

INFORMATION TECHNOLOGY

UNIVERSITY INFORMATION TECHNOLOGY SERVICES ANNUAL REPORT | FISCAL YEAR 2018



THE UNIVERSITY
OF ARIZONA

WHO WE ARE

University Information Technology Services (UITS) is the central information technology organization for the University of Arizona, responsible for strategic planning, oversight and direction of IT infrastructure, resources, and services.

OUR VALUES

ACCOUNTABILITY
COLLABORATION
COMMUNICATION
CUSTOMER-FOCUS
INTEGRITY

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TECHNOLOGY IS ALL AROUND US

As the 2017-18 fiscal year comes to a close, we feel very positive about what has been accomplished and what is on the horizon. We both feel privileged to be in our new roles and we're energized by the willingness and enthusiasm within UITS and the campus IT community to increase service, cohesion, and accountability around IT.

Information technology and the people behind it are integral to the University of Arizona's teaching, research, service, and business activities. Whether it's a student seeking IT support for their computer to complete an exam, a researcher using the high performance computing systems to analyze massive data sets, or a department business manager processing payroll, IT touches everyone at UA.

This year has been filled with tremendous progress and growth. UITS has re-organized to focus on our campus constituents and their unique IT needs. With dedicated executive leadership for our constituent pillars, we have made it much clearer how to work with us.

We are seeing more than ever central and campus IT units collaborating in new ways and solving problems together. So many of the projects from last year could not have been accomplished as smoothly and successfully without the partnership of campus IT staff on needs, decision-making, implementation, communication, and support. This collaboration continues on projects still underway, including the campus-wide initiatives to improve security.

We've had a productive year thanks to the dedication and hard work of our UITS team, along with our UA community partners. We hope our efforts have improved your work, and that you will continue to look to us as a key collaborator for technology empowerment, protection, and support.

We are excited about the enormous potential UITS has to be a key partner in the new UA Strategic Plan, and look forward to working with our IT community and campus partners to bring the plan's strategic goals to fruition.



“INFORMATION TECHNOLOGY
AND THE PEOPLE BEHIND IT ARE
INTEGRAL TO THE UNIVERSITY
OF ARIZONA'S TEACHING,
LEARNING, RESEARCH &
BUSINESS ACTIVITIES.”

BARRY BRUMMUND,
CHIEF INFORMATION
OFFICER

**KAREN WILLIAMS, VICE PRESIDENT
FOR INFORMATION STRATEGY
& UNIVERSITY LIBRARIES**

TECHNOLOGY FOR WORLD-CLASS RESEARCH

Research Technologies provides key research technology infrastructure and services to support the UA's world class researchers.

**“THE UA HPC
RESOURCES WERE A
BIG PART OF WHY
I CHOSE TO COME
TO UA. INSTEAD OF
HAVING TO WRITE
A GRANT TO EVEN
DO JUST BASIC
ANALYSIS I CAN DO
EVERYTHING RIGHT
HERE WITHOUT
HAVING TO WAIT.”**



SOLVING MYSTERIES OF THE UNIVERSE

How do galaxies and black holes evolve? Dr. Peter Behroozi, Assistant Professor of Astronomy, is developing physical models from observational data to answer this question. He simulates universes based on those models and then compares them back to observations. The Department of Astronomy recruited him to the UA from Stanford with the promise of priority access to approximately a quarter million CPU hours a month in the Research Data Center.



DR. PETER BEHROOZI,
ASSISTANT PROFESSOR,
DEPARTMENT OF ASTRONOMY

“THERE IS NO WAY I COULD HAVE DONE MY RESEARCH WITHOUT THE FREE OCELOTE HPC RESOURCES.”

ARIELLA GLADSTEIN, PHD, ECOLOGY & EVOLUTIONARY BIOLOGY

STUDENT SOARS WITH RESEARCH COMPUTING RESOURCES

Ariella Gladstein was an Ecology and Evolutionary Biology PhD student with a problem: “I didn’t have a research grant.” Her research involved complex simulations of genomes to infer population histories requiring high performance computing power. As the Ocelote HPC system in the Research Data Center is available to all students at no charge, she was able to run six million hours of processing and complete her doctorate in June 2018.





