

2018-2019

annual report



leadership team



Brian T. Nichols

Chief Information Officer

Heath Price

Associate Chief Information Officer

Stephen Burr

Executive Director of Enterprise Systems

Jennifer D. Edwards

Director of Strategic Engagement & Communications

Kathy Hamperian

Executive Director of Customer Support & Student IT Enablement

Rick Phillips

Executive Director of Networking & Infrastructure

Lowell Pike

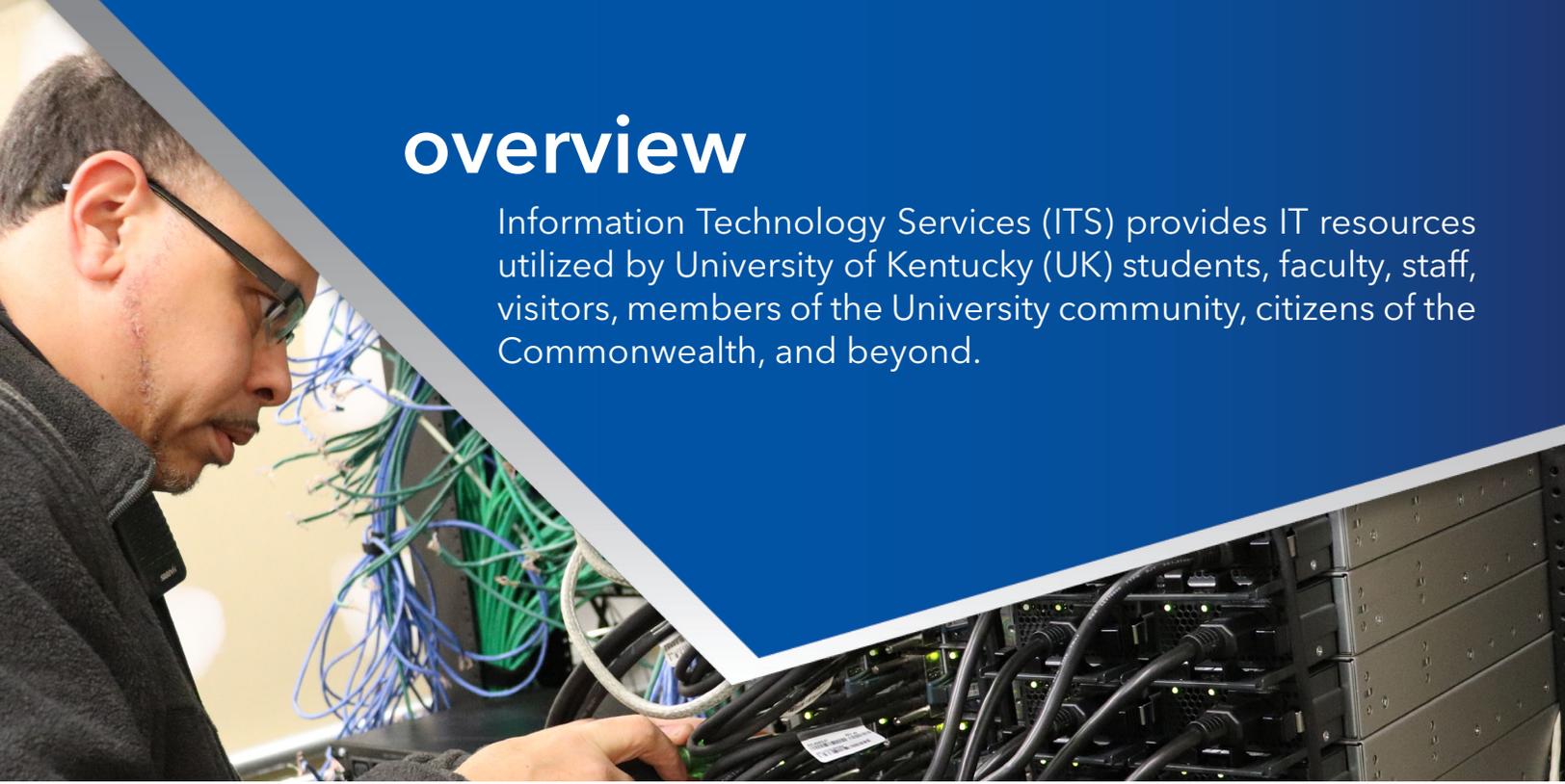
Director of Research Computing Infrastructure

Adam Recktenwald

Executive Director of Enterprise Applications

Karen Willmott

Executive Director of Administration, Finance, & Human Resources



overview

Information Technology Services (ITS) provides IT resources utilized by University of Kentucky (UK) students, faculty, staff, visitors, members of the University community, citizens of the Commonwealth, and beyond.

values

We value customer engagement, collaboration, shared governance, innovation, teamwork, accountability, diversity, inclusivity, accessibility, and integrity. We value the people of ITS who show initiative, grow interpersonal relationships, pursue excellence, and deliver it in terms of IT infrastructure, services, and solutions. We value our relationships with the students, faculty, and staff of UK—our customers, partners, and colleagues—and thus honor a service culture above all else. We value the trust placed in us by University leadership, the Board of Trustees, and the University community, to be efficient and effective in the use of all resources. We value the security of the technology resources and information entrusted to our care, and will be vigilant in maintaining the integrity of these critical items.

mission

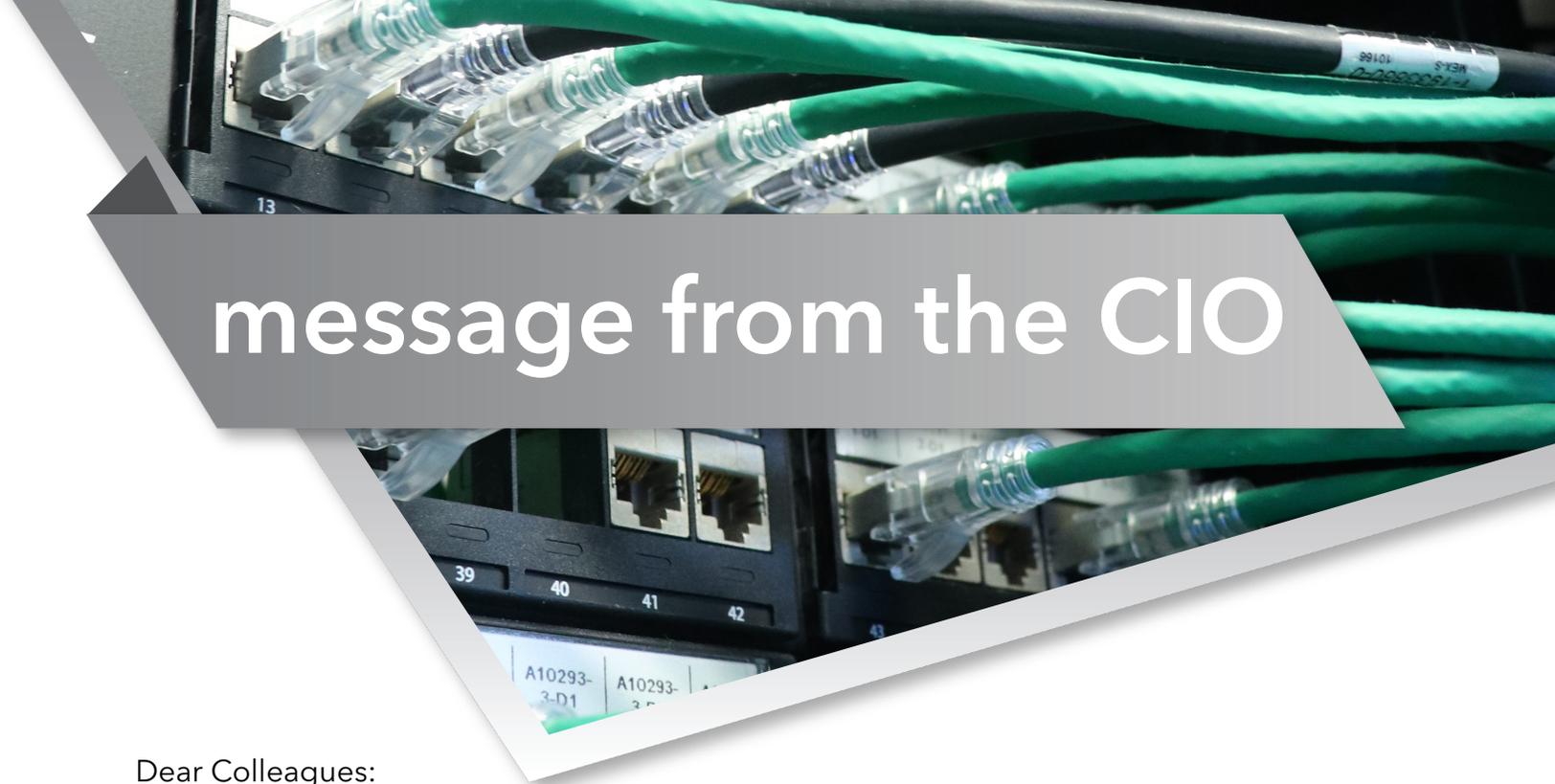
In support of UK's Strategic Plan, the ITS mission is to provide, through customer engagement, outstanding technology infrastructure, services and solutions that advance teaching and learning, enable research, empower staff to provide exceptional services, enrich the student experience, and effectively manage and protect institutional data.

vision

ITS will strive to provide and protect an environment that features, "IT Abundance," wherein IT infrastructure, services, and solutions are innovative, readily available, and utilized to provide exceptional support to students, faculty, and staff in their endeavors to uphold the UK mission.

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message from the CIO

Dear Colleagues:

We have made significant investments in technology to advance the mission of the University of Kentucky in the past year. Outlined in this ITS Annual Report are notable accomplishments made possible by our hard-working and dedicated team of IT professionals.

The document highlights our innovative collaborations with the UK community as we continue to align our services with the University's Strategic Plan to best support the University's mission.

