18 MONTH REPORT

JULY   DECEMBER
2019-2020

UK Information Technology Services

Information Technology Services

Table of Contents

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.

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.

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.

Leadership Team

Brian T. Nichols
Chief Information Officer (CIO)

Todd Brann*
Executive Director, Institutional Research, Analytics, & Decision Support

Stephen Burr
Executive Director, Enterprise Systems

Jennifer D. Edwards
Director, Strategic Engagement & Communications

Tyler Gayheart
Executive Director, Enterprise CRM & Salesforce

Kathy Hamperian
Executive Director, Customer Support & Student IT Enablement

Rick Phillips
Executive Director, Networking & Infrastructure

Lowell Pike**
Director, Research Computing Infrastructure

Heath Price
Associate CIO

Adam Recktenwald
Executive Director, Enterprise Applications

Karen Willmott
Executive Director, Administration, Finance, & Human Resources

* Reporting Line to Vice Provost
** Reporting Line to Director of Center for Computational Sciences (CCS)

Letter from the CIO

Dear Colleagues:

In this report I hope you can look back with pride at the number of accomplishments we made as a department during July 2019 through December 2020. Through teamwork and collaboration with the University community, we sought to support and enhance our mission in the course of one of the most challenging times in our University's history.

To name a few of our accomplishments together, we continued enhancements on software and service offerings, physical infrastructure including phone and wired internet, Wi-Fi, mobile applications (e.g., myUK and UK:Go), and research computing cyberinfrastructure. Cybersecurity upgrades and threat monitoring for university systems were standardized across campus. A partnership with Verizon, allowed for increased coverage and capacity inside Kroger Field and extended to the Joe Craft Football Training Center.

In the wake of the COVID-19 pandemic, we provided support for the University's response to COVID-19 through participation in the Emergency Operations Center (EOC) and a variety of workstreams for Campus Re-Start plan and START efforts. Tactical procurement and distribution of necessary technology aided in a quick transition to remote learning, teaching, and work. We collaborated in the development of contact tracing technology through Salesforce. The Virtual Den virtual desktop and application service was expanded to support remote instruction and productivity. This expansion enabled applications to be securely run on any platform from any location with a network connection.

ITS was there with wireless and wired infrastructure enhancements in the Nutter Field House hospital and Chandler Hospital for patient overflow preparations. Centrally scheduled classrooms received enhancements and new installations of live-streaming and recording capabilities. Approximately 7,300 iPads, keyboards, and pencils were distributed by ITS to aid in student success technology and consistent access. We did manage to facilitate some fun as well by hosting and providing technical support for the KHSAA's Fall Championship Esports series.

As we look forward to another year, I know that the projects and services throughout this document will not be soon forgotten. I rest assured knowing that we can accomplish so much together even in the face of adversity.

Thanks for your continued support,

Brian T. Nichols
Chief Information Officer

2019 & 2020 Customer Excellence Awards

ITS recognized students, faculty, and staff for their leadership in technology and their commitment to furthering IT advancement at the University of Kentucky in 2019 and 2020 with their Customer Excellence in Leadership in IT Advancement Award. CIO Brian Nichols commented, "It is incredibly important to have members of our community that are committed to advancing technology at UK. For them, we are so grateful."

2019 - Lauren Fox, Student, Marketing and Management Majors
Lauren Fox worked with the Smart Campus Initiative, Public Relations and Strategic Communications, and Marketing and Brand Strategy on various student-focused projects. She provided the app development team with a student voice throughout the development of the UK:Go app. Fox also continued working with the team after app launch, helping to ensure events and other useful information is posted in the app.

2020 - Lisa Parker, Student, Anthropology and Sociology Majors
Lisa Parker was an exemplary student to work with during the pandemic. Lisa reached out to ITS with the LearnAnywhere initiative for assistance meeting her technology needs while learning remotely. She provided ITS with valuable information on how the provided technology was performing in other parts of Kentucky. ITS will continue to use her feedback as a learning opportunity to continuously improve customer service and leverage technology across campus.

2019 - Dr. Jerzy Jaromczyk, Faculty, College of Engineering
Associate Professor Jaromczyk is an active promoter of careers in STEM. In March of 2019, he attended the LIFT 2019 Career Conference alongside ITS for middle school and high school students across Kentucky. In addition to generating interest in young people, he often engages ITS for ways to encourage women to go into computer science. Jaromczyk was recognized for empowering women and encouraging all to pursue STEM careers no matter their gender or age.

2020 - Nathan Stevens, Faculty, College of Communication & Information
Nathan Stevens is an integral part of UK Esports program, serving as a mentor and teacher to students who help produce and manage the Esports content. He has collaborated with ITS in programming and producing various Esports shows and content. Nathan additionally furthers student interests in technology through his courses covering topics in gaming and broadcasting.

2019 - Alex Cutadean, Staff, Teaching, Learning, & Academic Innovation
Alex Cutadean, UK Online Faculty Media Depot manager, has been a faithful supporter and advisor to ITS as a go-to person for technical assistance and knowledge in multimedia. Cutadean helped develop the UK Esports weekly show for campus, championing the weekly Twitch news format to represent UK Esports. His extensive technical abilities and knowledge, combined with the support he provides to others make "Kentucky Esports Weekly" both high-quality and successful.

2020 - Marianne Young, Staff, Student Success
Throughout 2020, Marianne Young's partnership and expertise was pivotal to the successful launch of three significant implementations-- Online Major Change, Advising Hub 2.0 (beta), and the Academic Alerts System. Due to Marianne's boots-on-the-ground experience, she brought ideas to the table in the Enterprise Applications division to work out solutions for the betterment of UK's mission to serve students.

2020 - David Boyd, Staff, UK Athletics
In 2020, many athletics venues had to quickly change operations due to COVID-19. David was more than willing to help with the University's pandemic response by allowing ITS staff to transform Athletics networks for functional hospitals, vaccine clinics, and temporary testing facilities. David additionally coordinated with vendors like Ticketmaster for required downtime during maintenance windows.

2019 & 2020 Employee Service Awards

ITS recognized employees who celebrated a milestone in years of service during the year 2019 and 2020. The 70 ITS employees honored totaled over 1,240 years of service at UK.

Pictured left: Raina Clay (5 years); pictured right: Carol Yu (20 years)

45 years
John Lathrop (2020)

40 years
Diane Gagel (2019)
Anne Stephens (2019)
Karen Willmott (2019)

35 years
Butch Adkins (2019)
Robert Lee (2019)

30 years
Stuart Conley (2020)

25 years
Jacquelyn Denault (2019)
Kathy Hamperian (2019)
Rick Herring (2019)
Robert Holder (2019)
Brian Hughes (2019)
Kevin Massie (2019)
Rex Stidham (2019)
Steven Fisher (2020)
Stuart Henson (2020)
Keith Lavey (2020)
James Robinette (2020)
Ghafour Taghizadeh-Alamdari (2020)
Craig Webb (2020)

20 years
Marianne Peterson (2019)
Richard Rice (2019)
Brian Serafini (2019)
Michael Sheron (2019)
James Welch (2019)
Carol Yu (2019)
Michael Bullock (2020)
Mark Combs (2020)
Phillip McLaughlin (2020)
Jim Owens (2020)
Thomas Prichard (2020)
Susan Sizemore (2020)
Luyi Su (2020)

15 years
Robert Alexander (2019)
J.R. Jenkins (2019)
Nick McClure (2019)
Katherine Tharp (2019)
Kevin Cornelison (2020)
Matt Dillon (2020)
Amy Good (2020)
George Insko (2020)
Chadwick Holbrook (2020)
Ray Hyatt (2020)
Richard Mueller (2020)

10 years
Clain Hendrix (2019)
Scott Mason (2019)
Joshua Wilson (2020)
Fame Hale (2020)
Taha Al-jumaily (2020)
Mark Buede (2020)
Tyler Gayheart (2020)
Entcho Karkelanov (2020)
Peter Menner (2020)
Brian Zimmermann (2020)

5 years
Jerry Baker (2019)
Nicholas Brooks (2019)
Jonathan Hall (2019)
Mark Hughes (2019)
Chandini Jagannathachar (2019)
Michael Mattone (2019)
Raina Clay (2020)
Justin Cunningham (2020)

Kellie Etheridge (2020)
Gunnar Kennedy (2020)
Matthew Moseley (2020)
John O'Shea (2020)
Susan Reinstedler (2020)
Joseph Sims (2020)
Greg Vanover (2020)

"It is always so rewarding to take a look back at the years some of our ITS employees have spent with us. They are such a valuable asset to our department."

-Brian Nichols, CIO

Recognition

Degrees

- **Emily Brenzel**, Master of Business Administration, University of Kentucky
- **Kirk Laird**, Master of Science Instructional Systems Design, University of Kentucky
- **Rick Phillips**, Master of Science in Engineering and Technology Management (MSETM), Morehead State University
- **Ghafour Taghizadeh-Alamdari**, Master of Business Administration, Morehead State University
- **Tim Worley**, Master of Business Administration, Morehead State University

Certifications

- **Jackie Denault,** Cisco Certified Design Associate (CCDA)
- **Colin Baker,** Palo Alto Networks Certified Network Security Administrator (PCNSA)
- **Miles Fortner,** Cisco Certified Network Professional Enterprise
- **George Insko,** GIAC Certified Incident Handler (GCIH)
- **Thomas Morton**, Cisco Certified Network Associate Voice
- **Nick Rhodes,** Certified Wireless Security Professional (CWSP)
- **Ling Wolbarst**, SAP Certified Technology Associate - Authorization and Auditing

Presentations

- **Todd Brann,** Department of Education, "Predictive Analytics to Improve Student Outcomes"
- **Eric Carroll,** ESRI User Conference, "Telecommunications: From the Field to a Geometric Network"

Giving Back

2019 Fall Festival & Chili Cookoff

The ITS annual Fall Festival, held on October 25, 2019, brought together ITS employees and IT Community of Practice guests with some friendly competition in a chili cook off. The goal was not only to entertain but also to raise money for United Way of the Bluegrass. In total, ITS was able to raise $432 through the cook off by means of donations and chili sales.

Guests could buy one bowl of chili or three cups to try out the different recipes. While enjoying all the different chilis, the guests were treated to conversation, games, and a fall ambiance. The competition featured two judges, Mat Anderson and Jacob Maraccini who, after tasting each entry, chose a 1st, 2nd, and 3rd place winner. 1st place was awarded to the Strategic Engagement & Communications team's Emily Brenzel who was presented with the golden ladle, while 2nd went to Tracy Peck and 3rd went to Steve Creager, both of Research Information Services (RIS). Overall, it was a great time eating chili and enjoying fall together.
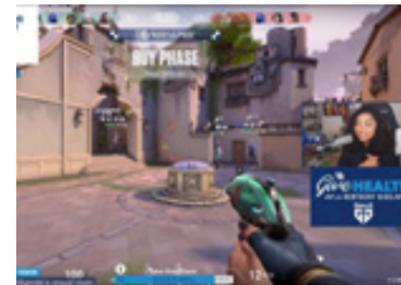
Give Health for Kentucky Kids

The University of Kentucky joined forces with Gen.G for the "Give Health for Kentucky Kids" program in October 2020. The program with Kentucky Children's Hospital (KCH), Children's Miracle Network, and Extra Life aimed to provide patients with a sense of community and freedom through virtual gaming events both within the hospital walls and with the greater Esports community. Patients were able to compete in special events, play a variety of provided games with family and friends, and connect with the larger gaming community while bringing awareness and fundraising opportunities to the hospital. The program kicked off on Saturday, Oct. 24 with a seven-day fundraising streamathon on Twitch, raising over $20,000 in donations. The streamathon, with the help of featured influencers, saw 12,905 peak viewers and 110,442,472 impressions. Overall, the event was a great success for Kentucky Children's Hospital and the Esports program.

2020 Giving Tuesday COVID-19 Relief Fund & C.R.I.S.I.S. Program Campaign

In participation with UK's Giving Tuesday on December 1, 2020, ITS employees came together to help UK employees in need. Monetary donations were encouraged for the UK Employee COVID-19 Response Fund and the C.R.I.S.I.S. Program to assist employees suffering a variety of hardships.