\$67 MILLION

DIRECT EXPENDITURE BY HPC INVESTIGATORS

15%

UA'S TOTAL SPONSORED RESEARCH EXPENDITURE DONE BY INVESTIGATORS USING UA HPC SERVICES

WHAT IS HIGH PERFORMANCE COMPUTING?

High-performance computing provides massive processing power so researchers can run computing jobs exponentially faster. The Research Data Center's Ocelote system contains 11,000 cores (processors), compared to 2 or 4 cores in a typical laptop. Time on this system is available at no charge to all UA faculty, researchers, students, and staff. Researchers can also purchase additional cores for the system ("buy in") for high-priority access to those resources; this extra processing power is also available to other users when idle.

UA LEADS IN REGULATED RESEARCH ENVIRONMENT (CUI)

UIITS and Research, Discovery, & Innovation implemented a Controlled Unclassified Information (CUI) environment that complies with the new federal government requirements for sensitive data handling. UA is one of the few universities in the country to provide a CUI service to faculty, a significant benefit for recruiting top talent.

SCIENCE DMZ HIGH SPEED CONNECTION

UIITS worked with the UA's Data Science Institute to connect the Science DMZ directly with Arizona's Sun Corridor Network (Internet2 high-speed research and education network). The Science DMZ allows scientists to rapidly move massive amounts of data between institutions, bypassing the campus network.

RESEARCH DATA CENTER USAGE

PI'S THAT USED HPC SYSTEMS	180
TOTAL GRANT AWARDS FOR HPC INVESTIGATORS	657
CAMPUS DEPARTMENTS USING HPC	44

SCIENCE DMZ

TRANSMITTED DATA VIA SCIENCE DMZ	660 TB
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HIGH PERFORMANCE COMPUTING

TOTAL OCELOTE CAPACITY	11,528 cores
MAXIMUM PERFORMANCE	382 TFLOPS

SERVICES

- SUPERCOMPUTING (HPC)
- RESEARCH SUPPORT SERVICES
- REGULATED RESEARCH ENVIRONMENT (CUI)

SUPPORTING STUDENT SUCCESS THROUGH TECHNOLOGY

Student and Academic Technologies partners with faculty, staff, and students to enable innovative instruction and student success.

“UITS CLASSROOM TECHNOLOGY SERVICES ARE INNOVATIVE BUT PRACTICAL, WHICH IS PRECISELY WHAT WE NEED FOR THE COLLABORATIVE LEARNING SPACES PROGRAM. WE WOULD NOT BE WHERE WE ARE TODAY WITHOUT THEIR EXCEPTIONAL SUPPORT.”