Some of our more marked accomplishments include the implementation of multiple cybersecurity initiatives to protect the UK community. Two-Factor Log-In has been added as an extra layer of security to protect Personal Identifiable Information (PII) of students, faculty, and staff. A new campus network firewall has been installed that is more robust, scalable, and enables ITS to enhance UK's security posture. We have placed a great emphasis on cybersecurity education and awareness via online training courses available in myUK Learning, and through many communication and tabling sessions.

This report also highlights UK's new Technology Help Center, an online resource that contains over 500 tech-related articles for UK students, faculty, staff, and affiliates. The Technology Help Center is empowering our customers to help themselves by providing direct access to information.

I look forward to another year of exceptional teamwork and accomplishments.

Sincerely,



Brian T. Nichols
Chief Information Officer



2018 customer recognition

In June 2019, ITS selected the second annual recipients of the Customer Excellence Award for Leadership in IT Advancement. Recipients were:

Bharath Chithrala (student) was involved with many important projects as a student at UK, including UK Student Government Association as Director of Campus Services. He oversaw the Wildcat Wardrobe, which provides a “career closet” for students aimed to alleviate the financial burden related to purchasing professional clothing for job interviews, internships and full-time job opportunities after graduation. He also oversaw the Kentucky Wildcab, which is a free, late night on-demand transportation resource for UK students primarily designed to provide a free ride home to UK students and their guests while promoting responsible and safe late-night transportation decisions. Bharath was instrumental in implementing the Swipe Ahead program where students may apply to receive meal swipes to assist in meeting their unmet dining needs. Bharath also served on the Apple Initiative Academic Advisory Board.

Holly Hapke (faculty) is a Senior Lecturer in the Gatton College of Business & Economics and is the faculty advisor for the American Marketing Association’s UK Collegiate Chapter. Her collaborations with ITS have involved working with Enterprise Applications to add pictures to her class roster. She has worked with ITS to brainstorm ways to improve student retention rates. She also helped ITS pilot the Adaptive Learning Platform (ALP) for Echo360 which allows students to ask and answer questions within Echo360. Not only does she provide a great learning experience to her students, she has helped ITS to provide a better technology experience for students and faculty.

Michelle Garth (staff) is the Admissions Operations Director in Undergraduate Admissions. Michelle was instrumental in enhancing Student File Management to include student transcript data. She effectively demonstrated the critical need for efficient document and information management. As the primary stakeholder, she worked closely with the Enterprise Applications team through the course of the project - making sure that the primary objectives of speed and accuracy remained center stage. This newly improved process directly resulted in time and cost savings during Undergraduate Admissions peak processing time.



2018 employee recognition

ITS recognized twenty-two employees who have provided a combined 405 years of service to the University. Each received a charm, lapel pin or tie tack of their choosing as a token of appreciation for their dedicated service.

5 years

Andy Simonds, Colin Baker, Wayne Campbell, William Monzione



10 years

Ben Collins, Diana Gold, Jerry Ingram, Joe Clary, Mary Kathryn Starkey, Scott Sisler, Thomas Morton



15 years

Adam Recktenwald, Gram Gibson

25 years

Cynthia Buster, Debbie Zoll, Gina Lysell, William Bean*



30 years

Andra Collins, Jeff Angel

35 years

Jayna Cheesman

40 years

Debra Claunch

50 years

Ben Rice

* Award given to family in remembrance.

recognition



certifications

- ▶ **Jennifer Edwards**, Change Management, Processes, Methodologies, & Tools
- ▶ **Whitney Conner**, Graduate Certificate in Public Financial Management
- ▶ **Miles Fortner**, Cisco Certified Network Associate Routing & Switching (CCNA)
- ▶ **Diana Gold**, Graduate Certificate in Public Financial Management
- ▶ **George Insko**, GIAC Certified Enterprise Defender (GCED)
- ▶ **John Lewis**, Microsoft Certified: Azure Administrator Associate
- ▶ **Retta Richie-Holbrook**, Human Centered Design
- ▶ **Ray Hyatt**, Splunk User Certification
- ▶ **Mary Kathryn Starkey**, Graduate Certificate in

presentations

- ▶ **Rick Phillips and Colin Baker**, "Doing more with less: Higher Ed Security". Ignite '19 USA Palto Alto Conference.

degrees

- ▶ **Todd Hudnall**, Master of Business Administration
- ▶ **Jacob Chappell**, Masters in Computer Science



giving back



United Way Fundraising

ITS hosted a Fall Festival this year with proceeds benefiting United Way. Attendees were encouraged to bring their best chili to compete in a chili cook-off. Cups and bowls of chili were available for purchase as well as a bake sale for desserts. A group of ITS employees served as judges. This year the best chili was awarded to Ray Hyatt, who received the golden ladle.



Combined with online donations and payroll deduction, the total amount that ITS raised for United Way was \$2,950.

Generosity Feeds

ITS Staff participated in the Generosity Feeds event on November 10, 2018 at Frederick Douglass High School. The event helped hungry children and families in the Lexington-Fayette County area by packing 24,252 meals in 2 hours.



100,000 Thank You's

As a part of a national campaign, ITS staff wrote thank you notes to active troops in appreciation of their service. Each note was distributed to members deployed overseas throughout the year. Thanks to the help of ITS staff, the campaign was able to collect a total of 209,433 letters.





spotlight: diversity & inclusion

Human resources are the single most important IT asset for the University. In order to recruit and retain skilled IT personnel, ITS has worked to create strategies for developing and retaining those already onboard as well as begin growth of a pipeline program. ITS is committed to maintaining and increasing diversity and inclusivity across the department.



Foundations

The project team has approved language to encourage a method to increase diversity within the hiring process. A quarterly training series was also established, beginning May 2019, and made available to all ITS employees. Topics including communication techniques were explored.

Women in IT: ITS Chapter

The ITS Chapter of Women in IT group aims to increase diversity and inclusivity within IT through empowerment, encouragement, and engagement of peers across the University of Kentucky campus and the broader community. Our members aim to develop a professional network through which we support other women interested in technology, share knowledge and expertise, and build an environment where diversity can thrive. The kick-off event featured special guest speaker Penny Cox, Associate Vice President for Administration. Penny spoke on her 46+ years at UK and the mentoring she has received and gave during





that time. She encouraged everyone to “pay it forward” in helping others. In addition, a “Speed Networking” event was an opportunity to gather with peers and leadership from across ITS to expand professional and personal networks outside of immediate teams.

K-12 Partnership Program

ITS established a K-12 Partnership Program in order to actively support and benefit students from both local and regional schools in the state of Kentucky.

ITS offers students opportunities to job shadow, visit ITS facilities, and learn more about IT careers and services at UK with an intent to establish a long-term pipeline of skilled future employees. Presentations were provided too:

- ▷ Danville Independent High School
- ▷ Frederick Douglass High School
- ▷ Tates Creek High School
- ▷ Lexington Traditional Magnet School

Informational Booth Displays

A focus on long-term recruitment goals aims to build a pipeline of future candidates for ITS positions. Several informational tabling sessions were held to increase awareness of ITS as an employer, including attendance at LIFT 2019 - a career and college expo, and Expanding Your Horizons - a conference for middle schools girls interested in Science, Technology, Engineering, and Math (STEM) programs.



Customer Support & Student IT Enablement

Customer Support & Student IT Enablement is the public face of ITS, providing customers with an entry point to the technology needed for academic and professional success. When students, faculty, and staff are faced with technology issues, they can reach out for the help they need. For a wide variety of technologies such as desktop application issues, classroom A/V support, and desktop hardware, their services help customers better navigate technology.

Classroom, AV Support, & Student Technology Services

Classroom, AV Support, & Student Technology Services provides support for the use of multimedia technology and classroom equipment for the University. They provide audio visual equipment and assistance for other University related functions on campus.

The Classroom, AV Support, & Student Technology Services also maintains computer labs all over campus where students can find the necessary hardware and software to complete their assignments and projects. This also includes the Student Media Depot where students can use the newest multimedia hardware and software in addition to having the ability to check out equipment and resources.

Customer Services

Customer Services provides a single point of contact for the technological needs of students, faculty, staff and alumni. Customer Services supports the overall strategic goals of ITS by assisting with the knowledge and tools for success with any information technology at the University Of Kentucky.

Technical Support Services

Technical Support Services (TSS) provides life-cycle (deploy, manage, support, retire) support to end user university authorized computing devices. Common examples of support provided by TSS include creation of end user system quotes, computer imaging, anti-virus management/reporting, software installation, configuration, updates, troubleshooting and remote control assistance. Remote control assistance allows a TSS agent to remotely connect to end user authorized computing systems. Should remote control assistance fail to meet customer needs TSS can offer on-site support.



People of ITS: Kevin Reifert

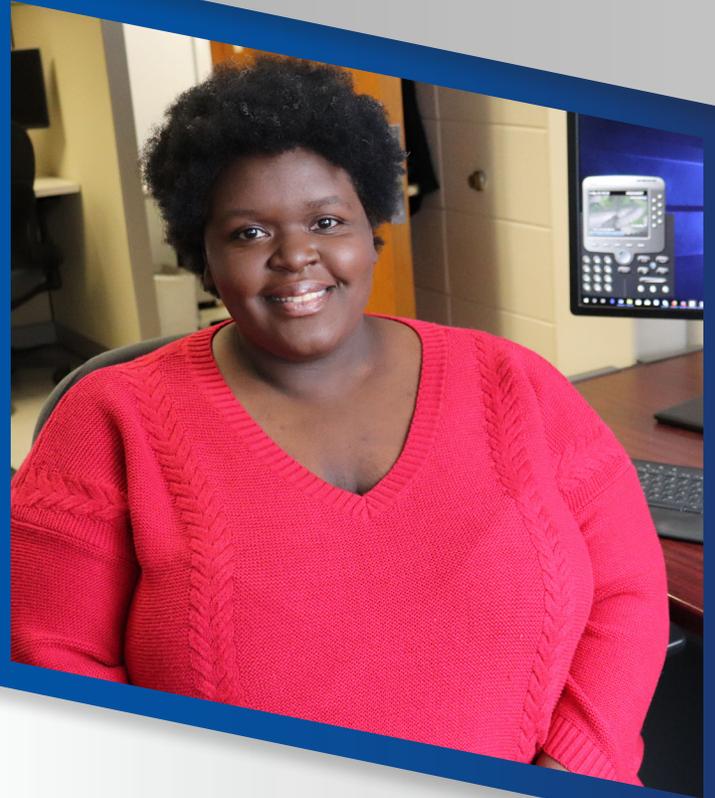
Classroom, AV Support, & Student Technology Services

"Helping customers is my favorite part of my job, whether that means installing software for a specialized class in one of our labs or sitting down with students in the Media Depot to help troubleshoot difficult multimedia issues."