Formed in May 2020, the UK Employee COVID-19 Response Fund was started by UK as a way to provide financial support to individuals who are experiencing an unforeseen, temporary financial hardship due to the pandemic. UK Staff Senate's C.R.I.S.I.S. Program (Crisis Relief in Situations Involving Staff and Faculty) has assisted many employees since its launch in 2014 with one-time financial assistance.

TECHNOLOGY KEEPS US TOGETHER
ITS RESPONSE TO COVID-19

When COVID-19 appeared in Kentucky in Spring 2020, it brought with it a wave of uncertainty and fear over what was coming next. How will the University of Kentucky continue to operate while keeping students, faculty, and staff safe? More often than not, the answer relied on technology. Every division and team in ITS pulled together to support University efforts in increased accessible technology to allow for continued operations during a pandemic.

From the very beginning, members of ITS were involved in addressing issues related to COVID-19. From the START Team to various workstreams, ITS employees gave their expertise and resources to the greater University effort. Internally, within ITS, the ITS Safety Protocol Team established the *ITS Playbook for Reinvented Operations* which outlined details protocols for ITS employees. Through these high level strategies and protocols, ITS was able to move forward in providing the best services and solutions for employees, while keeping themselves and those around them safe. Safety protocols for UK HealthCare employees additionally caused an increased demand for networks and connectivity in new spaces. The Networking & Infrastructure team installed and designed a high-speed network for Nutter Field House, an over 108,000 square foot athletics facility that was converted into a field hospital for potential overflow patients.

> **"It has been really impressive. I was amazed to see that many people working in complete unison. It was like seeing a swarm of bees making a hive."**
> **- Nicky Craddock, Networking & Infrastructure**

Networks were also designed and installed to allow UK HealthCare employees to connect and operate equipment in COVID-19 testing center tents in various locations both on and off-campus.

To ensure the Spring 2020 semester could continue remotely after Spring Break, ITS teams worked to provide students in need of technology with devices to allow them to continue their course work. The logistics of this distribution involved collaboration with many teams across campus. Additionally, more than ever UK's collaborative technologies were essential in continuing remote work and learning. Tools like Microsoft Teams, Virtual Den, Virtual Private Network (VPN), Microsoft 365, and more required increased support through infrastructure, knowledge articles, and communications. This included migrating employees in Student Academic Life (SAL) to Microsoft Teams, allowing them to make phone calls to all 30,000 UK students, checking in on their transition from in-person to remote learning.

Throughout the summer of 2020, ITS focused efforts on supporting the University in preparation for a hybrid online/in-person Fall 2020 semester. The Classroom, AV Support, & Student Technology Services team members were hard at work installing new technology (e.g., Echo360 capture devices, panoramic cameras). This work resulted in 90% of the over 350 centrally managed classrooms supported by ITS now being capable of providing live streaming and recording of class sessions. Infrastructure for research computing continued to be expanded and supported. An incredible amount of effort was spent on creating tools and apps to be used for contact tracing and classroom space planning. Through collaborative efforts including but not limited to app development, data management and analytics, and geospatial mapping, the University was able to bring students safely back to campus for a hybrid instructional and residential experience.

> **"If students didn't feel comfortable, we wanted to make sure they had the options to have the most successful semester."**
> **- Rex Stidham, Customer Support & Student IT Enablement**

Once the Fall 2020 semester began, new challenges arrived with supporting an unprecedented amount of new technologies in learning, teaching, and working at UK. ITS Customer Services adapted to COVID-19 safety precautions by adding a chat function on several UK websites, allowing for faster response times for technical assistance. A platform was also established for students, faculty, or staff to sign up for a reservation for in-person support, allowing for assistance in a safe manner. All computer labs and student spaces like the Media Depot @ the Hub were outfitted with cleaning supplies and plexiglass. Daily COVID-19 Screenings were developed and sent to students and employees who were attending classes or working on campus via email and text. This workflow combined the efforts of ITS and the newly formed Health Corps team.

Overall, with the many challenges that COVID-19 brought to the University of Kentucky, ITS has proved that through determination and teamwork even the most seemingly impossible tasks can be made possible. Acting upon the ideals of 'IT Abundance,' it appears that providing technology that is easily understood and available brings us all together even when we are physically apart.
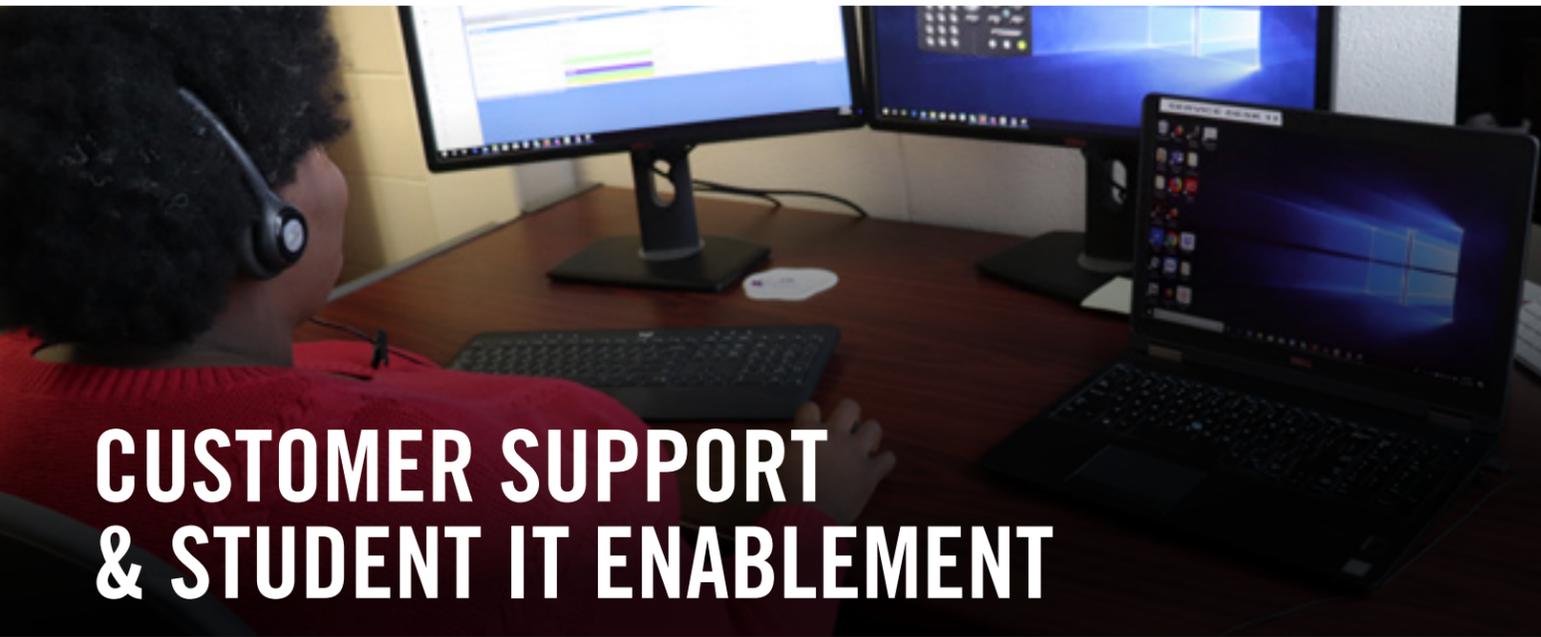
CUSTOMER SUPPORT & STUDENT IT ENABLEMENT

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.

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.

#WHYIWEARMYMASK

"I wear my mask because I see it as a symbol. A symbol to represent my care for other people."

- **Elias Conwell,** Classroom, AV Support, & Student Technology Services

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915,003
Total Phone Calls to Customer Services

186,000
Incidents/Requests Reported to Customer Services

93,917
Log-ins at Student Computer Labs

1,856
Students Swiped In at the Student Media Depot*

1,921
Online Room Reservations at the Student Media Depot

3,457
Walk-in Customers at Tech Help @ The Hub

289,478
Scheduled Events/Classes in Managed Learning Spaces

55,960
Echo360 Captures

*Number of students who checked in through the Tagger system

BRINGING ADVANCED TECHNOLOGY TO THE CLASSROOM

CUSTOMER SERVICES & STUDENT LABS ADAPT TO SAFETY PROTOCOLS

Preparing for a hybrid mode of instruction at the University of Kentucky in Fall 2020 required a reliance on classroom technology more than ever before. In the heat of summer, the Classroom, AV Support, & Student Technology Services team were hard at work installing new technology in over 150 classrooms all over campus. By increasing the amount of technology in the classroom, faculty were able to come to campus and teach in the classroom while taking necessary measures to protect themselves and their students against COVID-19.

Classrooms depend on two main technologies to be effective for online learning - panoramic cameras for Zoom and Microsoft Teams classes, and Echo360 Capture devices. In April 2020, there were 164 Echo360 rooms and only three Zoom rooms on UK's campus. As new equipment started arriving in mid-June, ITS staff got to work installing the new hardware and setting up connections to classroom devices. As a result, UK now boasts 210 Echo360 rooms, and 139 panoramic cameras that are Zoom and Teams capable for enhanced online learning. Both Echo360 and the use of panoramic cameras enables live-streaming and recording of class sessions for asynchronous learning.

"Having recorded lectures gives the students the ability to review the lecture, something I wish I would have had when I was in college," commented Rex Stidham, Classroom, AV Support, & Student Technology Services Team Lead.

Senior Marketing Lecturer, Holly Hapke made her classroom technology work for 996 online students in Fall 2020. "I continue to learn more about lecture capture tools, polling software, publisher content/platform, and our learning management system to name a few. E-Hyflex method of teaching provides my students the ability to choose the lecture modality each week (asynchronous, synchronous, and/or combination)."

Bringing flexibility to learning in higher education through dynamic technology in the classroom does not come without its challenges as well. After installation of the classroom technology, the Classroom, AV Support, & Student Technology Services team also provided support and training for faculty that may be new to the technology. Several ITS employees from other teams also assisted in providing support on campus in the first weeks of the Fall 2020 semester to ensure that classes could start as smoothly as possible.

How do you prepare to support students, faculty, and staff as they transition to a completely remote learning, teaching, and working experience in the middle of a semester? That was the challenge handed to the ITS Customer Services team in March of 2020.

First, an extensive amount of knowledge articles had to be drafted and updated for both the UK community (via Tech Help Center) and Customer Services staff in order to be able to answer questions and inform students, faculty, and staff on new softwares and technologies that they have never used before.

To prepare for an influx of customer needs, Customer Services added a chat function to their offerings. The chat function allowed customers to talk to an agent quickly on the newly formed sites learnanywhere.uky.edu and workanywhere.uky.edu, as well as in the Account Manager (ukam.uky.edu) and Tech Help Center (techhelpcenter.uky.edu). The chat box focused on common topics during a remote semester, offering the suggestions for Canvas, Virtual Den, or Zoom assistance questions, and also allowed for any technical questions to be asked. In addition, the number of self-help knowledge articles increased to allow the students, faculty, and staff to seek out their own solutions.

Once the University decided to offer in-person instruction during the Fall 2020 semester, Customer Services worked to provide 1:1 in-person assistance for those that could not get the support they needed through the phone or computer. Outfitted with plexiglass and masks, ITS Customer Services agents continued to assist customers at Tech Help @ the Hub in the basement of W.T. Young library. A new reservation site allowed for students, faculty, and staff to sign up for a time slot, avoiding having to queue for assistance. Student Computing Services continued to operate open computer labs with reduced capacity and offer in-person and virtual assistance to students. Additionally, the Media Depot provided virtual tours that have been an in-person staple for many faculty in their classes. Being able to continue to provide this service virtually was a major achievement for the group.