FACULTY ENGAGE STUDENTS IN NEW CLASSROOM MODEL

+50%

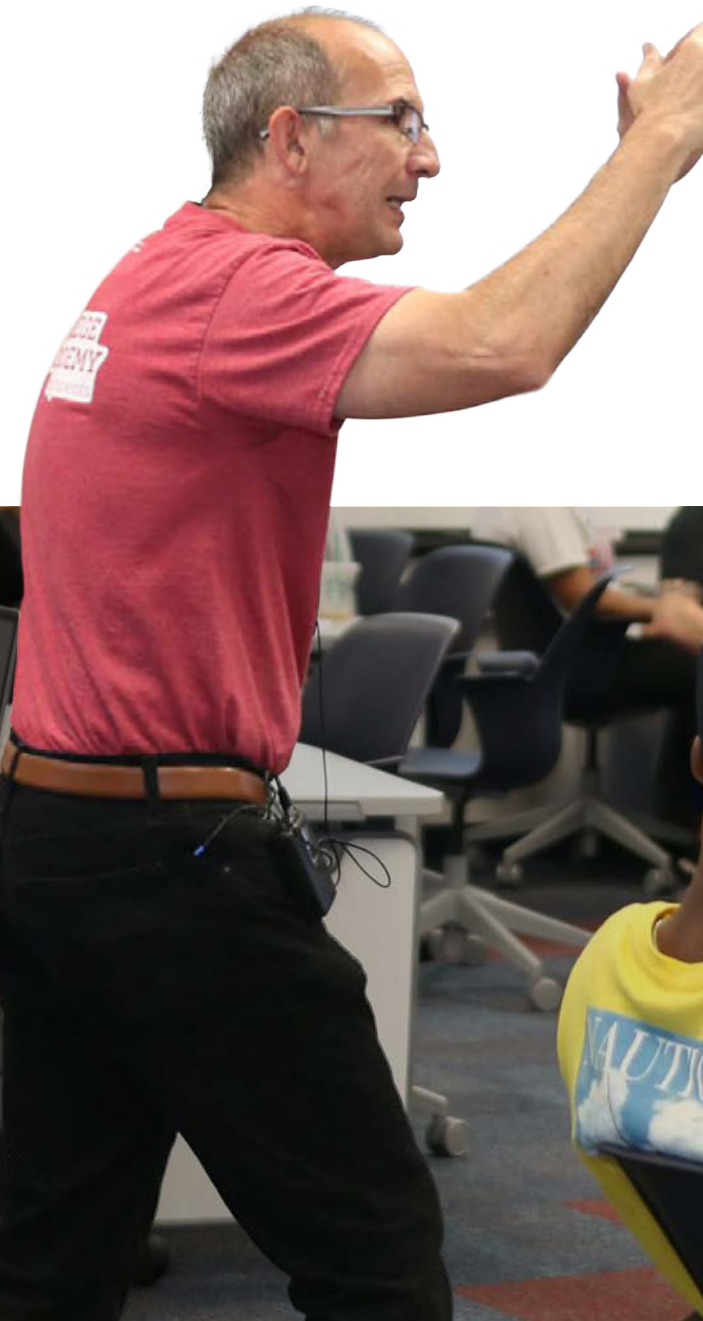
INCREASE IN INNOVATIVE LEARNING SPACES



Active learning promotes gains in learning outcomes and student success—and the University is supporting it by converting traditional classrooms to more collaborative environments. UITS Classroom Technology Services worked with Academic Affairs and Facilities Management to implement a 50% increase in innovative learning spaces in FY2018—from 20 to 30 classrooms.

These layouts maximize interactive learning by facilitating small group collaboration and interaction. Richard Michod, Professor of Ecology and Evolutionary Biology, reacted to teaching in his new classroom layout saying, “I was invigorated by the experience. For the first time in years, I felt a real interaction with the class and the possibility of a class-instructor dynamic. I am excited to be teaching.”

VICENTE TALANQUER, PROFESSOR, CHEMISTRY & BIOCHEMISTRY, TEACHES IN A CLASSROOM WITH A COLLABORATIVE LAYOUT.