People of ITS: Tiffany Duncan

Customer Services

"I love being a part of the campus environment and getting to enjoy UK programming, sports, and educational opportunities. I feel like this is a place where I can grow in my career and as a scholar."



Customer of ITS: Brian Jackson

Graduate School

"ITS support is essential to all of the Graduate School services including... provision of AV services used in our microteaching initiative for TAs and maintenance of desktop computers in the new Clark Graduate Study."



658,140

total phone calls to
Customer Services

63,174

incidents/requests
reported to
Customer Services

2,213

walk-in customers
at Tech Help
@ the Hub

315

managed learning
spaces

282,417

scheduled events/
classes in managed
learning spaces

18,330

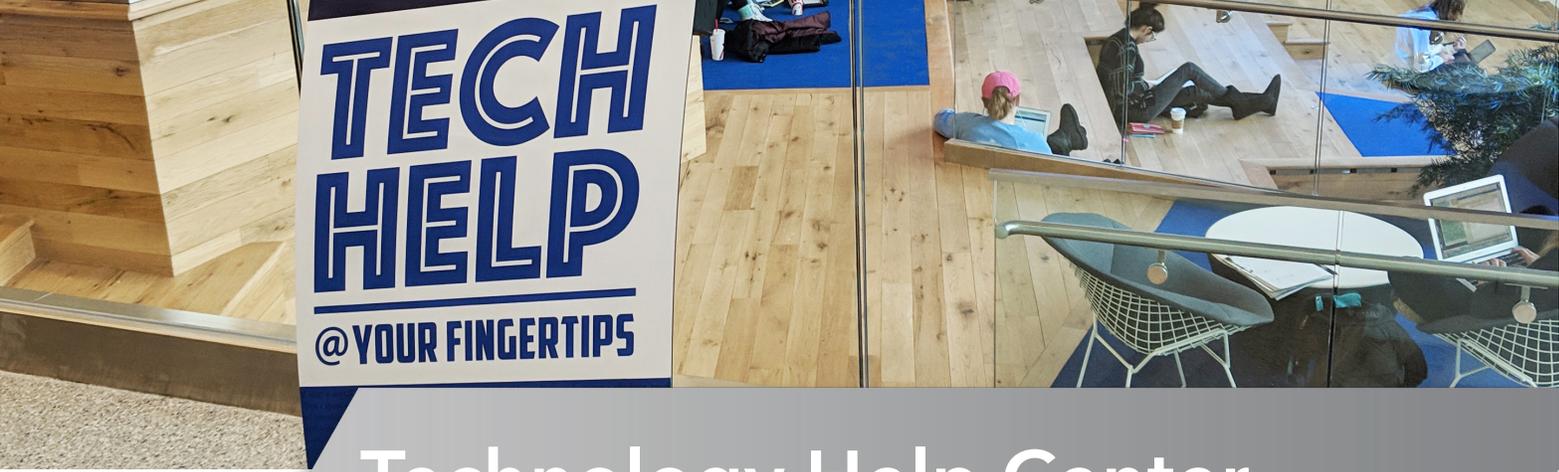
Echo360 captures

100,668

log-ins in student
computer labs

top 5 applications
used in student
computer labs

1. Word
2. Excel
3. Explorer
4. PowerPoint
5. Dreamweaver

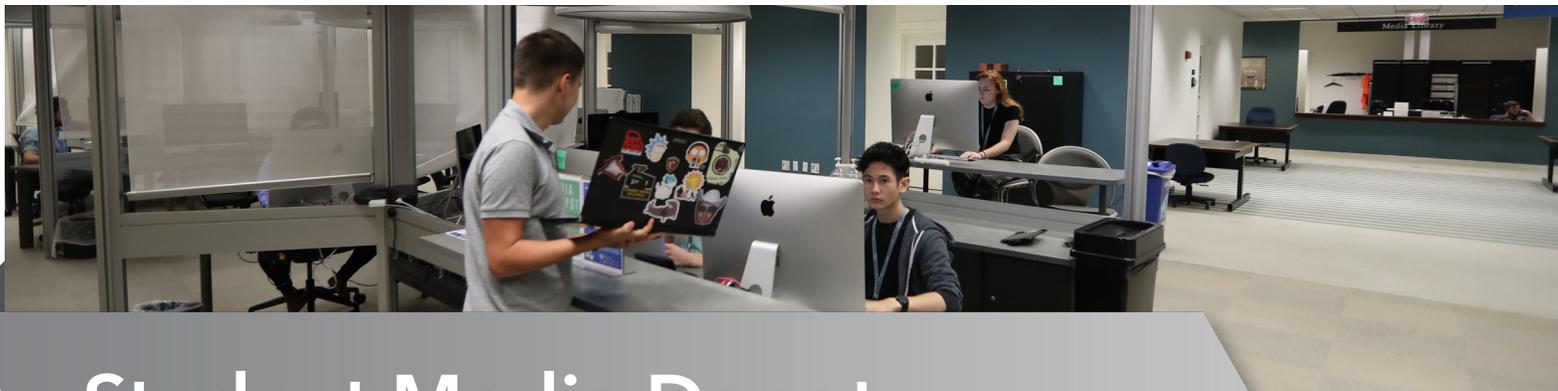


**TECH
HELP**
@YOUR FINGERTIPS

Technology Help Center

Launched in January 2019, the UK Technology Help Center is a one-stop shop for customer-focused technical assistance. Featuring educational articles, the Technology Help Center offers an online environment where customers can obtain technology assistance and knowledge.

ITS worked in partnership with the College of Agriculture, Food, & Environment, College of Arts & Sciences, Gatton College of Business & Economics, College of Fine Arts, College of Pharmacy, and College of Public Health to launch "Tech Help @ your fingertips". Visit at techhelpcenter.uky.edu.



Student Media Depot

The Student Media Depot @The Hub is a student digital media space located in the Hub at W. T. Young Library. The Media Depot provides access to recording equipment and space, editing stations with specialized multimedia software, and technical support for students' development of their academic media projects. The Student Media Depot had over 1,700 students use the media spaces a total of 2,955 times and presented 1,183 workshops to students. This year they assisted a UK documentary film class with proper use of their equipment in order to make a 3-5 minute documentary film. The Student Media Depot, operated by student workers, also provided all of their staff with Adobe Photoshop training to enhance their media editing skills.

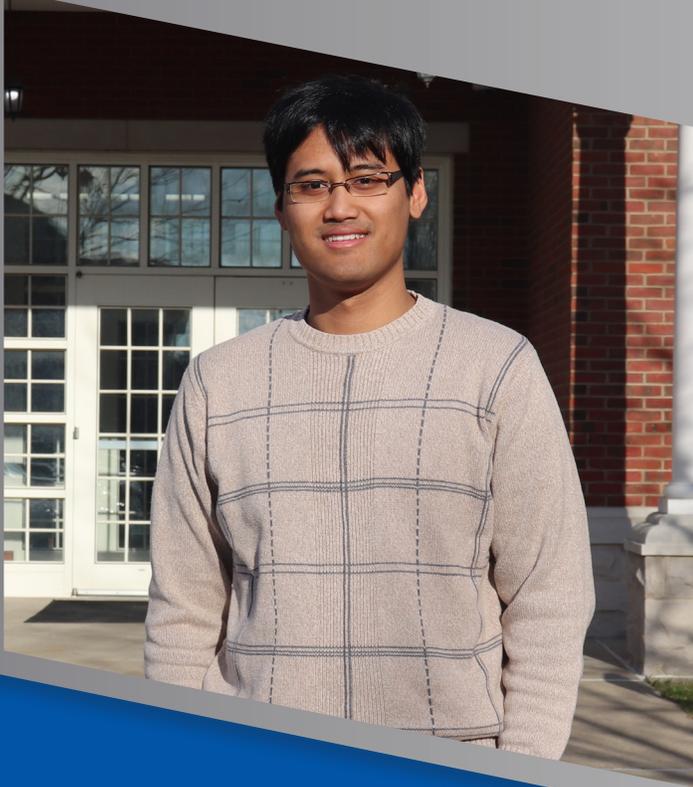
Research Computing Infrastructure

UK has a rich history of computing, originating with the establishment of the UK Computing Center in 1958. In 1987, UK's High Performance Computing (HPC) program began with the creation of the Center for Computational Science (CCS), the acquisition of research-focused computational hardware, and research-focused network communications.

For nearly three decades, information technology professionals and computational scientists have provided HPC-focused consulting services, software support, and infrastructure operations. Over the past decade cyberinfrastructure (CI) utilization once dominated by research in theoretical physics, computational chemistry, computational biology, and materials engineering now competes for computational resources with the areas of artificial intelligence, computer vision, genomics, social sciences, and a broad range of other historically underrepresented scientific areas.

In July 2016, the UK Research Computing (UKRC) group was formed to address the rapid growth of demand and diversity of CI resources, tools, and computational techniques. Working in conjunction with ITS, CCS, and the Institute of Biomedical Informatics (BMI), the UKRC team serves a broad scientific community of researchers across academic disciplines applying advanced cyberinfrastructure and computational techniques in the advancement of research.





People of ITS: Satrio Husodo

Research Computing

"UK plays an important role in our state's education and in helping advance knowledge through research. I value our team's and ITS' roles in helping support those aspects."