In a year of constant change, it was important that the UK community feel supported in their technology needs. The Customer Services team put in many hours of effort to be able to provide just that.
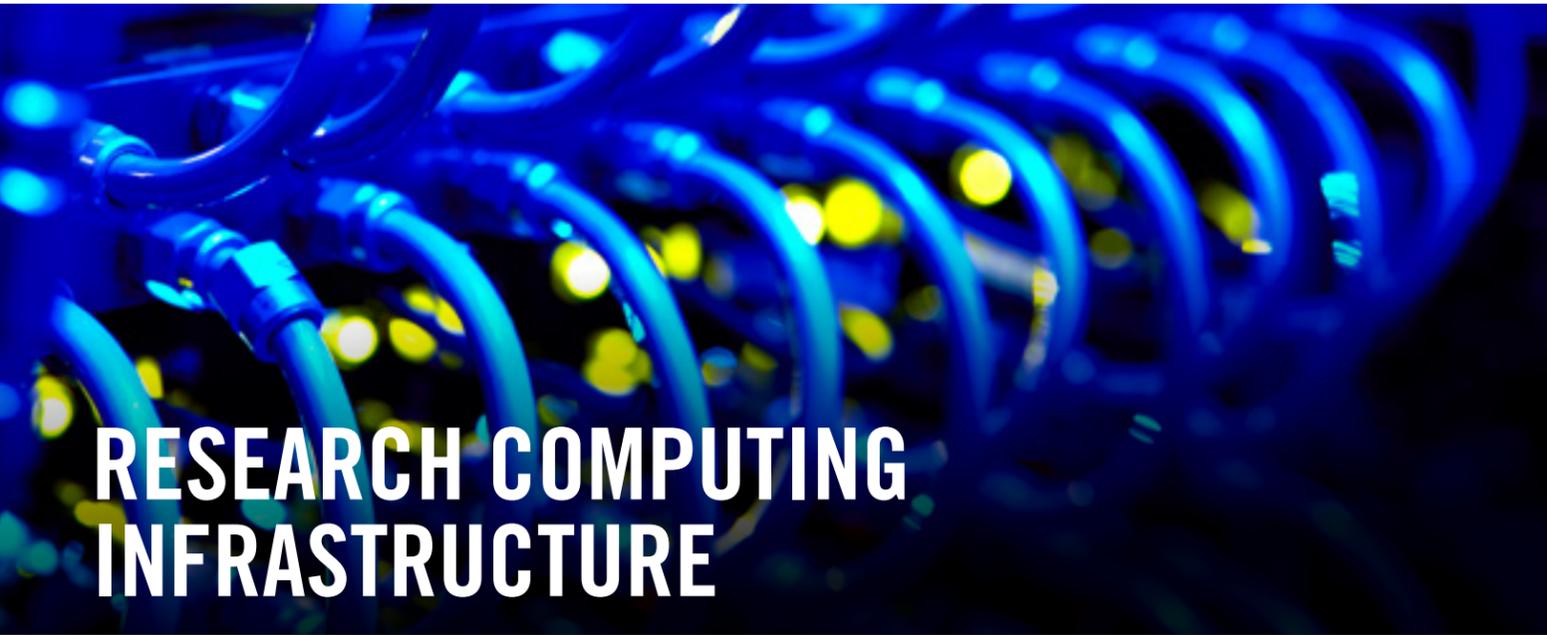
RESEARCH COMPUTING INFRASTRUCTURE

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 Sciences (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.

#ITSABOUTYOU

"I appreciate my great colleagues and supportive working environment."

- Mami Hayashida, Research Computing Infrastructure

978% growth

in UK High Performance Compute (HPC) TFLOPS* since 2016

12 PB

Raw Storage
on High Speed
Ethernet Network

1,521

Available TFLOPS
in High Performance
Compute (HPC)

*Trillion Floating Point Operations Per Second

GROWING COMPUTE POWER AT UK

ENGAGING WITH RESEARCHERS ACROSS THE COMMONWEALTH

Since 2016, every year has seen exponential growth in high performance computing (HPC) infrastructure at UK. Even in a year of constant adapting and change, the Research Computing Infrastructure (RCI) team, in close partnership with Center for Computational Sciences (CCS), worked diligently to make sure 2020 was not an exception.

Associate Director of CCS, Tony Elam commented, "COVID-19 has done nothing to stop our group and the expansion of our resources that we offer our research community. Our users have a never-ending hunger for compute!"

To give an idea of the amount of growth UK has seen in HPC power recently, in 2016 UK's compute resources consisted of 141 teraflops. Flash forward to 2020, where UK hosts over 1.5 petaflops of compute power-- a ten-fold increase over just four years.

"Imagine everyone in the Western Hemisphere, every single human, doing one million long division calculations in their head per second. That is how powerful UK's supercomputer is," explained Lowell Pike, Director of RCI.

The same ten-fold growth is also seen in storage capacity, increasing from 1PB in 2016 to 12PB in 2020. The successful growth can be attributed to the condo model, where funding and resources are split between the University and researchers.

The future of research computing looks bright and is built on a great foundation of collaboration. Tony Elam of CCS stated, "Personally I think this is one of the best examples of a partnership and team at UK! We have trust in one another, we respect the skills and expertise of our staff, and we truly get along and have fun working together."

The RCI team and CCS are not only dedicated to increasing compute power for the University of Kentucky, but to further supercomputing knowledge and resources for the entire state of Kentucky. As many events in 2020, the 4th Annual Commonwealth Computational Summit looked a bit different than previous years. The first virtual Summit was held in October 2020 over a week of afternoon Zoom sessions.

The event was a huge effort in organization and planning, with 295 registrants from both industry and academia including researchers from across the Commonwealth and the Bluegrass region. Three keynote speakers were selected to represent Academic, Government, and Industry areas of supercomputing topics. There were also panel sessions on OpenStack and the Kentucky Cyberteam; industry talks from Google, IBM, Dell, Spectra Logic, Lawrence Berkeley Labs, Omnibond, HPE and NVIDIA; and 12 faculty "Lightning Talks". These "Lightning Talks" featured UK and other Kentucky institution's faculty members in 10-minute sessions on various computing topics. To carry on tradition, a student poster contest was held virtually, involving 24 simultaneous Zoom sessions. Multiple students won prizes including registrations to the Virtual National Supercomputing Conference, gift cards, and an INTEL NUC computer system for the first-place winner.

Further engaging with research computing professionals all over the state, UK is the active leader in the Kentucky Cyberteam. The Kentucky Cyberteam is a project funded by the National Science Foundation (NSF) to facilitate support for research computing throughout the Commonwealth. Kentucky Cyberteam is a group of Kentucky higher education institutions who come together to generate ideas with the goal of finding solutions for increasing research needs. The result has been an informational network of both IT professionals across these institutions, including CIOs and IT Leadership, as well as the over 100 members of the larger computational researcher community.

Kentucky Cyberteam provides technical support and offers resources to researchers from WKU, EKU, NKU, UofL, KCTCS, Murray State, Kentucky State and Morehead State Universities. RCI and CCS work together to brief each institution on service support and computational resources we have to offer as well as to organize special interest presentations (e.g., Commonwealth Computational Summit) and industry technical briefings.

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.

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.

#WHYIWEARMYMASK

"I wear a mask to keep my family safe and set the example for my girls. We're all in this together!"

- **Carla Braun,** Core Applications

18,119

myUK Mobile App Downloads

1,094,705

Documents Archived to Enterprise Content Management

34,810

Lines of Code Written for the UK:Go App

18,476

Separated Employee Accounts Deprovisioned

4.1

TBs of Efficiency Gained Across SAP Landscape

CREATING SOLUTIONS FOR EFFICIENT, SECURE COMPUTING ENVIRONMENTS

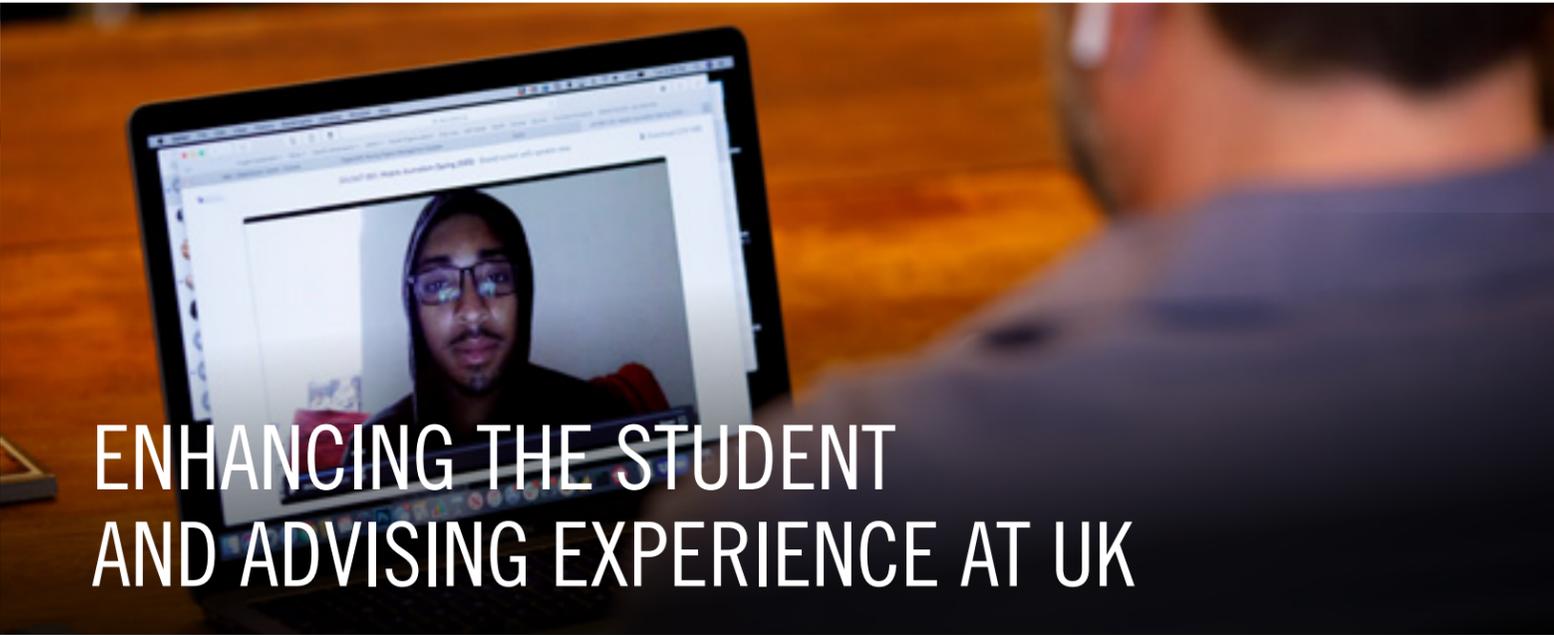# ENHANCING THE STUDENT AND ADVISING EXPERIENCE AT UK

With 2020 bringing strains to the University budget, many ITS teams were challenged to think creatively about cost savings and efficient use of resources. The Business Process Improvement team, with support from others in Enterprise Applications, found a solution by taking a deeper look at the storage space used by SAP, the University's enterprise data management system. When challenged with finding ways to save space in SAP, the team discovered that the system had been storing multiple copies of each piece of data. After writing a program to parse through the data and safely eliminate duplicate copies, over 102 million rows of data were deleted, effectively saving over 4TB of space.

Freeing up this space not only provided cost savings, but allowed for systems to run more efficiently and put the University in a better place for future upgrades. Executive Director of Enterprise Systems, Stephen Burr commented, "This buys us time to plan the next SAP architecture from a position of strength, while also delaying or preventing the need to purchase upwards of $600,000 in infrastructure." After the five-month project was completed, the results are expected to reduce downtime during upgrades and restore time for SAP backups.

The Identity Management System (IdM) brings similar results for the University. On October 16 2019, IdM officially replaced legacy systems for user provisioning and role management for SAP (e.g., CUA, LdapSync, UAMS). This new IdM system sought to improve efficiency, accuracy, and timeliness of the identity lifecycle of individuals and accounts associated with UK. At its core, IdM performs functions including identity creation, role assignment, account provisioning, and core user information updates across multiple university systems including SAP, Active Directory, Microsoft 365, DUO, etc. Prior to IdM, creating and provisioning a new identity would take 2-3 days. Now it happens in under 1 minute.