STUDENTS SAVE \$3M ON DIGITAL TEXTBOOKS

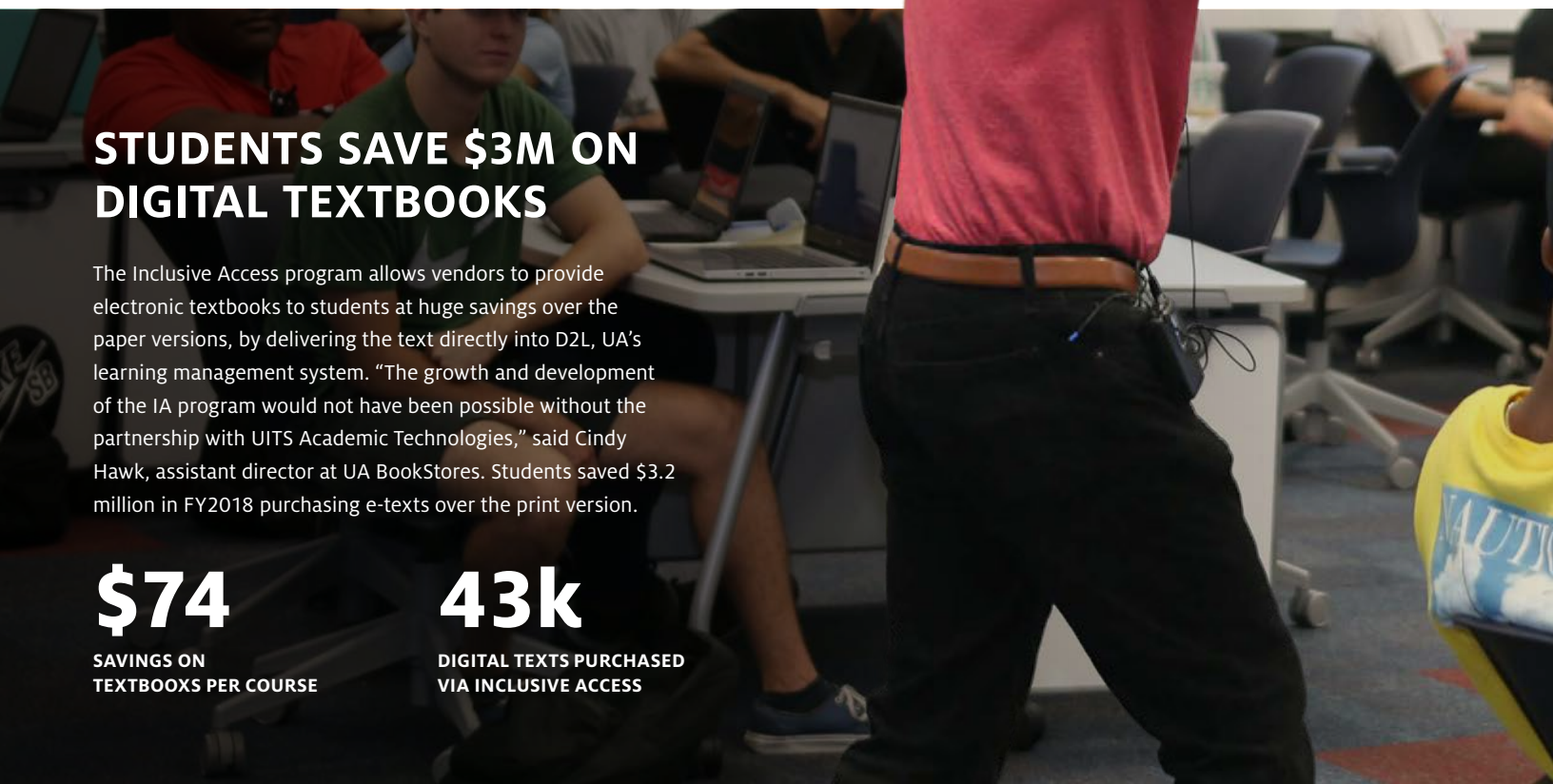
The Inclusive Access program allows vendors to provide electronic textbooks to students at huge savings over the paper versions, by delivering the text directly into D2L, UA’s learning management system. “The growth and development of the IA program would not have been possible without the partnership with UITS Academic Technologies,” said Cindy Hawk, assistant director at UA BookStores. Students saved \$3.2 million in FY2018 purchasing e-texts over the print version.

\$74

SAVINGS ON TEXTBOOKS PER COURSE

43k

DIGITAL TEXTS PURCHASED VIA INCLUSIVE ACCESS



ZOOM WEB CONFERENCING

Zoom web conferencing was implemented for campus allowing faculty, staff, and students the ability to conduct distant, synchronous meetings, with no perceivable visual or audio latency.

D2L IMPROVEMENTS

Several upgrades were made to the Course Site Request tool (CSR) in D2L, enabling faculty to optimize their time. Faculty no longer need to request support to copy past courses to the current semester or to share access with non-faculty department staff. The system also now automatically sends reminders to set up D2L sites when new sections are added to a course.

ENGLISH PLACEMENT STREAMLINED

The UAccess Student Team, UITS Academic Technologies, and the English Department collaborated to enable 8,527 newly admitted students to self-select their writing placement in UAccess Student in FY18. The system uses students' admissions data and their responses to a Qualtrics survey to recommend to them a "best fit" course to enroll in.

RECOGNITION FOR UACCESS STUDENT TEAM

UAccess Student team members who work with Admissions were nominated for the University Team Award for Excellence for their outstanding support.