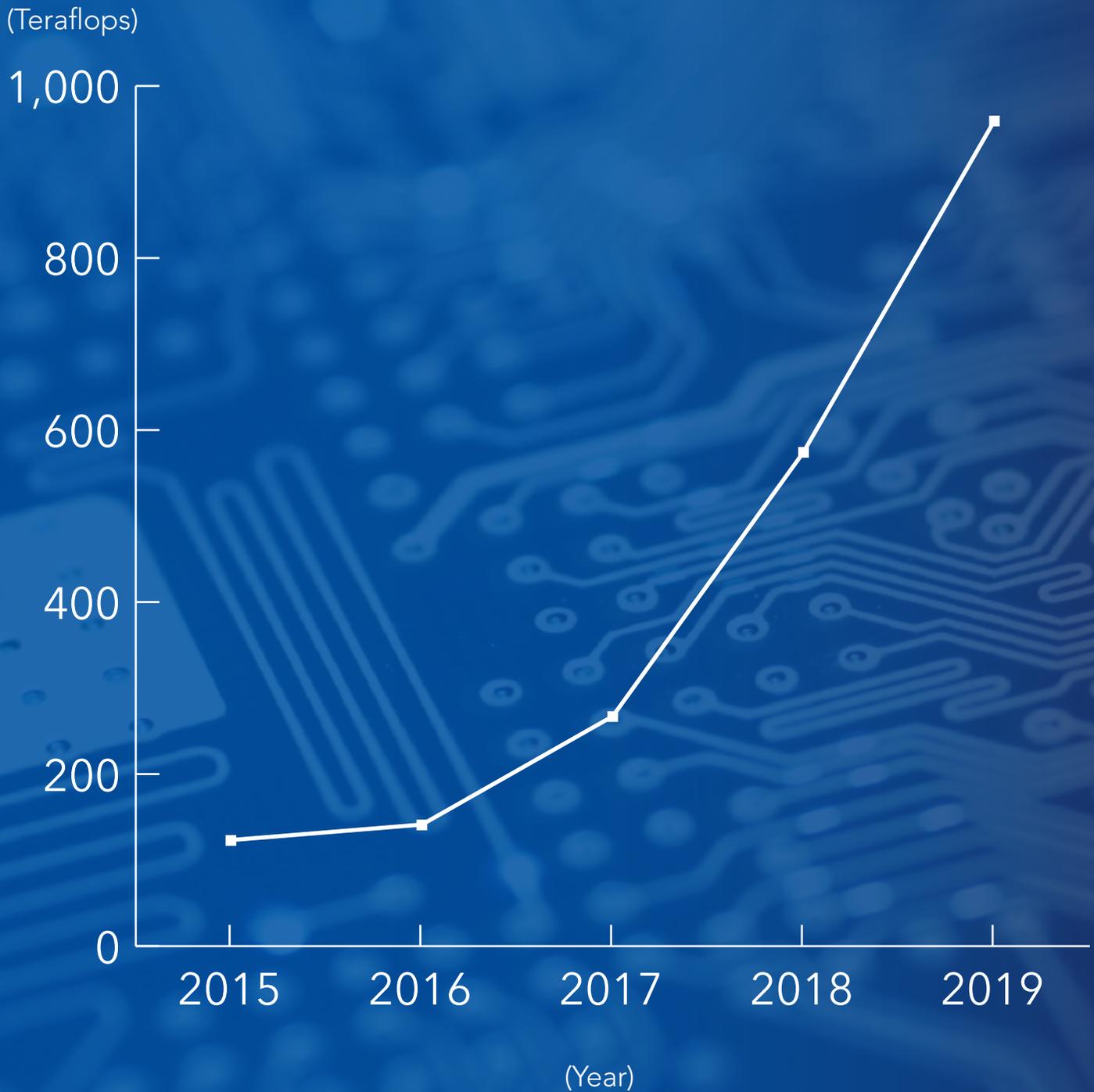
Customer of ITS: Bhushan Chitre

Center for Computational Sciences

"ITS gives us their expertise so that we can provide bleeding edge technologies to our researchers."



Growth in UK Research Compute TFLOPS*



*Trillion Floating Point Operations Per Second



Supercomputing Conference

In November of 2018, a group of UK students, faculty, and staff participated in the 2018 Supercomputing Conference in Dallas, TX. Attendees explored exhibits showcasing the latest innovations from the world's leading manufacturers, research organizations, and universities, while networking with other High Performance Computing peers.

UK had a booth on-site, a collaborative effort of the ITS Research Computing Infrastructure team, Center for Computational Science, and the College of Engineering. The booth displayed each group's current initiatives in High Performance Computing.



Software Defined Network Expansion

Under the National Science Foundation (NSF) Campus Cyberinfrastructure - Data, Networking, and Innovation (CC*DNI) program, the University sought to improve cyberinfrastructure for data-intensive research. Starting in October 2015 and concluding in September 2018, the project expanded the Software Defined Networking (SDN) footprint not only to boost network speeds (up to 100X faster), but also to allow the instantiation of policy exceptions to improve the performance of trusted research data flows.

As the project came to a close in 2018, the focus revolved around adding support for wireless access to researchers' laptops, allowing up to 10X faster speeds for transferring large volumes of data.

Enterprise Applications

Enterprise Applications (EA) supports the key administrative computing systems for the University. Their primary focus is the integrated Enterprise Resource Planning (ERP) software from SAP. EA is responsible for enhancing, maintaining, and supporting the functional operations of the ERP system to accomplish and further the goals and objectives of the various operational units across campus. Because EA is grounded in developing and supporting the ERP, in addition to ITS staff, other members of EA are assigned from the major business units of the University.

Product Development & Integration Services

Re-imagine |> Research |> Re-shape |> Release. The Product Development & Integration Services team is passionate about building research-driven software solutions that aim to remove administrative and process hassles to allow users to focus on things they care about most when working with our core enterprise systems. On the front-end, they build mobile and web applications for students, faculty, and staff of the University of Kentucky. Behind the scenes, they weave together disparate systems for efficient transfer and integration of ERP data to keep critical systems operational. They lead the day-to-day operations of our Service Management platform for ITS and other partner units. This team is fun and fast-paced, shipping releases frequently via a lightweight agile process. They are software engineers and designers who believe in collaborative decisions and delivering the best experience to customers.

Analytics

The Analytics team is a collaborative effort between the Office of the Provost's Institutional Research team and Information Technology Services' Analytics team. Together, they support strategic decisions and initiatives at the University of Kentucky. They do this by studying past trends, completing detailed analyses, delivering interactive data visualizations and dashboards, and providing official institutional data to external stakeholders.

Core Applications

Core Applications supports key administrative computing for the University. Their primary focus is to operationally maintain and enhance the integrated Enterprise Resource Planning (ERP) software - SAP. In addition, they are responsible for working with various operational units across the University to accomplish and further goals and objectives. Because the core applications unit is grounded in developing and supporting the ERP, in addition to ITS staff, other members of are assigned from the major business units of the University. Key functional areas of the core applications team include:

student lifecycle management; financial services; human resources, payroll and training; facilities services; enterprise content management; workflow services; budget services; procurement services; and graduate school services.

Implementation

The Implementation Manager within the Division of Enterprise Applications collaborates with ITS' Office of Major Initiative Project Management to ensure coordination of project implementation timing, communication and coordination between teams, their endeavors and deliverables. This is done by examining and modifying the teams' practices, policies, and procedures to improve overall implementation effectiveness. This individual also works with customers to ensure expectations are clearly understood and met.

Business Process Improvement

Business Process Improvement supports the developments of strategies and application-level recommendations for improving processes, efficiency, and practices of University systems. This is done by collaborating with functional and technical teams to understand organizational processes, analyzing operations, and identifying opportunities to optimize functions.

People of ITS: Chandini Lakanagam Jagannathachar

Analytics

"If I am able to achieve something new, I love to share with our team the new ideas and solutions that I came up with and discover alternate options."



Customers of ITS: Jay Blanton

Public Relations

"The Enterprise Applications team helped us develop our crisis alerts system: it's one of the primary ways for us to communicate with the campus about inclement weather as well as other serious campus-wide emergencies or issues. "

29,241

myUK mobile app
downloads

1,554

change requests
processed

137,225

purchase orders
processed

76,506

purchase requisition
orders processed

808,580

documents
archived to
Enterprise Content
Management

32,951

Travel
Reimbursements
processed

Enterprise Systems

The Enterprise Systems team supports the large-scale application software packages for the University, including information flows, reporting, and data analytics.

Cloud Operations

The Cloud Operations team at the University of Kentucky Information Technology Services (ITS) is dedicated to providing support for faculty, students, and staff at the University as the shift to the cloud becomes a reality. This program includes a dedicated group, who are responsible for the development and maintenance of UK's new cloud-based computing environments, as well as additional services which support broader University needs.

System Operations

Systems Operations take care of the servers from the back of the machine up through the hypervisor stopping at the OS layer, database layer, or webserver layer depending on the customer facing service it represents. This private cloud encompasses compute, storage, data protection and recovery, as well as availability services on premise. They provide similar services based out of public clouds and are have more on the roadmap.

Data Center

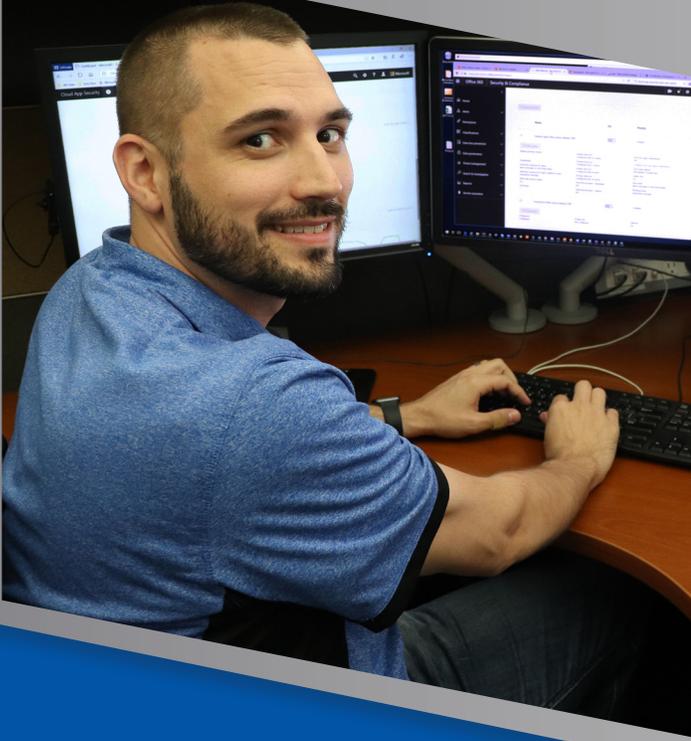
Responsible for the operation and maintenance of the facility housing the University's core computing systems. Team members provide monitoring and support services for these systems and the data center infrastructure that support them. In addition, staff duties include grading Scantron forms for student tests and research data collection as well as processing print requests for other campus departments.