In October 2020, IdM hit a milestone with the start of the first phase of automatic account deprovisioning. This phase began the process of automatically turning off accounts for UK employees that are no longer active with the University. Removing inactive accounts ensures compliance with vendor contracts, saves costs in software licensing, and reduces risk of cybersecurity threats.

Since July 2019, an additional 46 applications have been added under the management of the IdM system.

Adapting to a "new normal" in the wake of COVID-19 presented many challenges for students and advisors. Among them was the process required for changing majors. Previously a paper process involving physically going to several offices on campus, this process was time consuming and particularly difficult during COVID-19. Fortunately, Enterprise Applications, in partnership with Student Success and the University Registrar had already begun development on a new application that would effectively move this process online. A rapid 12-week development cycle and close partnership with college representatives enabled a well-timed roll out of the new online Major Change application in mid-April 2020. Within the first two months of the launch, over 2,000 Major Change Requests had been processed by the new system.

Building on this success, Student and Academic Life partnered with the Product Development & Integrations team to enhance technologies for academic advisors, launching Advising Hub 2.0. After extensive design, beta testing, and customer feedback, 2.0 was slated to replace the previous version of Advising Hub in December 2020. Much thought and care went into creating the best possible customer-centric, productivity-enhancing experience. Advising Hub 2.0 offers many enhancements in comparison to the old tool, enabling UK advising, faculty, and student support staff to continue to provide high quality advising to students. New features of Advising Hub 2.0 include, but are not limited to, ease of use and performance improvements, unified appointment scheduling with Zoom and Outlook integrations, a robust note taking system, updated real-time advisor dashboard, and seamless integrations with existing advising tools such as myUKGPS, Tableau, and more.

"Advising Hub 2.0 is a huge improvement from what we are currently using. Advising Hub 2.0 delivers an engaging, user-friendly application that is a much-needed upgrade," said Camille Harmon, Curriculum and Program Coordinator.

New to this year's Smart Campus iPad initiative was the launch of the UK:Go app. Developed in-house by the Enterprise Applications Product Development team, with guidance from Apple developers and designers, the app is tailored to meet the needs of incoming freshmen and help them quickly immerse and engage in campus life. The app includes features to help the students easily connect to their advising team, complete a checklist of critical tasks before start of school, and discover campus organizations, events, and key resources.

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 is responsible for the development and maintenance of UK's new cloud-based computing environments, as well as additional services which support broader University needs.

Systems Operations

Systems Operations take care of the servers from the back of the machine up through the hyper-visor 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. 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.

#WHYIWEARMYMASK

"It's an easy measure I can take to protect myself and others."

- **Butch Adkins,** Data Center

168,903

Total Outlook Inboxes

74,206

Total Gmail Inboxes

10,186,329

Microsoft Teams Chats, Calls, & Meetings

1,504.8

TBs of Storage Available to Campus

89,532

Virtual application & desktop sessions

SECURING EMAIL AT UK
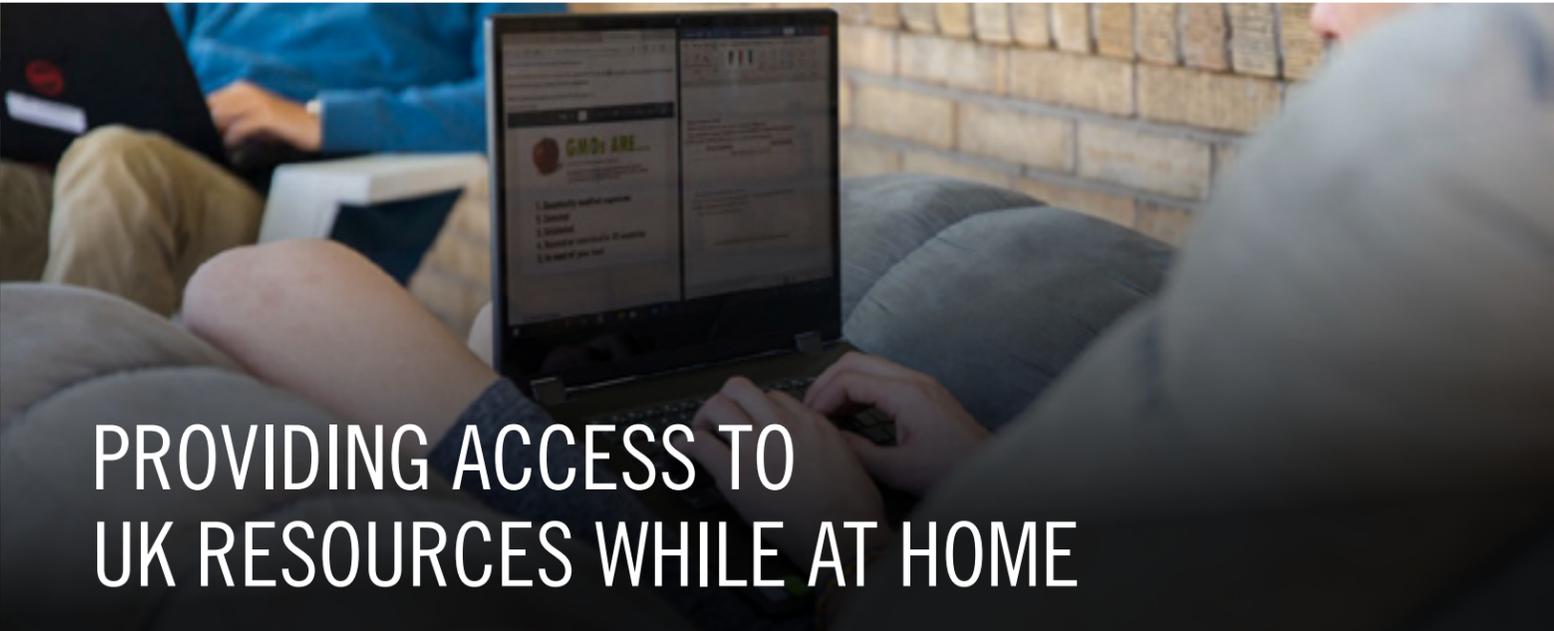
PROVIDING ACCESS TO
UK RESOURCES WHILE AT HOME

Keeping email secure from cyber threats is always a balancing act. While wanting to ensure spam and malicious emails are blocked, it is equally important that no legitimate emails are blocked. The Directories, Messaging & Collaboration team works with a variety of tools to make sure that we can communicate with each other online safely. This is essential as the landscape for email security is constantly evolving and changing.

"The ubiquitous use of email has always made it attractive avenue for attacks, since the first SPAM message was sent decades ago and email administrators created the first anti-SPAM solution to combat it. From that time, more sophisticated, malicious, and destructive attacks have been devised from stealing account credentials to ransomware. However, more sophisticated and creative ways to combat it have also been devised," commented Tracy Cerise, Directories, Messaging & Collaboration Team Lead.

Although the best line of defense is a critical email recipient - those who avoid opening attachments or links from unfamiliar senders - there are several tools at work at UK. Microsoft tools like Advanced Threat Protection, Safelinks URL rewriting, anti-phishing tips, external tagging, and a report message button that allows for intelligent automated functions are examples. However, in Fall 2020 another incredibly effective tool was officially launched for the UK community.

On October 26, 2020, Two-Factor Log-In was implemented for all Microsoft 365 products, including Outlook. By using Duo to authenticate into mailboxes, customers added an extra layer between potential hackers and their email. The implementation of Two-Factor Log-In for Microsoft 365 was the largest rollout since its first initial launch at UK in July 2019. After a lot of hard work from initial testing to the university-wide launch, with the Customer Services team supporting many customers along the way, the implementation so far has been a success.

Enterprise Systems continues to look forward for more ways to make sure we all feel safe in our email inboxes.

How do you keep a University operational when learning, teaching, and working remotely? The answer lies in technology. The Enterprise Systems division was tasked with supporting tools and software that allowed for UK resources to be accessed off-campus.

Just prior to the COVID-19 outbreak, Virtual Den, UK's cloud desktop and software application, was enhanced with several new features. Increased GPUs for enhanced performance, added cybersecurity features, faster run time, and a new favorites page among some 'Of the improvements. This proved to be helpful as the demand for accessing certain softwares from home drastically increased during the Spring 2020 semester. Since March 2020, 45 applications and four desktops have been added to the Virtual Den catalog, providing more specialized software via the cloud than ever before.

Microsoft Teams also became the go-to tool for collaboration, calling, and meeting with while off-campus. Supporting Teams for a 100% remote campus involved several factors. Many employees opted to migrate to Teams as their default audio and video conferencing tool, while others took the migration even further by adding their work lines to Teams using Single Number Reach. This allowed customers to make and receive calls straight from the app using their work number. These migrations took time and effort, as they were mostly completed through a manual process.

"We made strategic investments in architectures to provide virtual applications and virtual desktops, enabling faculty and students to use software on any device in any location with internet access. In addition, we encouraged and supported adoption of Microsoft Teams for remote collaboration and communication. Both technologies have seen dramatic increases in utilization that have continued after students returned to campus," stated Executive Director of Enterprise Systems, Stephen Burr.

Overall, the adoption of Virtual Den and Microsoft Teams has been tremendous since March 2020. Virtual Den saw a 151% increase in app launches and 120% increase in peak concurrent users when comparing Spring 2019 to Spring 2020 semester. Microsoft Teams saw a 207% increase in chat, calls, and meetings from Spring 2020 to Fall 2020 semester, with an even more impressive 930% increase in average daily Teams chats, calls, and meetings when comparing Fall 2019 semester to Fall 2020.

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.

Network 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.

#ITSABOUTYOU

"Trust is vital for teams so they can depend upon each other to get the job done."

- **Jacquelyn Denault,** Network Engineering

7,834

Service Requests Completed

8,838

Incidents Resolved

30.5 million

Calls Made from UK Voice Network

5.7 million

Long Distance Calls Made on UK Voice Network

194

Projects Completed

USING TECHNOLOGY TO ALLOW EMPLOYEES TO FOCUS ON WHAT MATTERS

COVID-19 BRINGS DEMAND FOR NEW NETWORKS

Technology is at its best when it can improve processes and allow more time for employees to engage in meaningful human-to-human interaction. That is exactly what the Parlance project, implemented by Networking & Infrastructure did for the telephone operations at UK. Parlance is a third-party vendor that provided a new call transfer system for the main University telephone line as well as the main UK HealthCare line. These two phone numbers are managed by the ITS Customer Services Telephone Operations team, which frequently transfers and reroutes calls for employees across the University and UK HealthCare. With the implementation of this new transfer system, a caller could simply say the name of the person they wish to speak to and Parlance would automatically route their call based on speech recognition. This meant that a call could now be transferred without the need for a call agent.

To put this upgrade into perspective, the Telephone Operations team received 578,326 calls in 2020. By allowing Parlance to automatically transfer many of these calls, it allowed for call agents to give more time to customers who require more detailed customer service. Although the solution sounds easy, the back-end implementation to make sure it works properly was not. Networking & Infrastructure team members had to ensure the system was properly connected to UK's networks and the Parlance application was properly configured to our systems. There was also the issue of ensuring that the new call transfer system had an accurate database of phone numbers to transfer calls. Collaborating with the Institutional Research, Analytics, & Decision Support (IRADS) group, the implementation team was able to have accurate and verified directory of numbers to pull from. Additional work was also needed to connect to UK HealthCare's Electronic Health Record (EHR) system to Parlance which enabled patient rooms and names to be continuously synced and updated.

Lastly, the ITS voice engineers reconfigured the call center system and completed testing before Parlance went live on December 15, 2020 for campus and December 16, 2020 for UK HealthCare. Thanks to the work of Networking & Infrastructure, ITS looks forward to spending less time on simple transfers and more time helping customers.

In April 2020, UK HealthCare prepared for a potential increase in patients by converting the Nutter Field House from an athletics facility to a 400-bed field hospital. This undertaking was not a simple one —requiring extensive coordination and collaboration amongst many parties. The Networking & Infrastructure team played a key role in this effort, providing technology infrastructure that ensured UK HealthCare staff could do their jobs effectively in the newly revamped facility.