BEYOND THE CLASSROOM

D2L LEARNING MANAGEMENT SYSTEM

COURSES THAT HAVE A D2L SITE	96%
D2L SECTIONS PER SEMESTER	+10,000

GEAR-TO-GO

GEAR-TO-GO CHECKOUTS	8,042
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COLLABORATIVE LEARNING SPACES

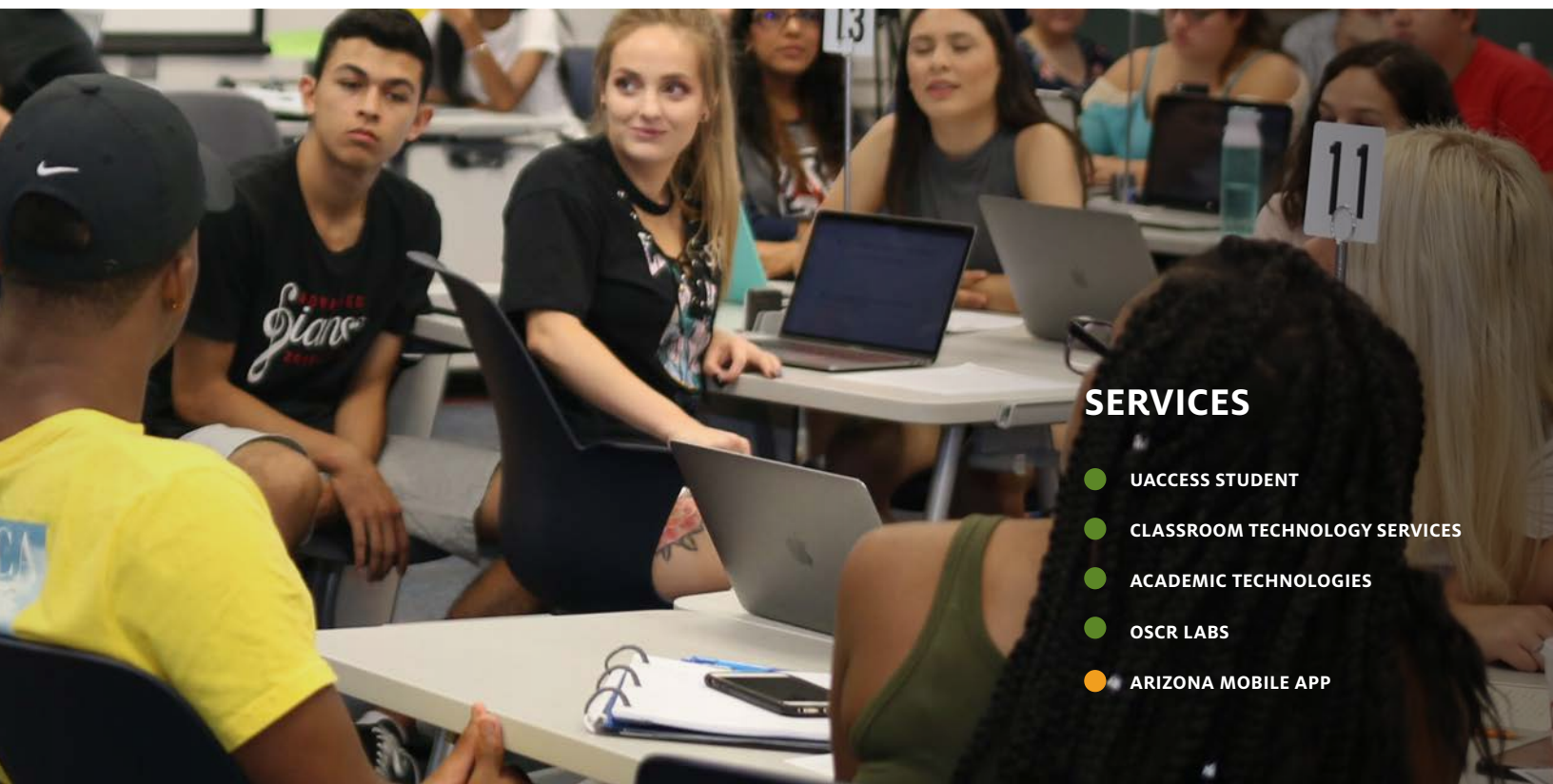
TRADITIONAL CLASSROOMS CONVERTED	10
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UACCESS STUDENT SERVICES