Directories, Messaging, & Collaboration

Directories, Messaging & Collaboration is the provider of essential services that all other UK computing services rely on for authentication, authorization, and directory services. Providing a suite of rich collaboration tools including email, instant messaging, file and desktop sharing, and online meetings. These tools allow faculty, staff, and students the power to collaborate on campus and around the world to advance their research, service, and university outreach.

ERP Security & Support

The ERP Security & Support team provides platform and application administration for the myUK system and ancillary servers and software. These systems support the core business functions of the University of Kentucky including student management, human resources, financials, materials management, and analytics.



People of ITS: John Lewis

Cloud Operations

"I enjoy collaborating with some of the smartest people in the state while being able to leverage and implement cutting-edge technologies."

People of ITS: Ling Wolbarst

ERP Security & Support

"In all aspects of my being, I try to incorporate integrity and empathy into my actions in order to add value to the projects I undertake."



Customer of ITS: Carmen Agouridis

Biosystems and Agricultural Engineering

"I do a lot of project management with SharePoint. I've reached out to ITS to get people I collaborate with into groups and teams so that I can work easier. It's nice to get help fast so that I can keep moving."



161,000

email accounts

114,296

Skype for Business
meetings

910

virtual machines

1,736

TBs of storage
available to campus

2,700

TBs of data backed
up

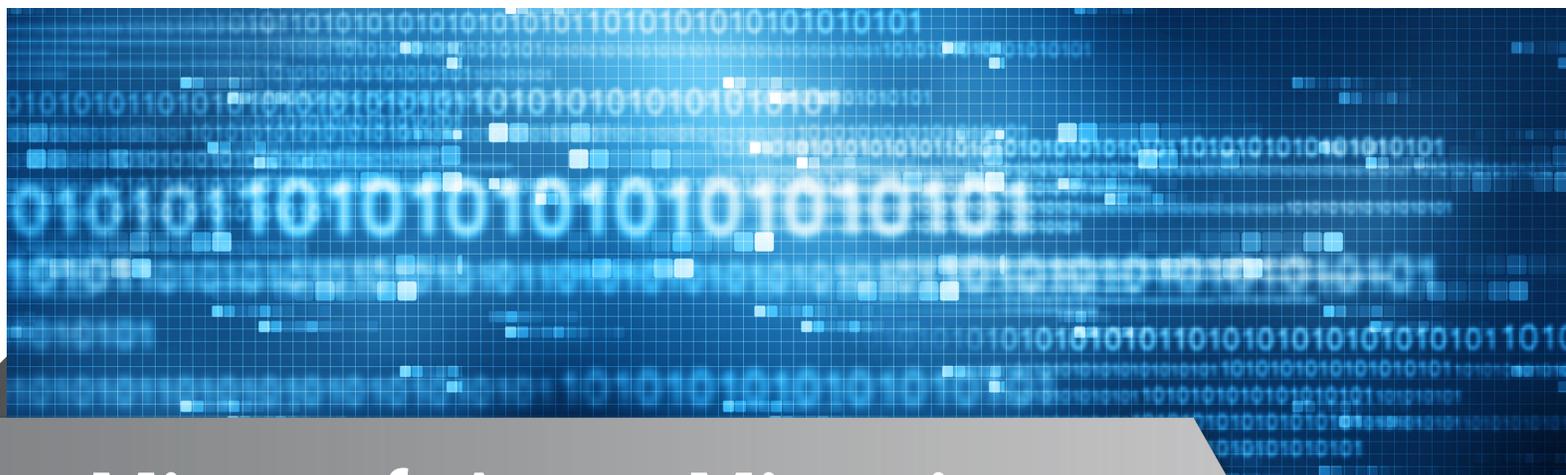
39,088

virtual application &
desktop sessions



Virtual Den

Starting in January 2019, the Systems Operations team worked to refresh and upgrade UK's Virtual Den, a cloud-based platform used to run virtual desktops and software. New features with the upgrade included a new Virtual Den Store Front with the ability to create a favorites page, enhanced GPUs able to run more mathematically and graphically demanding applications, better performance, and increased security. Virtual Den brings large classroom software to students personal devices, enabling them to complete coursework easier and making their learning more accessible.



Microsoft Azure Migration

After a detailed assessment of the University's Virtual Machine architecture, ITS's Enterprise Systems division spearheaded a server migration to Microsoft Azure as a part of cloud migration roadmap. In May 2019, this process started with dedicated migration servers that would synchronize workloads to the cloud and prepare them for "fail-over". With a well-designed playbook, the team was able to coordinate with application owners and migrate their servers with limited downtime. At the conclusion of the project, over 80 workloads were running in Azure-- reducing technical debt, minimizing capital costs, and maximizing the University's investment in cloud technologies.

Networking & Infrastructure

The Networking & Infrastructure team is responsible for all wired networking, wireless networking, and voice communications for the entire enterprise.

Network Operations

The Network Operations team supports wired and wireless network operations comprising management and deployment of physical, virtual, and logical network across the University. This includes internet services and wired and wireless network access. This team maintains visibility and support functions through a Joint Services Operations Center (JSOC). The Network Operations team is also responsible for IP address management (IPAM), domain name services (DNS), cybersecurity device management & virtual private networking devices (VPN). Information Technology Services (ITS) emphasizes security, stability, and performance when delivering network services with the University's student, patient, and business needs in mind.

Networking Engineering

The Network Engineering group ensures the design and construction of the network meets the business needs of the enterprise while also considering technical considerations like security, scalability, resiliency, and redundancy. This includes all aspects of the network from the fiber and copper cabling plants to the routers, switches, and firewalls that interconnect campus facilities. The Network Engineering group creates designs and implementation plans for wired and wireless access to the local area network (LAN), expansion of LAN services through the wide area network (WAN), and shared access to public and partner resources through the Internet edge and remote access tiers of the network. The Network Engineering team's goal is to create a network that positively impacts the lives of our students, faculty, staff, and community and which enables these groups to achieve their own measures of success. This group stays current on the design and implementation of modern-day technologies like routing, switching, and firewalling, and is well versed in emerging technologies like software defined networking (SDN), next-generation firewalling, and virtual networking. Working closely with the University's capital project teams, the Network Engineering group establishes, maintains, and enforces communications closets and low voltage wiring standards for large-scale endeavors and looks for ways to streamline implementation of new technologies and integration emergent technologies.

Infrastructure Operations

Infrastructure Operations comprises technician teams handling incident resolution and service requests involving fiber optic cable, copper cable plant, network data access, and other physical voice and data infrastructure throughout campus and HealthCare. The Infrastructure Operations Team also provides voice and video communications in the form of IP telephony & standards-based

IP video. This comprises over 20,000 phones and the subsystems that support these devices including enhanced 911, voicemail, contact center operations (agent-based calls), auto attendant systems, videoconferencing, emergent/non-emergent paging systems, and other adjunct systems.

Infrastructure Projects

The Infrastructure Projects team engages with the campus community to collaborate on network and telephone solutions. A key focus is delivery of network resources for new construction, building renovations, upgrades and equipment lifecycle refreshes. This includes the sizing and installation of switch equipment, wired data ports, wireless access points, cabling pathways and phone hardware.

People of ITS: Charlie Stewart

Infrastructure Projects

"I like knowing you can count on our team to pull together to get a job done, no matter the circumstances."



Customers of ITS: Gus Miller

Facilities Management

"We work with the Networking Infrastructure project managers and estimators to help complete our projects. ITS gives us their expertise so that we can be ahead of the curve in our new buildings and renovations."

99.98%

core/distribution
uptime

18.65

max internet
bandwidth

8,832

WiFi access points

105,942

unique devices on
WiFi

2,167,517

average calls per
month

214

911 calls per
month



Network Edge Firewall

In early February 2019, ITS staff performed a Maintenance Operation Procedure (MOP) which allowed the University to begin utilizing a new firewall solution. The firewall replaced an existing solution to provide more protection against incoming threats (e.g., computer viruses, Denial of Service (DoS) attacks, & spyware). The new solution creates a topology that is more robust, scalable, geographically diverse, and flexible-- enhancing UK's ability to battle a multitude of cybersecurity threats.



Academic Wireless

Using academic wireless funding, ITS engaged in projects to enhance wireless services in the following areas:

- College of Nursing
- Chemistry/Physics Building - Basement - 2nd Floor
- Morgan Biological Basement and 1st floor - Fine Arts Corridor
- The 90 Second Floor

These projects will bring enhanced coverage and more robust services to these areas. Some of these areas suffer from a total lack of service, while others may currently support low density or provide lower throughput due to the existing design. These new designs allow for high density coverage (enabling more users to connect simultaneously) as well as increase the capacity of the wireless network in classrooms, labs, and administrative spaces. ITS design engineering staff work with tenants and project managers to specify wireless antenna designs which leverage directional and junction box antennas to better facilitate their objects. Directional antennas allow for a more specific placement of wireless signaling and junction box antennas allow for the concealment of wireless hardware in areas that may be sensitive to architectural designs.

Office of the CIO: Cybersecurity, Data Privacy, & Policy

The Cybersecurity, Data Privacy, & Policy team guides the University community to understand and adhere to established cybersecurity policies and best practices. The team maintains a repository of policies and practices designed to protect the confidentiality and integrity of University data, while maintaining its availability to the UK community.