"During these extraordinary times, a project like this is not easy. It was important for the networking team to be flexible, yet still provide secure network services that were an extension of the current health care operations," said Rick Phillips, director of ITS Networking & Infrastructure.

Due to many K-12 schools in the area having online learning for some or all of their Fall 2020, child care was a challenge for many UK employees. To support these needs, the ITS Networking & Infrastructure team collaborated with several other groups, including UK Human Resources and the YMCA of Central Kentucky to create the new Y Academy at UK for School-Aged Children. The former Senior Center building was outfitted with a brand-new Wi-Fi network, providing a robust connection allowing children to complete their online learning while in the facility.

"We are so thankful for their help and know that the families will appreciate the children being able to connect their Chromebooks for virtual learning, too," said Erika Chambers, director of Employee Engagement and Work Life in UK Human Resources.

Filling the need for more safe spaces to physically distance, the University announced Campus Canopies in various locations across campus. The canopy networks were designed with new point-to-point wireless uplinks that enable less wiring and cables in high traffic, outdoor areas while providing a strong connection for studying, socializing, or relaxing.

Courtney Wheeler, Student Body President, recognized the importance for students of having Wi-Fi outdoors. "As a result of COVID-19, many people are spending more time outdoors than ever before, and now can get fresh air without missing out on class or an appointment they might have."

OFFICE OF THE ASSOCIATE CIO

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.

Information Services

Information Services (IS) is a university-wide shared services department that reports to ITS and indirectly 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 IS to create three teams within the department which are better able to serve all needs. The three IS 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.

Smart Campus

In 2019, the University of Kentucky launched a nationally recognized Smart Campus digital strategy, focusing on the institution's goals of increasing persistence and graduation rates, while preparing students for lives of meaning and purpose. Working on the basis that technology has the power to transform the classroom, UK is leveraging that power to meet the needs of the campus and state in a rapidly changing 21st century world. The Smart Campus Initiative is redefining what is possible at the University, with areas focused on the iPad Initiative, app development, digital signage, and Esports.

#ITSABOUTYOU

"My favorite thing about working at UK & ITS is the range of topics we get to work on using some of the best in breed technologies and training resources– having the advantages of a startup and an established enterprise in one."

- **Paresh Thakkar,** Information Services

56,709,910 — Threats Detected at Firewall Edge

184 — DMCA Copyright Violations Remediated

14 — Policies, Standards, &/or Processes Written & Approved

141,184 — Tickets Processed by Information Services

INFORMATION SERVICES TRACKED, STUDIED, AND MAINTAINED

940,612 — Feet of Utility Pipeline

104,497 — Feet of Electrical Transmission Duct Banks

588,581 — Feet of Fiber Optic Cable

11,632 — iPads Distributed to Freshmen

6,804 — Total Hours Spent Providing Customer Support for iPad Initiative

664 — Internet Hotspots Distributed to Students who Identified a Need

70 — Total Hours Spent Providing Customer Support for the LearnAnywere Initiative

KEEPING UK DATA AND SYSTEMS SAFE DURING A PANDEMIC

FOSTERING A SENSE OF COMMUNITY THROUGH ESPORTS

When the University of Kentucky announced in March 2020 the transition to a 100% online course modality for the remainder of the Spring 2020 semester and an increase in remote work, it meant that devices accessing University resources would be scattered like never before. For a myriad of reasons, this brought an increase of vulnerabilities and threats to the University. With students, faculty, and staff increasingly on their own home networks and personal devices, it complicated the ability for the Cybersecurity, Data Privacy, & Policy team to accurately see threats and vulnerabilities to University resources. It became essential that information and education be distributed to the University community quickly.

On the heels of transitioning to a new VPN client, ITS had put processes in place to make certain that no bad actors would be able to gain access to the University's VPN portal. With the support of Customer Services, the Cybersecurity, Data Privacy, & Policy team processed approximately 9,500 VPN requests, allowing UK students, faculty, and staff to access sensitive data and systems when not on campus. Zoom bombing, or the unwanted, disruptive intrusion into an online video meeting, became a new and prevalent problem across the world and was specifically a threat to UK. More and more meetings were being held online, and they needed to be protected. This need was met by consulting on best practices for hosting Zoom meetings and providing education to students, faculty, and staff.

There was also increasing concern with cybersecurity as it related to new University operations in response to COVID-19. Cybersecurity, Data Privacy, & Policy members participated in several different COVID-19 planning workstreams, giving insight and advice on a variety of new challenges in unprecedented times. The team additionally offered advice and data during the initial planning stages of the contact tracing team at UK.

On a global scale, COVID-19 also meant that hackers and scammers were out to take advantage of an uncertain time for many. The Federal Trade Commission (ftc.gov) released many warnings on an influx of phishing, ransomware, and job scams across multiple businesses and industries. The Cybersecurity, Data Privacy, & Policy team in partnership with the Strategic Engagement & Communications team made sure to caution the University community and educate them on these types of attacks as well as mitigate when necessary.

UK faced the challenge of losing a sense of community and interconnectivity after a shift to online learning starting in March 2020 due to COVID-19. Morale was at a low with many popular social and cultural events being canceled. This included the cancellation of NCAA Basketball's March Madness—a popular tradition among the UK community. UK and Esports partner, Gen.G, saw an opportunity to fill the gap left by March Madness and hosted the first "NBA 2K20" tournament, Hoops-at-Home. The tournament mirrored March Madness by featuring 64 randomly-selected players (complete with Selection Show) playing in four rounds from April 11-14. Players included future, current, and former students, including current UK Basketball players, as well as members of the Big Blue Nation.

Another event that brought a sense of community to incoming freshmen during the summer of 2020 was the Cats Smash Clash Tournament, led by the UK's Esports Club. The "Super Smash Ultimate" tournament featured more than 40 incoming UK freshman students from 30 different high schools, giving them the chance to meet and play with each other online. UK students led the live Twitch stream, awarding prizes to competitors who finished in the Top 4.

Not all events were just for fun. Esports raised a generous amount of money for charitable causes as well. Through the establishment of the Gen.G Foundation, Gen.G committed to give $100,000 annually for 10 years through a scholarship for UK students. The scholarship hopes to support diverse students who are interested in majoring in gaming, esports, entrepreneurship, journalism, or content creation.

UK and Gen.G joined forces for "Give Health for Kentucky Kids." This collaboration with Kentucky Children's Hospital (KCH), Children's Miracle Network, and Extra Life provided patients with a sense of community and freedom through virtual gaming. Staring October 24, 2020, the seven-day streamathon on Twitch raised over $20,000 for the Kentucky Children's Hospital.

Wrapping up the 2020 year, UK Esports hosted the Virtual Governor's Cup, battling with in-state rival, University of Louisville, in a series of games through a week long series of live streams on Twitch. Esports looks forward to another year of bringing people together, continuing their weekly Esports show where UK students, faculty, and staff talk all things esports as well as their regular live streams on Twitch and Youtube.

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, customer satisfaction, experience and engagement, relationship management ,and event management.

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 toward 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.

#WHYIWEARMYMASK

"I wear a mask because it's simply what needs to be done by everyone. It's for the safety of everyone around me."

- **Nic Hughes,** Strategic Engagement & Communications

17
Projects Managed for ITS

6
Major Incident Protocol After Action Reviews

2,403
Communications & Articles Published

3,188
Combined Social Media Followers

3,594
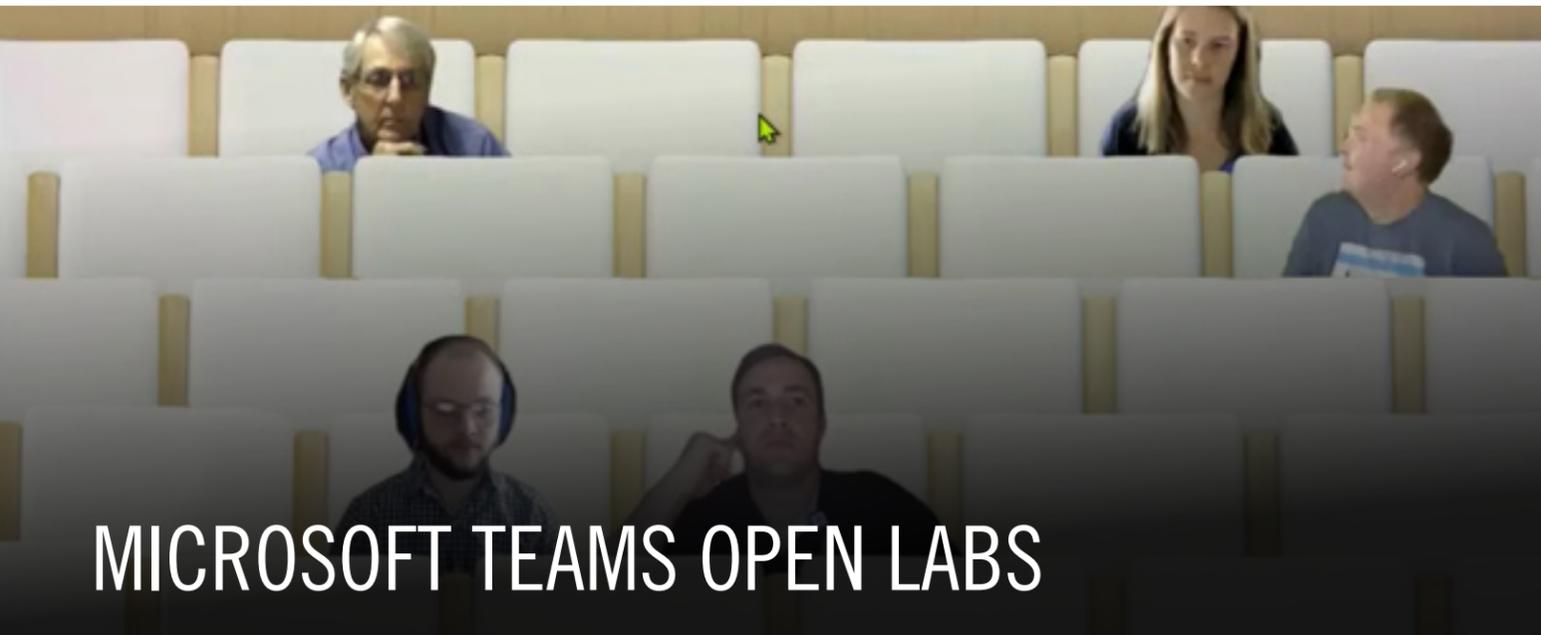Combined Social Media Posts

677,638
Visitors to ITS Web Properties

3,462
Change Requests Approved Through Change Advisory Board (CAB)

55
Events Coordinated

MICROSOFT TEAMS OPEN LABS

UNIVERSITY TECHNOLOGY SURVEY

With a rapid increase in remote work, Microsoft Teams became the go-to collaboration tool for many employees at UK to remain engaged while working off campus. It became clear that with an increased interest in the product, many were looking to ITS to help them use Microsoft Teams effectively.

Starting in September 2020, the Strategic Engagement & Communications (SEC) team worked in collaboration with Enterprise Systems to host the first in a series of Microsoft Teams Open Labs. The Open Labs featured a different topic each month complete with a live demonstration and training from a Microsoft expert. Attendees from all over campus and UK HealthCare were invited to attend the live session via Teams. Showcasing topics just as creating and managing Teams as well as installing and utilizing apps in Teams, the Open Lab sessions provided a crash course to employees who were just getting started in Teams.

Every session was also open for attendees to ask questions throughout and in a provided Q&A time. Any customers who asked a question that could not be address in the live session received a summary afterwards with the answers to all questions.

"I love how informative the Open Labs are. It's great to follow along with this hands on approach, this was much needed," commented attendee Leslie Hughes from UK Center for Applied Energy Research.

Overall, the events have promoted Microsoft Teams in an engaging way with the hope that the tool be more accessible and adopted across the University community.

Following guidance from the University's IT Strategic Plan (ITSP), the SEC team began assembling a technology survey to gain feedback on a variety of topics. To draft the survey, feedback was received by several groups across campus, including IT representatives from most all colleges/departments University-wide including Smart Campus and UK Online, Staff Senate, IT Advisory Council, Office of the Executive Vice President for Finance and Administration (EVPFA), and UK Public Relations.

