterprise Systems
Adam Barron, BS CS
Department of Defense

Enterprise Systems
Michael Mueller, BS CS
CDM Smith Inc.

Enterprise Systems
Santhosh Venteru, MS CS
Galaxy Solutions
Great Employees make OIT Work

New OIT Employee

I didn’t know that when I worked as a student employee in Undergraduate Admissions Processing, that I would one day support the Banner system. I love my job! Unlike other positions I have had, my team takes the time to show me the ropes and mentor me. There is a sense of comradery; I feel appreciated and know my team has my back. Mondays have gotten so much better since I starting work in OIT.

Aimee Taylor, Developer
Student Information Systems Team

New Role in OIT

Taking on a new role, I am truly impressed with the knowledge and expertise of the OIT staff. Whether it is the people on my team, or other OIT professionals, everyone has gone out of their way to share what they know and take on the work needed to get the job done. Most of our job descriptions say, “other duties as assigned.” Our team willingly shares these duties, which makes for a cooperative and genuinely caring work environment.

Gail Odaniell, Administrative Assistant
Administration and Business Services

Long-time OIT Employee

Experience has taught me that customers appreciate service. My goal is providing a great customer experience, and I expect this same level of service from my team. I think I have been successful relating to the people we serve on campus because I understand that each user has a different level of comfort with technology, and I try to meet them where they are comfortable. I teach and encourage my team to embrace this basic concept.

Jay Spolarich, Associate Director
Desktop Support

New Career Path in OIT

I have always wanted to work in IT and to “manage”—to take what I know and affect change. Every opportunity I have had has helped me move into my current position at SIU. Initially I learned technical and then management skills from senior team members. These skills enhanced my ability to manage and mentor staff and each step has led me to my role as a PMP Certified Project Manager.

Morgan Malott, IT Manager/Admin Coordinator - Project Manager
Project Management Office
Private Sector to SIU

After graduating from SIU, I left the area and went to work in the private sector. I was paid well, but fast became a Jack-of-all-IT-trades. I fought fires constantly. The stress was tremendous. Here, I have more time to find the right solution versus a quick fix. I am excited to be back in the area where we have extended family and friends, and to be working at SIU with the OIT team.

Jon Followell, IT Technical Associate
Enterprise Systems

SIU Alumnus/OIT Employee

I am a three-time winner at SIU! I edited the Daily Egyptian, and graduated with a B.S. in Journalism in the seventies. I completed my M.S. in Computer Science (CS) in the nineties. Then, while earning a Ph.D. in CS, SIU hired me. OIT was a perfect fit! I help faculty and students do computational research on BigDawg, SIU’s HPC cluster, and promote HPC as an XSEDE Campus Champion Fellow. Go, Dawgs!

Chet Langin, Associate Deputy Director
Research Computing

Student Employee

Working with Network Engineering, I learned to always “make sure it’s plugged in” and “run copy-run-start.” Seriously, I learned to apply classroom scenarios in actual work situations; labs can’t prepare you for an entire campus going down. What I really like is that my OIT supervisors/mentors understand that students are still learning—they never chastise, they teach you. Working in OIT has increased my skills and boosted my confidence as an IT professional.

Brianna Wilgen, BS IST 2019, MBA expected 2021
Network Engineering

Retiring OIT Employee

With almost 30 years at SIU, retiring leaves me with mixed emotions. I have enjoyed working here when I have been able to contribute value to a team. Most recently, I worked with the CRC team doing research and helping organize team efforts. I found it energizing; it didn’t feel like work. I loved being part of such a diverse group, with different ages and talents, where everyone was welcome to share ideas.

Suellyn Rowden, Organization and Research Specialist
Client Relations and Communications
Produced by Client Relations and Communications:

Olinda Hubbs
Rodney Emery
Lisa Threlkeld

Suelyn Rowden
Justin Sieling
Jennifer St. Louis