Cybersecurity

The Cybersecurity team is responsible for overseeing the University of Kentucky's network security, effectively managing the resolution of cybersecurity incidents, including but not limited to distributed denial of service (DDoS) attacks, man in the middle attacks, SQL injection attacks, phishing and spearphishing attacks, and enforcing applicable policies to ensure that each UK customer's information is protected in the most secure manner possible.

Data Privacy & Policy

In collaboration with other teams, the Data Privacy and Policy team establishes required minimum security standards for handling the University's data and information, oversees technology policy, and manages information security training and awareness. These efforts support students, faculty, staff, and the IT Strategic Plan while upholding the mission of the University of Kentucky. Data Privacy and Policy also provides IT policy consultation, as requested. This team additionally works with the ITS Review Committee as well as the Data Privacy Advisory Council to review and form appropriate IT security practices.

Disaster Recovery & Risk Management

Disaster recovery and business continuity enable the recovery or continuation of critical technology infrastructure following a natural or human-induced disaster. This effort ensures that critical university systems are available or can be restored quickly, enabling the university to continue critical operations.

Facilities Information Services

University of Kentucky Facilities Information Services (FIS) is university-wide shared services department that reports to the Vice President for Facilities Management and Chief Facilities Officer. The department was organized in September of 2009 by consolidating facilities CAD, GIS, records and IT functions. Pooling the resources allowed FIS to create three teams within the department which are better able to serve all the needs. The three FIS teams are Geospatial, IT Field Services and Programming. The teams are setup to serve as central resources for information about University Facilities and provide programming and IT support to departments across the administrative side of the University. In 2014, FIS implemented individual charge rates/budget for each of the teams of the department.



People of ITS: Taha Al-jumaily

Cybersecurity

"I've had the privilege through the years of collaborating with some very talented individuals and having the opportunity to help create a security program that the University can be proud of."

Customer of ITS: Kevin Sisler

Treasury Services

"I have a fantastic partnership with the Cybersecurity, Data Privacy, & Policy team. [They are] key contributors to the Payment Card Industry Data Security Standards (PCIDSS) Compliance Team."



65,610

cybersecurity
vulnerabilites
patched

11,028

instances of
malware stopped

130

DMCA copyright
violations

599

reportable incidents
investigated

6,081

iPads distributed



Cybersecurity Education

In an effort to increase cyber health across the University, the Cybersecurity, Data Privacy, & Policy team engaged in several efforts to educate students, faculty, and staff on current cyber threats. Cybersecurity training was made available to campus in myUK Learning through a partnership with Human Resources. George Insko, Director of Cybersecurity, made an appearance on local TV show, *Middy Kentucky*, to share cybersecurity tips with the greater Lexington community.

Governance

ITS, in conjunction with several other groups on campus, has worked to revise Administrative Regulations that specifically pertain to IT for the University. These revised policies both clarify and set the tone for who has the right to use UK technology resources. Additional Administrative Regulations have been drafted and revised to set up committees and councils that will further address regulation and governance needs for the University concerning technology.



Apple iPad Air Deployment

With a goal to make UK one of the most technologically innovative campuses, all incoming, first-year students were provided with an iPad Air, smart keyboard, and Apple pencil at their "see blue." U Orientation. Students picked up their equipment in the Cat's Den, located on the first floor of the Student Center, where they were welcomed and greeted by volunteers who walked them through iPad set-up.

Office of the CIO: Strategic Engagement & Communications

Major Initiative Project Management

Through major initiatives, our team, works with the CIO and ITS leadership team to align IT efforts in support of the UK and ITS strategic plans. The team provides hands-on project management support for major ITS initiatives and portfolio management support for all ITS projects. Occasionally, team members are called on by executive leadership to manage IT-related projects throughout the university. Key functions of our team include planning, implementation, monitoring, reporting, communications, resource management, risk management, business case analysis, requirements gathering, and project management consultation, coaching, training and education.

Strategic Engagement

Our team works hand-in-hand with the CIO, ITS Leadership Team, and ITS staff to ensure an effective customer experience and engagement, creating an outstanding reputation of customer service excellence. The team is responsible for ensuring the ITS mission, vision, and values are reflected in all ITS does. Key functions include brand management, communications and messaging, public relations, marketing, market research and advertising, branding, risk and crisis management consultation, customersatisfaction,experienceandengagement,relationshipmanagement,andeventmanagement.

Strategic Planning

As UK pursues our five-year strategic plan, ITS is committed to proposing strategic initiatives, recommendations, and action items that will ensure its success in supporting the mission and goals of the enterprise. Key functions of our area include the creation of, implementation, and tracking towards progress of the IT Strategic Plan; assistance with SACS accreditation efforts for ITS; and annual reporting to UK Institutional Effectiveness.

Organizational Development

Our team is committed to the organizational development of ITS, leading transformative initiatives in the areas of change management, process improvement, and quality improvement. Our team engages multiple methodologies including collecting and reviewing feedback (e.g., customers, audits, surveys) to create, redevelop, and implement ITS processes and launch new initiatives. We lead the ITS Change Advisory Board, as well as, the development of problem reports, after action reviews, and departmental reviews. We are also committed to providing consultation, coaching, and training in this area.



People of ITS: Marci Adams

Strategic Engagement

"Since working for ITS, I have really enjoyed learning new things and meeting all kinds of different people. It seems every day I get to do something different and I really appreciate that."

Customer of ITS: Anthony Beatty

Office of the Executive Vice President for Finance & Administration (EVPFA)

"ITS provided critical assistance for the development and build-out of the University of Kentucky campus-wide security system. We also appreciate the continuing assistance of ITS staff with our... Diversity & Inclusion Initiative for the EVPFA".



31

projects chartered

25

projects completed

30%

projects linked to
the UK Strategic
Plan

98%

projects linked to
the IT Strategic Plan

725

articles published

41,016

reached on
Facebook

783

Facebook followers

1,809

Instagram likes &
comments

375

Instagram followers

622,173

Twitter impressions

1,264

Twitter followers

535,663

visitors to ITS web
properties



Standardized Communication Protocols

As ITS brand stewards and the hub for coordinated communication, the Strategic Engagement & Communications team emphasizes developing clear, timely, and actionable information delivered through a variety of channels to optimize reach. It starts with creating and maintaining standard communication protocols, memorialized in policies developed with subject matter and industry experts. Throughout the year, they evaluate ITS performance to find opportunities for improvement and then develop improvement strategies.

Examples of this approach are the Major Technology Incident Protocol (MTIP) testing and re-evaluation of systems' change request procedures. Members from various teams within ITS attended a half-day session focused on MTIP training and processes improvement. From that session, key improvements were identified and implemented in MTIP documentation. Additionally, the Strategic Engagement & Communications team assessed the efficacy of moving to a global Change Advisory/Management protocol that would support change requests processes for central ITS.



Business Operations Training Transformation

Business Operations Training Transformation (BOTT) aims to identify and address the specific operational knowledge and shortfalls noted in the problem statement. All new and updated trainings have been transformed to start with the purpose or "why" the business officer is taking the training course. In conjunction with Human Resources Training & Development, the executive steering committee, with representatives from the Office of the Treasurer, Finance & Operations, Budget Office, UKHC, & Internal Audit, coursework is currently being created to support the BOTT mission.

Office of the CIO: Administration, Finance, & Human Resources

Administration, Finance & Human Resources pull together the budgeting, purchasing and staffing to keep a large and diverse organization like ITS running.

Finance

The Finance team is responsible for preparing and managing the budget for ITS. They are responsible for processing the day-to-day financial transactions, payables and receivables, within our different sources of funds. The team strives for excellence in customer service, promptness and accuracy in all financial transactions and continuous improvement to ensure that all needed technology is available to students, faculty and staff to succeed at the University of Kentucky.

Vendor Management

The Vendor Management Office (VMO) in ITS is charged with Vendor Relationship Management, Vendor Performance Management, Vendor Risk Management, Contract Management, and the operation of the IT Service Center's Inventory Warehouse. The ITS VMO focuses on value generation through vendor selection, negotiation, and collaboration.

Human Resources

The Human Resources team maintains complete and accurate information about employees to ensure timely payment of compensation, develop career paths, and provide professional development opportunities through the use of enterprise-wide systems. The Human Resources team supports the functional operations of these systems to accomplish the goals and objectives of Human Resources.



People of ITS: Cynthia Brooks

Finance

"I really love meeting different people on campus and learning about what they do. I get to collaborate with lots of different personalities and expertise."

People of ITS: Justin Cunningham

Vendor Management

"My favorite part of working at ITS is the independence. If I have an idea-- it's encouraged and explored."



Customer of ITS: Joyce French

Purchasing

"I am constantly in contact with the Vendor Management office. Technology changes constantly and we strive to be on the leading edge to support the University."