The drafting process did not come without its challenges. With a plethora of possible questions to ask about technology at UK, it was important to focus on the recommendations outlined in the ITSP. "In collaboration with strategic campus partners, the University Technology Survey was drafted to reflect ITS' goal to make decisions based on the wants and needs of the University community. Writing questions that garnered honest feedback was a huge challenge!" stated Emily Brenzel, Major Initiatives Lead in SEC.

Once the questions were finalized, the University Technology Survey was distributed in November 2020 to a randomly-selected group of students, faculty, and staff. Feedback from this survey was carefully collected and analyzed to inform decisions about technology and UK and how we move forward in our offerings. The survey also provided insight on customer attitudes towards services like Wi-Fi, computer labs, customer support, and more.

Survey analysis followed the conclusion of the survey with detailed charts and data models to present to IT Leadership and partners. Results and analysis will be distributed to decision-makers at the University with hopes that they can make better informed decisions about the future of technology offerings at UK.

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.

#ITSABOUTYOU

"It's not easy handling all the financials that come from this department, but I truly enjoy my team and working with them to meet those challenges."

- Joyce Smith, Finance

45
New Contracts Completed

1,206
Inventory Orders Processed
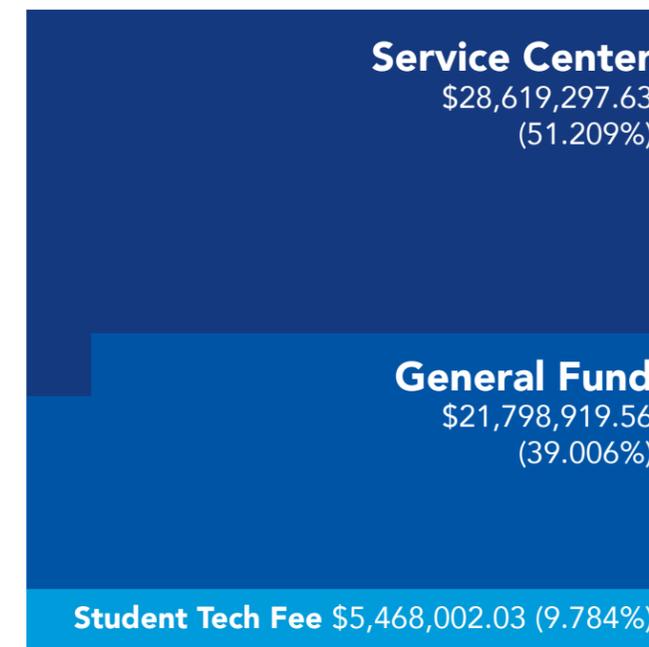
254
IT Service Center Estimates Funded

194
IT Service Center Projects Completed

476
IT Service Center Estimates Requested

Funding Overview

FY20 Budget

Service Center
$28,619,297.63
(51.209%)

General Fund
$21,798,919.56
(39.006%)

Student Tech Fee $5,468,002.03 (9.784%)
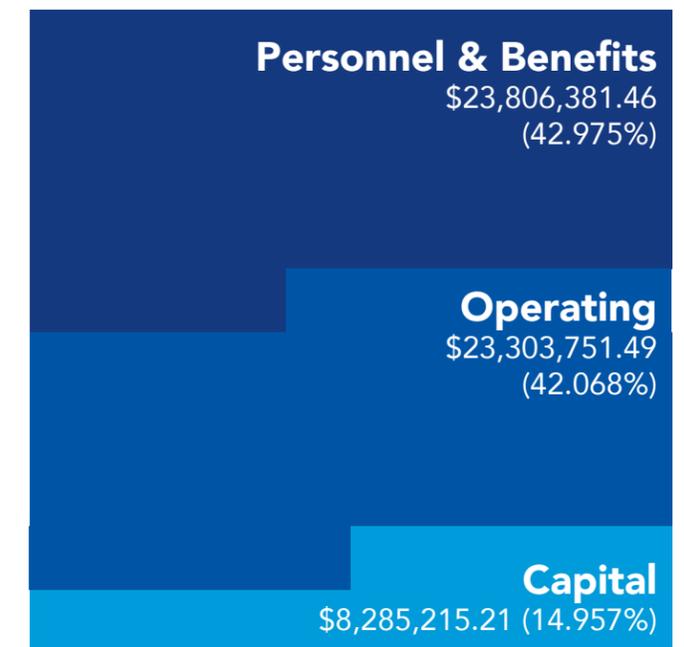
*Miscellaneous Income $547.40 (0.001%)

FY20 Expenditures

Personnel & Benefits
$23,806,381.46
(42.975%)

Operating
$23,303,751.49
(42.068%)

Capital
$8,285,215.21 (14.957%)
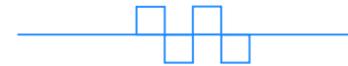
ENTERPRISE CRM & SALESFORCE

The University of Kentucky has implemented a lifecycle enterprise approach to digital and constituency relationship management (CRM), digital marketing, social media management by way of an Enterprise Level Agreement (ELA) with Salesforce.org. The University's intention is to deploy and manage Salesforce solutions for prospective students, currently enrolled students, alumni, and donor operations.

Education Cloud CRM

The Enterprise Salesforce Operations team is tasked with creating an end-to-end solution for managing constituents across the student's lifecycle, from recruitment of prospective undergraduate students, to retention of currently enrolled students, to recruitment of graduate and professional programs – both online and in-person. Through email, text/SMS campaigns, call campaigns, chat and chat bot functionality, customized reports, individual appointment scheduling, email analytics and more, University constituents are enabled to communicate and engage with students in a more targeted, personalized manner within a single Salesforce ecosystem. The CRM allows UK to become better stewards, communicators, administrators, and partners while supporting our processes and students.,

Health Cloud CRM

Built as an immediate response to COVID-19 for daily screening, testing and contact tracing. A single source of truth, Health Cloud is the HIPAA-compliant system that the University uses to manage the health and wellbeing of the campus community and has since expanded to include immunizations and case management for the general wellbeing strategies. Built around a case management model, Health Cloud has and will become an effective tool to triage and engage our community around issues of health and well-being. This system is supported by the Salesforce operations team, which ensures the deployment lifecycle is meeting the demands of UK's Health Corps staff.

Marketing Cloud

Marketing Cloud is the enterprise-level digital marketing engine for campus, including features such as mass email broadcast communications, SMS functionality, social media management tools in Social Studio, and automated marketing "journey" functionality. These functions allow for customized communications that reach the right people at the right time. The platform draws from three primary CRMs, housing information on the academic campus, alumni and philanthropy, and health and COVID-19 response within 12 business units that are leveraged by 150 users.

Social Studio (Marketing Cloud Suite)

Marketing Cloud's social media management tool, Social Studio, provides a space in which users across campus can manage campus social media needs, engage effectively with constituents, and measure social metrics in a meaningful way. Social Studio also provides in-depth social listening capabilities, allowing the University to better understand the conversation surrounding UK at all times. Social Studio hosts 90-plus social accounts with over 100 users.

Heroku: Cloud Application Platform (Data Processing Engine)

Heroku provides a platform for integrating and extending Salesforce use cases into new systems with greater complexity. Heroku is used to build better and more robust data import solutions.

Philanthropy & Alumni Cloud (RADAR)

Supported as an independent project with Alumni and Philanthropy organizations in conjunction with UK's enterprise license agreement, the RADAR system is meant to create a dynamic, integrated Constituent Relationship Management (CRM) platform to empower stakeholders, engage constituents, and to impact not only the University of Kentucky, but possibly Philanthropy and Alumni Relations across all of higher education. This state-of-the-art Constituent Relationship Management (CRM) tool is UK's next alumni/donor system of engagement and platform of record.

#ITSABOUTYOU

"I am proud that I work for a school that has taken an initiative and laid the ground work for a one stop shop in contact tracing and preventing the spread of COVID-19."

- Lisa Nicoll, **Enterprise CRM & Salesforce**

Marketing Cloud

12
Business Units in Marketing Cloud

30+
Departments Using Marketing Cloud

90+
Accounts Onboarded to Social Studio

1.5 million | Contacts Communicated to on Average Per Year

Health Cloud & Health Corps

17,023
Calls & Messages Handled by Health Corps Agents

38,212
Outbound Calls Made by Health Corps Agents

58,000+ | Tasks & Activities (emails, texts, events)

26,000+
Cases Created

65-70%
Compliance & Participation in COVID-19 Daily Screening

SUPPORTING UNIVERSITY OPERATIONS DURING A PANDEMIC WITH HEALTH CLOUD

When the University decided that it would open for students, faculty, and staff in the Fall 2020 semester, the need for a system to track COVID-19 test responses and data for contact tracing became an urgent need. The decision was made to work with Salesforce to build a Health Cloud platform, the first of its kind for a higher education institution. The Enterprise CRM and Salesforce team served as the technical team for the larger Health Corps group, formed at UK as a one-stop-shop for all COVID-19 response operations. Health Corps included leaders from many departments across UK, serving as the support hub for accessing services, information, and referrals related to COVID-19 during the fall semester.

Development began in June 2020 on the COVID-19 Daily Screening, a short questionnaire for tracking COVID-19 symptoms and exposure for all students, faculty, and staff returning to campus. The Daily Screening was the first point in the COVID-19 response flow, with the results triggering the next phase of contact tracing. The Enterprise CRM and Salesforce team trained contact tracers on the Health Cloud platform, allowing them to follow up with any student, faculty, or staff who had a positive COVID-19 test results or who may have been exposed from a direct contact on campus.

Ensuring the safety of the University community through contact tracing was built on the backbone of good data. Fed from multiple data sources, including COVID-19 Daily Screenings, on-campus COVID-19 testing via Wild Health, UK's Self-Report Tool, and various local and state Health Departments, it was essential that the Health Cloud's data was properly configured and accurate. Throughout the Fall 2020 semester, the University reported all COVID-19 results via a public dashboard on their website, as well as sharing data with the city, state, and South Eastern Conference on behalf of Athletics. This reporting was made possible by a close partnership with Institutional Research, Analytics, & Decision Support (IRADS) and brought a sense of transparency to the community during a very stressful semester.

In consideration of all aspects of health and well-being during a pandemic, the Enterprise CRM and Salesforce team assisted Wellness Connectors with providing resources to those in quarantine including everything from basic needs (e.g., meals, medication, groceries) to essential technology (e.g., MiFis and devices). In planning for Spring 2021, the team is developing a student-wide wellness survey to ask about physical and mental health in hopes that students can be directed to the resources they need to have a successful semester at UK.

UTILIZING SALESFORCE FOR A MORE PERSONALIZED STUDENT EXPERIENCE

The Enterprise CRM & Salesforce team had a lot of work ahead of them in 2020 moving forward with rolling out more functionality in the Salesforce Marketing Cloud. Starting in January 2020, the team began the transition from a single-instance to a multi-org set up, a significant cost savings option for the University. With the academic instance set up to be a lifecycle CRM for current and prospective students, instances for Health Cloud, Alumni, and Philanthropy were also developed. It was important that these new instances provided the functions that each department needed, which meant a considerable amount of time was spent collaborating on their individual needs. "This project was great because we got to work with so many other departments at UK," commented Steve Sommer from the Salesforce Operations team.

Expanding the use of Salesforce Marketing Cloud offers many new customizable and automated tools for communications. Members of the UK community, whether they are a potential student or an alum, can opt in and out of communications easily, only receiving the ones they want. Additionally, with CRM data to fuel messaging, more tailored, strategic communications can be sent. In August 2020, the first automated journey was sent through Marketing Cloud to encourage and support enrollment at the University. A journey is a fully automated communications campaign that is optimized for each individual based on their CRM status, classifications, and behaviors.

Another successful launch was the SUMO scheduler, an online appointment scheduler within Salesforce. The tool was first set up by the Salesforce team for academic coaches in Transformative Learning in June 2020. Using SUMO, students could log in to myUK and choose a coach, an available time, and meeting type. For virtual appointments, SUMO would automatically send a calendar invite with the selected coach's Zoom link auto-populated.