FINANCIAL AID DISBURSED (17-18 Academic Year)	\$630M
ENROLL/DROP/SWAP ACTIVITY (average per student/per semester)	4.5 CLASSES

OSCR COMPUTER LABS

OSCR COMPUTER LAB USERS	8,607
NEW OSCR LAB OPENED	Fine Arts



SERVICES

- UACCESS STUDENT
- CLASSROOM TECHNOLOGY SERVICES
- ACADEMIC TECHNOLOGIES
- OSCR LABS
- ARIZONA MOBILE APP

LEVERAGING TECHNOLOGY & ADMINISTRATIVE EFFICIENCIES

Administrative Technologies creates and implements innovative technology solutions used to operate and manage the business of the University of Arizona.

**“UITS WORKED
CLOSELY WITH US IN
AN ENVIRONMENT
OF OPEN, CANDID
COMMUNICATION,
ALLOWING US TO
MOVE THROUGH
PROJECT OBSTACLES
SMOOTHLY.”**



BETTER, FASTER, BUSINESS SYSTEMS DELIVERED

Campus business managers are enjoying new features and an enhanced experience in UAccess Financials. The upgraded system has a more modern interface and increased search capabilities, while still operating with the same underlying functionality staff are familiar with.

The UAccess Financials Team worked in a multi-year collaborative effort with the Financial Services Office and University Analytics & Institutional Research to jump four levels to the most current major version of the Kuali Financial System. The upgrade also aligns UA more closely with other universities developing and using Kuali, so we can leverage resources, share knowledge, and collaborate on functionality. UAccess Financials also moved to the cloud at the same time, another layer of complexity for the team.



67%

**FASTER
AVERAGE SYSTEM
RESPONSE TIME**



UACCESS RESEARCH

TOTAL NUMBER OF PROPOSALS 27.2K

AVERAGE MONTHLY PAGE VIEWS 137K

AVERAGE MONTHLY TRANSACTIONS 2M

UACCESS FINANCIALS

P CARD TRANSACTIONS 193.8K

1.3M

AVERAGE MONTHLY PAGES VIEWS FOR UACCESS FINANCIALS

THOUSANDS OF HOURS SAVED

The UAccess Employee team developed a merit increase process to automate importing the merit salary increases directly into UAccess Employee. This saved HR managers across campus thousands of input hours.

BREAKING RECORDS

The 6th annual UAccess Symposium broke records with over 400 attendees. This yearly partnership between the UITS Workshops & Training Team and University Analytics & Institutional Research brings together UAccess systems users to share their accumulated wisdom with each other.

SYSTEMATIC EFFICIENCIES

The UAccess Employee team developed a system to assign the new University Career Architecture Project job codes and titles to all UA employees in UAccess Employee.

SERVICES

- UACCESS FINANCIALS
- UACCESS EMPLOYEE + UACCESS LEARNING
- UACCESS RESEARCH
- UA VITAE
- APPLICANT TRACKING SERVICES

AVERAGE MONTHLY PAGES VIEWS 1.3M

ELECTRONIC PURCHASE ORDERS 86K

UACCESS EMPLOYEE

TOTAL PAYCHECKS AMOUNT \$980M

PAYCHECKS CALCULATED 500K

AVERAGE USERS PER BUSINESS DAY 3.1K

CAMPUS PARTNERSHIPS FOR TECHNOLOGY SOLUTIONS

Campus IT Partnerships connects UA IT community members, resources, and clients across the institution.