710

procurement
requests processed

85

travel requests
processed

195

IT Service Center
projects completed

321

IT Service Center
estimates requested

158

IT Service Center
estimates funded

69

position description
update requests
completed

42

positions posted

43

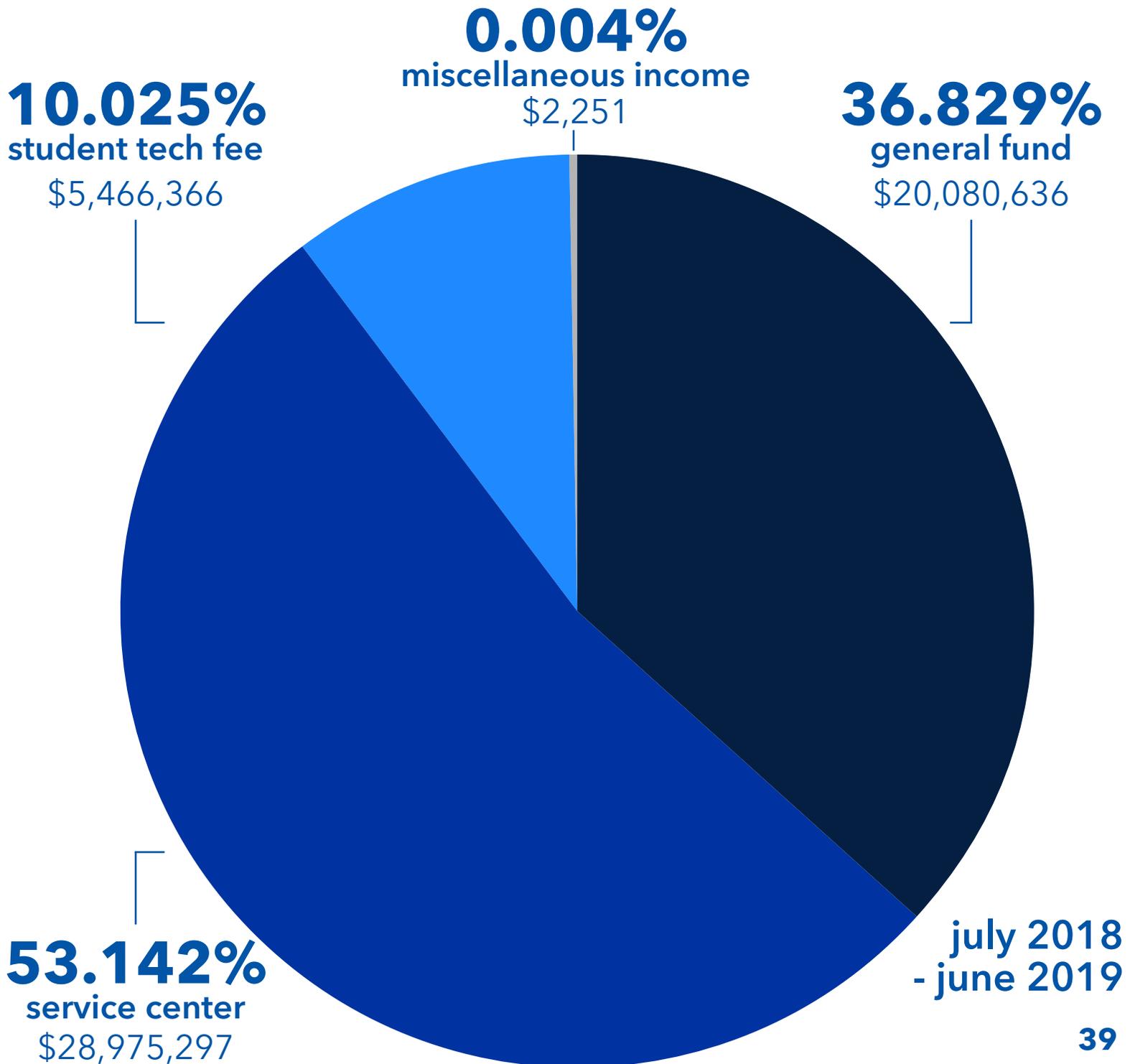
new staff
onboarded

12

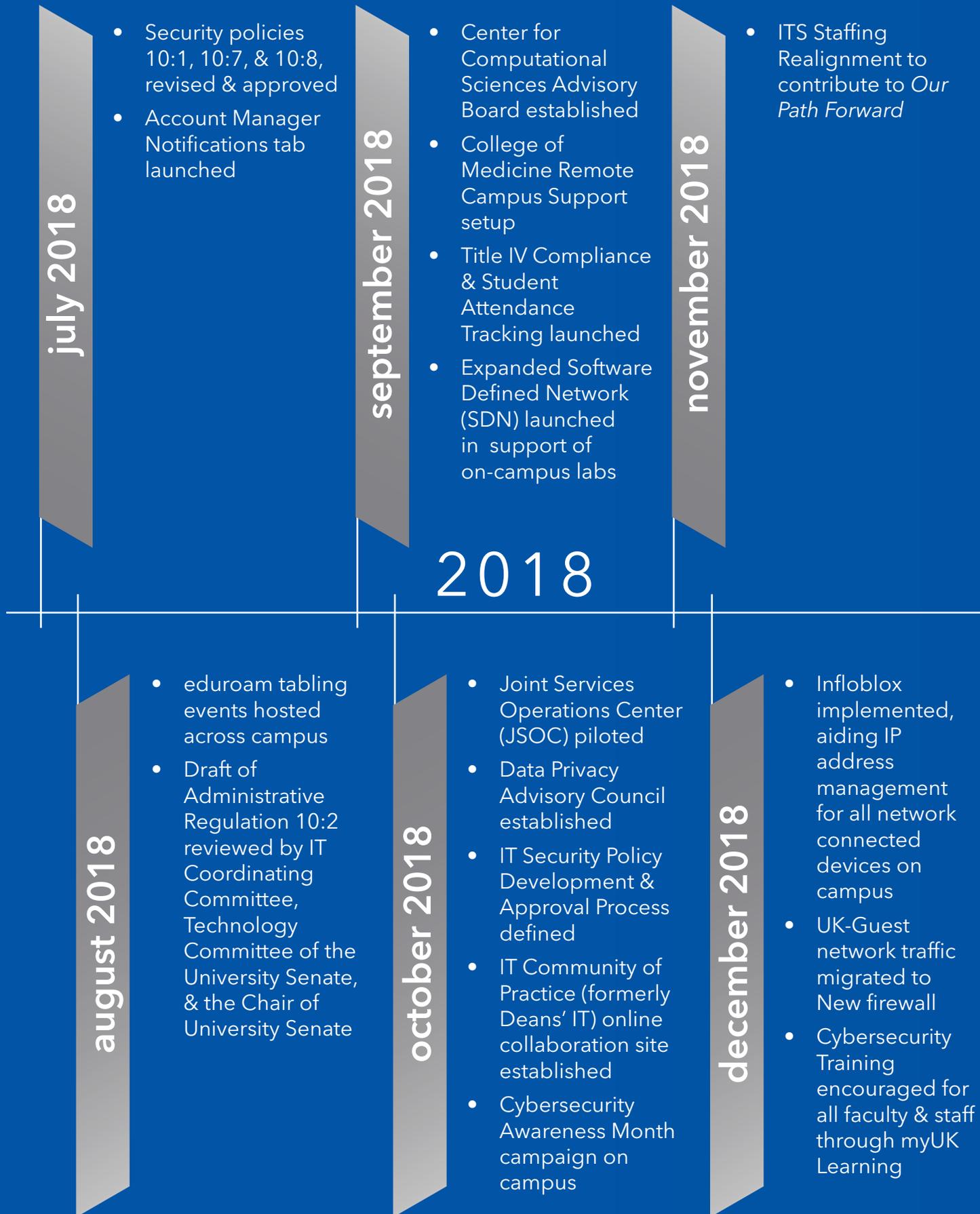
staff off-boarded



funding overview



our year in projects



january 2019

- Technology Help Center launched
- Personnel Action Approval Workflow expanded
- SAP High Availability implemented
- Alumni Park infrastructure refresh
- Network installation in new baseball stadium completed

march 2019

- EDUCAUSE Technology Research in the Academic Community (ETRAC) Survey sent to sample of students & faculty
- Migrated all remaining UK network traffic to new firewall

may 2019

- OneDrive Tips campaign launched
- Tuition & Fee Calculation launched
- Diversity & Inclusion Training series launched with UKHR Training & Development

2019

february 2019

- Women in IT Kickoff event held with Penny Cox
- Facilities Information Services (FIS) joins ITS

april 2019

- Outlook Phishing Tips implemented
- SAP GUI Client upgrade
- *Our Path Forward* technical implementation kickoff
- ServiceNow categorization reorganization kickoff

june 2019

- iPad Air distribution begins at summer "see blue." U conferences

IT Strategic Plan recommendations, accomplishments, and progress

Recommendation 1: Student Experience and Success

The University should provide and support plentiful IT resources in the living and learning environment that empower and enhance the experiences of students and contribute to student success when used effectively and profusely.

- Enhancements delivered to myUK GPS, Salesforce, Canvas, LiveSafe, Handshake, and the Tagger system.
- Network equipment installed at College of Medicine NKU and WKU campuses.
- Continued collaboration with the Office of the Provost on Smart Campus Initiative.

Recommendation 2: Teaching and Learning Enablement

The University should develop and enhance IT resources that encourage adoption, through effective and widespread use by faculty in teaching, enabling students' academic achievement.

- Technology Help Center launched.
- EDUCAUSE Technology Research in the Academic Community (ERTAC) survey sent to 4,000 students and faculty.
- Updated check-in system for various academic environments.
- Enhanced analytics for academic alerts.

Recommendation 3: Research Enablement

The University should develop, maintain, and ensure broad utilization of IT resources that empower and advance discovery, and support partnership, entrepreneurship, and innovation when effectively utilized by faculty in research.

- Center for Computational Sciences Advisory Board established.
- Lipscomb Computer cluster designed to aid researchers with supercomputing needs.
- Additional condo and grant funding established to enhance research infrastructure and services.

Recommendation 4: IT and the Enterprise

The University should develop and maintain plentiful IT resources and acquire (or develop) and arrange for (or deploy) applications, enterprise systems, and tools that facilitate the efficient and effective function of the University.

- Access of Personnel Action Approval Workflow expanded to all faculty and staff.
- SAP High Availability implemented to improve monitoring and stability.

- 42** ‣ myUK Mobile App launched for Apple iPad Air devices that incoming freshmen received.

Recommendation 5: Governance and Communication

The University should cultivate engaging, active, and impactful communication methods as well as establish a strategic IT governance structure. These will enable continued engagement of the University community in the creation and deployment of strategic recommendations and subsequent projects, supporting ongoing operation of IT resources. Such structures should expand and transform the exchange of information between the central IT organization and the University community.

- ▷ Administrative Regulation 10:2 reviewed and approved by IT Coordinating Committee, Technology Committee of the University Senate, and the Chair of University Senate.

Recommendation 6: Infrastructure

The University should construct and sustain a comprehensive, innovative, protected, and fruitful IT infrastructure (including but not limited to networks, software, facilities, and hardware) capable of supporting extensive and effective use by students, faculty, and staff.

- ▷ Infoblox IP address and DNS management system was refreshed to provide additional capacity and better geographic diversity through a new generation of hardware supported by the vendor.
- ▷ Wired and wireless internet installed at new baseball stadium and Alumni Park Plaza.
- ▷ Joint Services Operations Center (JSOC) piloted to ensure service availability and reliability of IT Services.