The tool sparked interest in other groups who began to use it as well, including the integrated Student Success Coaching group consisting of coaches from Academic Life, Career, Wellness, Student Support Services (SSS), Financial, FirstGen, and Leadership. Next to join in was Volunteer Advisors from he Office of Student Orgs and Activities who assist students in ways to get involved at UK. This adoption effectively made a one-stop shop for student success needs. SUMO allows groups to pull reports and automate follow-up messages, providing an enhanced experience for students and coaches.

INSTITUTIONAL RESEARCH, ANALYTICS, & DECISION SUPPORT

Institutional Research, Analytics, & Decision Support (IRADS) will provide reliable, accurate and defensible information for University students, faculty, staff and administrators in order to meet regulatory reporting requirements, provide data to external organizations, and supply colleges and departments the necessary information to effectively conduct institutional business. In addition, IRADS will surface the necessary data and analytics to anticipate, read and react to institutional trends and optimally position the University to achieve strategic plan goals and utilize data throughout the decision making process.

Enterprise Data Warehouse | The Enterprise Data Warehouse team is responsible for the overall management of architecture (SAP HANA), data management/stewardship, development, infrastructure (e.g., data lake), integrations (e.g., in and out), tools, and technologies.

Institutional Research | This unit works to develop and distribute data sets for a wide variety of University needs including, but not limited to, regulatory reporting, external surveys, and college requests.

Student/Finance and Administration Analytics & Decision Support | This IRADS team supports the Offices of the President, EVPFA, and Provost with internal institutional reporting and other needs.

#ITSABOUTYOU

"I am most proud of being a part of team that surfaces pertinent data and analytics to quickly respond to changes and overcome obstacles."

- ShaRona Lavender, IRADS

54,638

COVID-19 Test Results Processed & Validated

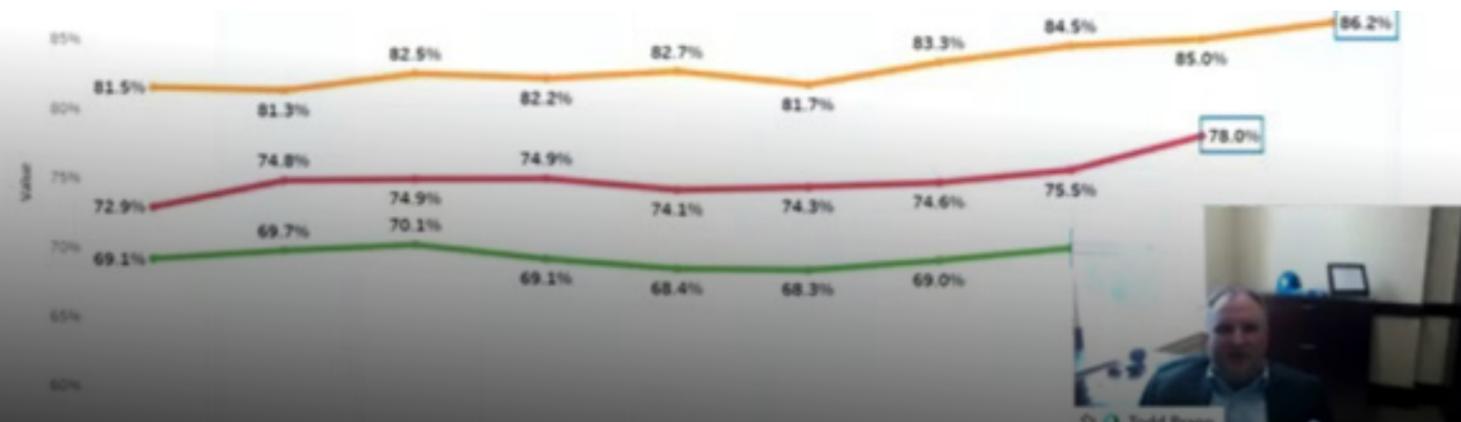Developed Model & Selected Recipients for Approximately

$18 million

in Higher Education Emergency Relief Fund (HEERF) Support

Supported 2nd Fall Retention Rate* of **85.9%**

Setting a Record for the 4th Year in a Row

*Number of freshmen who stay at UK for a 2nd fall

PRESENTING ON PREDICTIVE ANALYTICS TO THE US DEPARTMENT OF EDUCATION

TABLEAU WORKBOOKS EARN AWARDS FOR DISTANCE LEARNING

In the summer of 2020, Senior Assistant Provost and Executive Director of IRADS, Todd Brann was approached about representing UK in a national webinar. The request came from Bob King, Assistant Secretary on Postsecondary Education at the U.S. Department of Education. As the former president of the Kentucky Council on Postsecondary Education, King had a relationship with UK President Capilouto and requested a representative from UK speak on the work being done with predictive analytics.

On September 10, 2020, Brann presented on his team's work to a national audience in the U.S. Department of Education's "Predictive Analytics to Improve Student Outcomes". Brann's presentation on "Student Success and Predictive Analytics" when into detail about UK's success with enrollment and retention as a result of using predictive analytics in key student factors. Brann demonstrated that through a strategy based on analyzing unmet financial needs from incoming and first-year students, UK saw an increase in retention by improving the way financial assistance was distributed.

The webinar had around 5,000 RSVPs and was kicked off by former U.S. Secretary of Education, Betsy DeVos. Todd Brann reflected, "I thought it went well and hopefully we were able to get our message around the potential impact of analytics on student success out to others. ...I think it [the presentation] is a great example of how (and why) we do the work we do."

With speakers from institutions like Georgia State University, Valencia College, University of Central Florida, and Pennsylvania State System of Higher Education, the webinar was a great start to getting the conversation going about predictive analytics. Since this webinar, other institutions have been in contact to discuss predictive analytics and other departments at UK have expressed interest as well. IRADS looks forward to continuing their mission of student success and educating others on the power of analytics in decision making.

The University of Kentucky places high importance on the increased enrollment and quality of online and distance learning. UK's Distance Learning team is tasked with making sure UK meets all the distance learning licensure requirements and informing potential students so they can make informed decisions about their education. To address this need, Distance Learning and IRADS worked closely together to convert the standard compliance page from a long list of disclosures to an interactive database using Tableau as a framework.

This process allowed the Distance Learning team to easily enter and update disclosures in a database that connects to Tableau via a SQL server. Tableau converts that information into an ADA accessible dashboard that is embedded on the Teaching, Learning, & Academic Innovation (TLAI) Out of State Educational Activities page and allows users to easily search by program and/or state. This new dashboard page is shared with students as a resource frequently, from the admission letter to various UK websites as well as disclosures sent regularly before start of term.

"Our collaboration with the Analytics team was a wonderful reflection of the team's ability to take a complex project and create a user-friendly tool for our students as they make important academic decisions. Our office really enjoyed our work with them on this project," commented Emily Woods of Distance Learning.

In September 2020, the Licensure Disclosure Project was recognized by the WICHE Cooperative for Educational Technologies (WCET) State Authorization Network (SAN) for a SANsational Award in Licensure Programs. These awardees were selected based on a criteria of solutions that meet the needs to regulators, the institution and students that can be adapted or replicated by others.

IRADS was pleased to partner with TLAI to create an "in-house" solution for licensure disclosure information that would allow their staff to be more efficient, while improving access for students and providing an effective platform that has caught the attention of other institutions. Through the adept data architecture skills of the IRADS team members, a database foundation, and customer interface was created that will allow TLAI staff an ability to manage their data for years to come.

18 Months in Projects

July 2019

- Two-Factor Log-In required for all faculty & staff to access myUK
- myUK mobile app launches Work Order functions
- Continued distribution of iPads to incoming freshmen

August 2019

- Decommission of D40 data file server
- Wireless upgrades completed in Gatton Business & Economics auditorium, Chemistry/Physics building, and 2nd floor of The 90

September 2019

- Two-Factor Log-In required for all students to access myUK
- Technology Help Center surpasses 800 public facing articles
- STEAM Academy partnership begins with first student placements

October 2019

- Identity Management System (IdM) officially replaces legacy user provisioning and role management systems for SAP
- Completed wired network infrastructure upgrade in UK HealthCare Alumni Park complex
- UK receives NSF grant to aid in establishment of Kentucky Research Cyberteam
- Esports announces partnership with Gen.G

November 2019

- Data Privacy Advisory Council established
- Student Media Depot opens Virtual Reality (VR) Room
- Institutional Research, Analytics, & Decision Support reorganization announced

December 2019

- Work completed for McGrathiana Building on Coldstream campus to support UK HealthCare
- Deployment of 5G cellular across the enterprise
- SAP role access audit

January 2020

- Esports kicks off national speaker series
- All ITS-owned Windows 2008 servers on campus decommissioned or upgraded to Nemo

February 2020

- Spring iPad Initiative Speaker series kicks off
- Esports Hosts Townhall with Provost Blackwell & EVPFA Monday
- Wired & wireless network installation in renovated Grehan building completed
- Student Financial Aid Data Access Audit conducted
- Implementation of Palo Alto GlobalProtect VPN client for the enterprise

March 2020

- ITS employees participate in various COVID-19 response workstreams
- ITS provides resources & support for new learnanywhere, teachanywhere, and workanywhere websites
- Customer Services chat function goes live
- Mapping and installation begins for COVID-19 testing tents, Nutter Field House Hospital, & more
- Network Access Control (NAC) deployed across campus protecting over 95,000 network ports
- Technology distributed to students that expressed need via University-wide survey
- Increased support for students and faculty during shift to 100% online course modality

April 2020

- Infrastructure installation for Nutter Field House hospital completed
- Esports hosts "Hoops at Home" tournament
- Transitioned 300 Student Academic Life employees in shift to Cisco Jabber in order to call all UK students
- Outlook external tagging implementation
- ITS Safety Protocol Team established

May 2020

- ITS Employee Resource Portal launched
- Joint Services Operation Center 2019 report released
- University-wide newsletter The Download is sent with special emphasis on cybersecurity, launching #CyberSafeCats campaign

June 2020

- Salesforce Health Cloud component acquired
- First monthly Phishing Education newsletter sent
- AV equipment installs for campus classrooms begin
- iPad Initiative distribution begins shipments
- Continued #CyberSafeCats campaign with focus on Zoom meeting safety

July 2020

- COVID-19 Testing Tents network installation completed
- Contact Tracing Call Center infrastructure installed, training begins
- Pav A COVID-19 patient treatment area network complete
- UK:Go mobile app launched for incoming students

August 2020

- COVID-19 Daily Screening completed & launched
- Wireless network installed for Y Academy for School Aged Children
- Gen.G announces $1 million scholarship fund

September 2020

- Microsoft Teams Open Lab series starts
- US Department of Education presentation by Todd Brann
- Concur Travel and Expense Management in partnership with University Financial Services implemented
- All ITS-owned Windows 2003 servers on campus decommissioned or upgraded

October 2020

- Two-Factor Log-In required for all Microsoft 365 products
- Automatic Account Deprovisioning for separated employees implemented
- Network installation completed for The Cornerstone
- Appropriate UK public Teams in Microsoft Teams converted to private

November 2020

- University Technology Survey delivered to randomly-selected students, faculty, & staff
- Self-Service Catalog request function launched
- Gatton Student Center outdoor wireless network installation completed

December 2020

- New call transfer system, Parlance, launched for main University & hospital phone lines
- Phase 1 of Data Center of the Future project completed
- Public Budget and Finance (PBF) solution upgrade completed for University Budget Office & Business Officers

IT Strategic Plan | Accomplishments & Progress

ITS continuously strives to take steps towards all nine recommendations outlined in the University's IT Strategic Plan. See below for accomplishments and progress made from July 2019 - December 2020.

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.

- Redesigned, enhanced, and launched Estimated Account Statement for calculation of tuition and fees, Major Change online process, Student Financial Aid Portal, Advising Hub 2.0, Apple Enterprise Design Lab, and mobile version of Wildcat Success Plan (WSP)
- Provided project management resources to Provost's Salesforce Implementation Team
- Worked in collaboration with other COVID-19 workstreams, including LearnAnywhere, to develop standardized communications to students as well as a needs assessment survey, develop tutorial content to aid in transition to online learning, and disseminate technology to students as needed during pandemic response
- Distributed University Technology Survey, analyzed and presented results from the EDUCAUSE and UK Online student surveys

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.

- Supported faculty through online teaching by developing support modules, providing live support, and distributing technology to faculty as needed
- Rapidly developed knowledge articles for the Technology Help Center during COVID-19 response
- Continued growth in offerings at the Student Media Depot to include Virtual Reality (VR) room, increased camera and podcast equipment, and staff availability for consulting both in person and online after shift to remote semester
- Enhanced Virtual Den with faster performance, increased GPUs, added features, and more software options than ever before
- Held workshops to encourage and support faculty utilization of iPads while teaching

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.

- Research infrastructure growth in the Lipscomb Compute Cluster (LCC) supercomputer compute capabilities increased by 54%. LCC low latency storage was increased by 100%. Machine Learning and Deep Learning compute capabilities were increased by 85%. Added storage (3.7PB) to the LCC for researcher data for long-term cold storage
- Collaboration continues with the National Science Foundation (NSF) funded OURRstore Archival File Storage initiative, led by the University of Oklahoma
- Kicked off the Kentucky Research Cyberteam connecting universities and colleges throughout Kentucky with expertise, providing research computing resources and further developing the groups' collaboration

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

- Institutional Research and Advanced Analytics (IRAA) reorganized into Institutional Research, Analytics, and Decision Support (IRADS) to better serve the University. IRADS is formed with dual reporting lines to both ITS and the Provost's Office
- Digital signage implemented for colleges and departments who purchased a license for university-wide solution
- Supported Enrollment Management's decommissioning of APEX degree audit solution in favor of new myUK GPS and supported University Financial Services with implementation of Concur Travel and Expense Management
- Migrated from D40 to Isilon (Dell solution) and upgraded to Nemo server software from outdated Windows 2008 in order to modernize data storage solutions
- Increased functionality with myUK app, introducing Work Order, Employee Self Service (ESS), and Manager Self Service (MSS) functions
- Continued utilization of Two-Factor Log-In for Microsoft 365 products, Palo Alto GlobalProtect VPN, UK Account Manager, and Tableau

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.

- Established IT Advisory Council consisting of students, faculty, and staff
- Collaborated with UKHC to complete a VMware Enterprise License Agreement, resulting in over $100,000 in savings
- Communication campaigns launched via various platforms to support Two-Factor Log-In, Microsoft Teams, Cybersecurity Awareness, technology resources for COVID-19 remote transitions, as well as routine maintenance and outages
- Customer Services chat functionality launched on LearnAnywhere, TeachAnywhere, WorkAnywhere, Account Manager, and Tech Help Center websites

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.

- Completed wired and wireless network infrastructure upgrades within a variety of locations including new builds (e.g., Rosenberg College of Law), renovations (e.g., Grehan Building, Coldstream campus), and COVID-19 response locations (e.g., Medical tents at Turfland, Nutter Field Hospital)
- Continued pilot of Joint Services Operations Center (JSOC) and published JSOC Annual Report
- Identity Management (IdM) process replaced legacy systems for user provisioning and role management. Automatic deprovisioning of separated faculty and staff launched
- Implemented Palo Alto GlobalProtect VPN client for the enterprise
- Met with campus administrators to develop a deployment strategy for enterprise 5G Cellular Service

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.

- Engaged with Microsoft to harden critical University infrastructure (e.g., Active Directory)
- Outdated, ITS owned or managed servers decommissioned including Windows 2008
- Data Privacy Advisory Council established with initial kick off meeting
- Elevated Rights Account Policy reviewed and audit conducted on elevated rights
- Identified and required training for customers with access to Student Financial Aid Data Access Audit. Set least-privileged access standards for data access
- Converted any public Teams in Microsoft Teams to private in accordance with best cybersecurity practices

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.

- Universal Design Training and content creation initiated with engagement of Human Development Institute and Office of Institutional Equity and Equal Opportunity for Technology Help Center
- Continued collaboration and communication with departmental IT professionals through IT Community of Practice Microsoft Teams channel and monthly meetings
- Developed pipeline K-12 internship programs with Frederick Douglass High School and STEAM Academy

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.

- Request for Proposal (RFP) for Managed Print Services completed
- Requirements gathering and analysis of existing options conducted for virtual conferencing platform

IT Committees

IT Community of Practice

- **Abbott-Emen, Alex,** College of Health Sciences
- **Adler, Jordan,** Information Technology Services (ITS)
- **Anderson, Marvin,** Sanders-Brown Center On Aging
- **Anibaba, Martin,** Internal Audit
- **Baker, Eddie,**
    UK HealthCare Information Technology (UKHC IT)
- **Barker, Mark,** Research Information Services
- **Bates, Jan,** UKHC IT
- **Beaven, Melissa,**
    Gatton College of Business & Economics
- **Blevins, Marc,** Internal Audit
- **Boldt, Josh,** College of Education
- **Booth, Mike,** UKHC IT
- **Boyd, David,** Athletics
- **Bradley, Scott,** College of College of Arts & Sciences
- **Brandenburg, Harold,** College of Engineering
- **Breckel, Kyle,** Athletics
- **Brewer, Joe,** College of Design
- **Buntin, Will,**
    College of Communication & Information
- **Canjar , Chris,**
    College of Agriculture, Food & Environment
- **Carr, Douglas,**
    Biosystems & Agricultural College of Engineering
- **Carruthers, Patsy,**
    Teaching, Learning, & Academic Innovation
- **Clark, Billy,** Research Information Services
- **Combes, Chuck,** UKHC IT
- **Cornett, Stephen,** UK Police
- **Corum, Kristi,** Internal Audit
- **Crisantos, Rosa,** ITS
- **Crossen, David,** College of Fine Arts
- **Crump, Jacob,** Sanders-Brown Center On Aging
- **Cutadean, Alex,**
    Teaching, Learning, & Academic Innovation
- **Davis, Jeffrey,** UKHC IT
- **Doyle, Brian,** College of College of Arts & Sciences
- **Edwards, Earnest,** UKHC IT
- **El Mediouri, Alaa,** College of Art & Sciences
- **Elam, Timothy,** University Press
- **Ellis, Michael,** KY Geological Survey
- **Fee, Douglas,** UKHC IT
- **Galyon, Jason,** College of Business & Economics
- **Garner, Steven,**
    College of Agriculture, Food & Environment
- **Gayheart, Tyler,** ITS
- **Gazula, Vikram,** Computational Sciences
- **Ghaelian, Brenda,** College of Nursing
- **Gilbert, Gary,** UKHC IT
- **Gosper, Aaron,** Dentistry
- **Granata, Ellen,** UKHC IT
- **Graves, Nicholas,**

- College of Agriculture, Food & Environment
- **Gregory, Jenny,**
    Kentucky Community Cancer Program
- **Hall, Buddy,**
    Teaching, Learning, & Academic Innovation
- **Harris, Michael,** College of Nursing
- **Heersche, Kimberly,**
    Human Resources Training & Development
- **Henderson, Mary,** College of Education
- **Hoover, Matt,** Dentistry
- **Howard, Jonathan,** College of Engineering
- **Hunsucker, James,**
    KY Tobacco Research & Development Center
- **Jaros, Sandra,** Pathology
- **Johnson, Scott,**
    College of Communication & Information
- **Justice, Wes,** Internal Audit
- **King, James,** Information Services
- **King, LeeAnn,** Pharmacy Services
- **Knight, Clinton,** College of Education
- **Knorr, Kim,** Center For Applied Energy Research
- **Lambert, Scott,** Center For Applied Energy Research
- **Larmour, Chris,**
    College of Communication & Information
- **Lindgren, Natalie,**
    Human Resources Training & Development
- **Lodder, Laura,** Graduate School
- **Lynn, Jeffrey,** UKHC IT
- **Maddox, Josh,**
    College of Communication & Information
- **May, Barret,** College of Health Sciences
- **Mayfield,** Michael, Office Of Philanthropy
- **McReynolds, Jason,** UKHC IT
- **Milby, Jonathan,**
    College of College of Arts & Sciences
- **Miles, Chris,**
    College of Agriculture, Food & Environment
- **Monaghan, Amy,**
    Institute for Pharmaceutical Outcomes & Policy
- **Naas, Daniel,** Libraries
- **Neace, Anthony,** UKHC IT
- **Nealis, David,** College of College of Arts & Sciences
- **Ortt, Matthew   ,**
    College of Agriculture, Food & Environment
- **Overstreet, William,**
    Institute for Pharmaceutical Outcomes & Policy
- **Paddock, Sarah,** College of Arts & Sciences
- **Page, Cecilia,** CIO, UKHC IT
- **Pappas, Scott,** UKHC IT
- **Paskovics, Chuck,**
    Human Resources Training & Development
- **Pearson, Mark,** Alumni Relations

- **Pero-Gamble, Melissa,** Auxiliary Services
- **Renfroe, Matthew,**
    Interdisciplinary Human Development
- **Rockhill, Derek,** College of Law
- **Ross, Paul,** Kentucky Transportation Center
- **Schum, Christopher,** UKHC IT
- **Sellers, Rodney,** Center For Applied Energy Research
- **Settle, Stan,** UKHC IT
- **Shannon, Timothy,** Sanders-Brown Center On Aging
- **Shields, Shannon,** Regulatory Services
- **Shooner, Andrew,** Marketing & Brand Strategy
- **Sizemore, Megan,**
    College of Communication & Information
- **Sizemore, Todd,** College of Pharmacy
- **Smith, David,** Information Services
- **Smith, Ned,** Facilities
- **Soerdien, Ashwin,** College of Education
- **Spencer, Rick,** Martin School of Public Administration
- **Spires, Casey,** Sanders-Brown Center On Aging
- **Stallsworth, Jesse,** College of Nursing
- **Steadman, Tyler,** College of Engineering
- **Stiffler, Jeremy,** STEPS Temporary Employment
- **Sumner, Justin,** Marketing & Brand Strategy

- **Thompson, Evan,**
    College of Communication & Information
- **Thompson, Mark,** KY Geological Survey
- **Tilley, Lynn,** College of Engineering
- **Trumble, Gary,** College of Social Work
- **Turcan, Marian,** College of Business & Economics
- **Underwood, Mark,**
    Human Resources Training & Development
- **Vickery, Kelly,** Libraries
- **Weaver, Taylor,**
    Institute for Pharmaceutical Outcomes & Policy
- **Welch, Stephen,** UKHC IT
- **Wells, Walter,**
    College of Agriculture, Food & Environment
- **West, Tyler,**
    Institute for Pharmaceutical Outcomes & Policy
- **Wheeler, Joel,** Kentucky Community Cancer Program
- **Wllliams, John,** Kentucky Community Cancer Program
- **Wilson, Ashley,** Sanders-Brown Center On Aging
- **Witty, Jeffrey,** Dentistry
- **Woods, Trevino,** Markey Cancer Center
- **Woolery, Sam,** Martin School of Public Administration
- **Woolum, Charles,** UKHC IT

IT Advisory Council

- **Baird, Arianna,** Student
- **Burns, Sean,** Information Science
- **Canjar, Chris,**
    College of Agriculture, Food and Environment
- **Dorpinghaus, Sarah,** Libraries
- **Ellingson, Sally,** UK HealthCare
- **Free, Hayden,** Student
- **Kercsmar, Sarah,** UK HealthCare
- **Lee, Donna,** College of Education
- **MacLeod, James,** Veterinary Science

- **Martin, Alexandre,** College of Engineering
- **Musbah, Thamer,** Oral Health Practice
- **Odom, Susan,** College of Arts & Sciences
- **Stone, Dan,** Gatton College of Business & Economics
- **Strakovsky, Dmitry,** College of Fine Arts
- **Lauersdorf, Mark,** Ex Officio, Chair,
    University Senate Technology Committee
- **Nichols, Brian,** Ex Officio, CIO
- **Page, Cecilia,** Ex Officio, UK HealthCare, CIO

Data Privacy Advisory Council

- **Bialk, Kathy,** Student Financial Aid
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