Recommendation 7: Security and Policy

The University should provide a secure, resilient, policy-based information and infrastructure environment to protect the security, integrity, and privacy of data. The environment should also ensure the stability and continuity of the institution's IT resources and repositories in the face of potential catastrophic events.

- ▷ Administrative Regulations 10:1, 10:7, and 10:8, revised and approved.
- ▷ Data Privacy Advisory Council established to develop standards and best practices for data privacy.
- ▷ Two-Factor Log-In and new policies implemented to further protect student, faculty, and staff data.

Recommendation 8: Support and Enablement

The University should grow and sustain a robust, multi-tiered support environment that meets both the diverse knowledge base of customers and specific needs of the University community so that stakeholders can appropriately utilize IT resources.

- ▷ IT Community of Practice (formerly Deans' IT) collaboration enhanced with online tools.
- ▷ "Hiring in ITS" guidelines for recruiting and retaining skilled personnel established.
- ▷ Quarterly training series focused on diversity and inclusion started with Human Resources Training and Development.

Recommendation 9: Strategic Funding

The University should adopt an understanding that IT resources are strategic assets. Models for funding (both centrally and distributed throughout the University) should be developed to ensure effective, efficient, and holistic investments in IT.

- ▷ ITS collaborated with UK HealthCare IT to purchase Splunk, a data tool that turns machine data into actionable analytics, informing ITS and UK HealthCare about the health and cybersecurity of IT equipment and services.

committees

IT Community of Practice

- ▷ Aaron Burden (Gatton College of Business & Economics)
- ▷ Nicholas Early (Gatton College of Business & Economics)
- ▷ Jonathan Howard (Engineering Computing Center)
- ▷ Tyler Steadman (College Of Engineering)
- ▷ Harold Brandenburg (College Of Engineering)
- ▷ Anthony Hudnall (Information Technology Services)
- ▷ Christopher Wilson (Facilities Information Services)
- ▷ Chris Miles (CAFÉ Business Center)
- ▷ Chris Porter (Facilities)
- ▷ Patrick Smith (Facilities)
- ▷ Kenny Blair (College Of Engineering)
- ▷ Kyle Dippery (College Of Engineering)
- ▷ Casey Spires (Sanders-Brown Center On Aging)
- ▷ Grace Wilson Caudill (Internal Audit)
- ▷ Charles Woolum (UK HealthCare Information Technology)
- ▷ Jeffrey Witty (Dentistry)
- ▷ Walter Wells (Café Business Center)
- ▷ Stephen Welch (UK HealthCare Information Technology)
- ▷ Mark Underwood (Human Resources Training and Development)
- ▷ Gary Trumble (College Of Social Work)
- ▷ Henry Lynn Tilley (Engineering Computer Center)
- ▷ Mark Thompson (KY Geological Survey)
- ▷ Justin Sumner (College Of Public Health)
- ▷ Ned Smith (Facilities)
- ▷ David Smith (Information Services)
- ▷ Andrew Shooner (Marketing and Brand Strategy)
- ▷ Timothy Shannon (Sanders-Brown Center On Aging)
- ▷ Rodney Sellers (Center For Applied Energy Research)
- ▷ Derek Rockhill (Law Instruction)
- ▷ Matthew Renfroe (Interdisciplinary Human Development)
- ▷ Melissa A Pero-Gamble (Auxiliary Services)
- ▷ Chuck Paskovics (Human Resources Training And Development)
- ▷ Cecilia Page (UK HealthCare Information Technology)
- ▷ Matthew Ortt (CAFÉ Business Center)
- ▷ Jonathan Milby (College Of Arts And Sciences)
- ▷ Jason Mcreynolds (UK HealthCare Information Technology)
- ▷ Barret May (College Of Health Sciences)
- ▷ Josh Maddow (College Of Communication And Information)
- ▷ Jeffrey Lynn (UK HealthCare Information Technology)
- ▷ Natalie Lindgren (Human Resources Training And Development)
- ▷ Scott Lambert (Center For Applied Energy Res)
- ▷ Wes Justice (Internal Audit)
- ▷ Scott Johnson (Communication)
- ▷ Sandra Jaros (Pathology)
- ▷ Kimberly Heersche (Human Resources Training And Development)
- ▷ Michael Harris (College Of Nursing)
- ▷ Chuck Ham (Marketing And Brand Strategy)
- ▷ Brenda Ghaelian (College Of Nursing)
- ▷ Joseph (Tyler) Gayheart (Strategic Communications, Marketing, & IT)
- ▷ Jason Galyon (College Of Business & Economics)
- ▷ Michael Ellis (KY Geological Survey)

- ▷ Timothy Elam (University Press)
- ▷ Earnest Edwards (UK HealthCare Information Technology)
- ▷ Matt Dillon (Information Technology Services)
- ▷ Jeffrey Davis (UK HealthCare Information Technology)
- ▷ David Crossen (College Of Fine Arts)
- ▷ Kristi Corum (Internal Audit)
- ▷ Billy Clark (Research Information Services)
- ▷ Jennifer Chien (STEPS Temporary Employment)
- ▷ Douglas Carr (Biosystems and Agriculture Engineering)
- ▷ Chris Canjar (College of Agriculture, Food and Environment)
- ▷ David Boyd (Athletics)
- ▷ Andrew Blues (Facilities Information Services)
- ▷ Marc Blevins (Internal Audit)
- ▷ Jan Bates (UK HealthCare Information Technology)
- ▷ Mark Barker (Research Information Services)
- ▷ Eddie Baker (UK HealthCare Information Technology)
- ▷ Martin Anibaba (Internal Audit)
- ▷ Jordan Adler (Marketing and Brand Strategy)
- ▷ Joe Brewer (College of Design)
- ▷ Josh Boldt (College of Education)
- ▷ William Adams (Facilities Information Services)
- ▷ Melissa Beaven (Gatton College Of Business & Economics)
- ▷ Scott Bradley (College of Arts & Sciences)
- ▷ Todd Sizemore (College of Pharmacy)
- ▷ Kelly Vickery (Libraries)
- ▷ Steven Garner (College of Agriculture, Food and Environment)
- ▷ Alaa El Mediouri (College of Art & Sciences)

Academic Computing Committee

- ▷ Sarah Kercksmar (Chair, College of Health Sciences)
- ▷ Erin Abner (Sanders-Brown Center on Aging)
- ▷ Jen Bartlett (Libraries)
- ▷ Joe Martin (Center for Instructional Communication)
- ▷ Chris Bradley (College of Law)
- ▷ Zhen Qi (Graduate Center for Toxicology)
- ▷ Chad Risko (Chemistry)
- ▷ Genghis Goodman (Graduate Student)
- ▷ Saadia Akhtar (Undergraduate Student)
- ▷ Patsy Carruthers, Ex Officio (Teaching, Learning, & Academic Innovation)
- ▷ Brian Nichols, Ex Officio (Information Technology Services)
- ▷ Kirsten Turner, Ex Officio (Academic Excellence)
- ▷ Stephen Welch, Ex Officio (UK HealthCare Information Technology)



committees, cont.

Enterprise Systems Committee

- ▶ Lisa Wilson (Chair, Provost Budget Office)
- ▶ Susan Krauss (Financial Services)
- ▶ Kim Wilson (Human Resources)
- ▶ Lisa Cassis (Research)
- ▶ Stacey Greenwell (Libraries)
- ▶ G T Lineberry (College of Engineering)
- ▶ Angie Martin (University Budget Office)
- ▶ Brian Nichols (Information Technology Services)
- ▶ Adam Recktenwald (Information Technology Services)
- ▶ Cecilia Page (UK HealthCare Information Technology)
- ▶ Barry Swanson (Purchasing)
- ▶ Mary Vosevich (Facilities)
- ▶ Kim Taylor (Enrollment Management)
- ▶ Sarah Kercksmar (College of Health Sciences)

IT Coordinating Committee

- ▶ Alexandre Martin, Chair (College of Engineering)
- ▶ Mark Farman (Plant Pathology)
- ▶ Mark Lauersdorf (Linguistics)
- ▶ Michael Hudson (Music)
- ▶ Hayder Saeed (College of Medicine)
- ▶ Tina Brooks (College of Law)
- ▶ Brian MacPherson (College of Medicine)
- ▶ Sarah Kercksmar, Ex Officio (College of Health Sciences)
- ▶ Angie Martin, Ex Officio (University Budget Office)
- ▶ Brian Nichols, Ex Officio (Information Technology Services)
- ▶ Kathy Hamperian, Ex Officio (Information Technology Services)
- ▶ Cecilia Page, Ex Officio (UK Healthcare Information Technology)

- ▶ Colleen Swartz, Ex Officio (UK HealthCare Administration)
- ▶ Kirsten Turner, Ex Officio (Academic Excellence)
- ▶ Lisa Wilson, Ex Officio (Provost Budget Office)

Data Privacy Advisory Council

- ▶ Shannon Means (University Budget Office)
- ▶ Naomi Emmons (Purchasing)
- ▶ Becky Farthing (Provost Budget Office)
- ▶ Catie Lasley (Human Resources)
- ▶ Kim Taylor (Registrar)
- ▶ Andrew Blues (Facilities)
- ▶ Nimmi Wiggins (Financial Aid)
- ▶ Baron Wolf (Research)
- ▶ Michael P. Sheron (Information Technology Services)
- ▶ Stephanie Schulte (Information Technology Services)
- ▶ Richard Chapman (UK HealthCare)
- ▶ Craig Rudick (Institutional Research & Data Science)
- ▶ Mary Kathryn Starkey (Information Technology Services)
- ▶ Bart Miller (Risk Management)
- ▶ Marc Blevins (Internal Audit)

Research Computing Committee

- ▶ Lowell Pike (Information Technology Services)
- ▶ Matthew Moseley (Information Technology Services)
- ▶ Jacob Chappell (Information Technology Services)
- ▶ Mami Hayashida (Information Technology Services)
- ▶ Satrio Husodo (Information Technology Services)
- ▶ Brent Seales (Computer Science)

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Technology Services

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