THE EMAIL MIGRATION PROJECT WAS A GREAT TEST OF OUR CAMPUS IT MODEL. WITHOUT THE TRUST AND HARD WORK FROM UITS WINDOWS TEAM, THE 24/7 IT SUPPORT CENTER, AND CAMPUS IT, THE PROJECT WOULD HAVE MOST LIKELY FAILED. ▶▶▶

PARTNERSHIPS IN ACTION

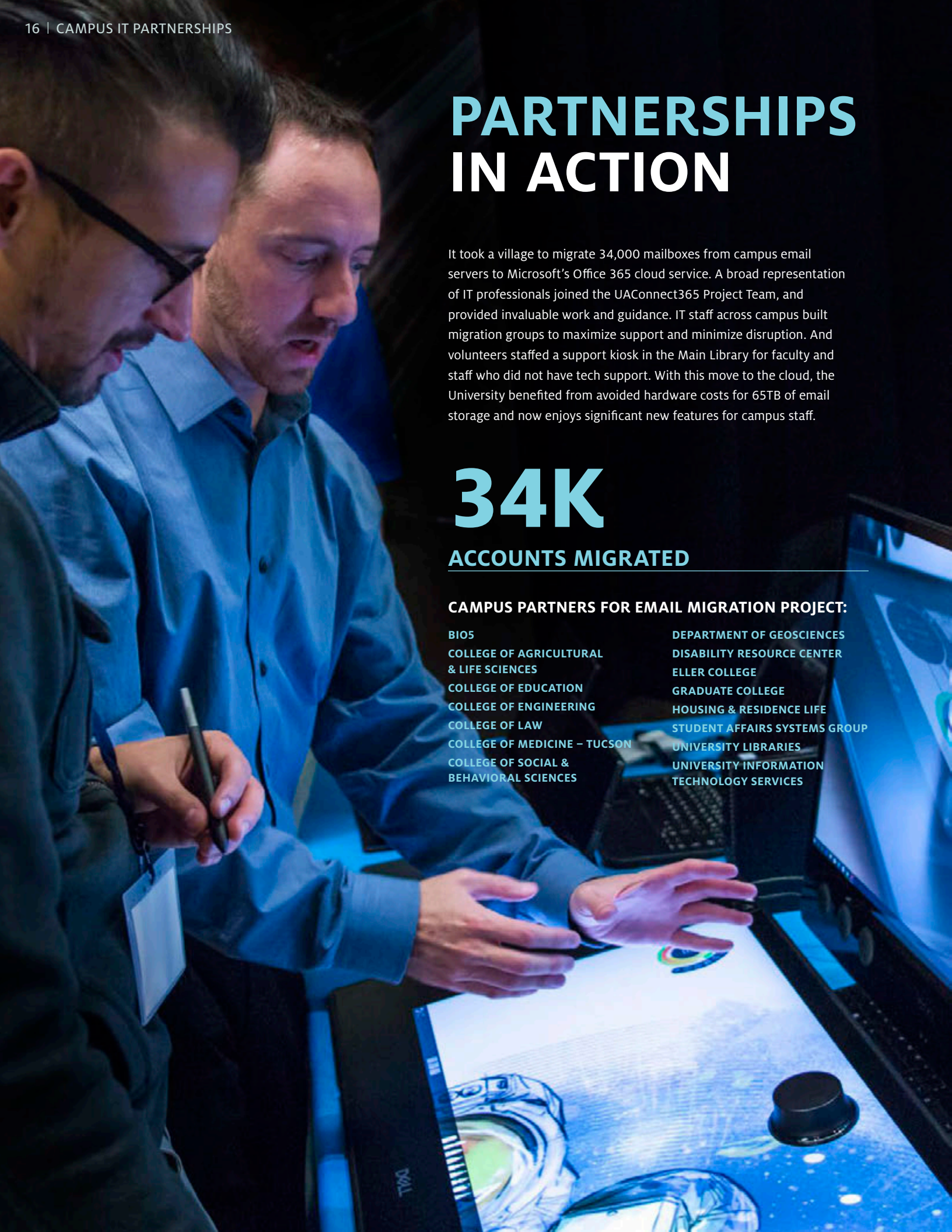
It took a village to migrate 34,000 mailboxes from campus email servers to Microsoft's Office 365 cloud service. A broad representation of IT professionals joined the UAConnect365 Project Team, and provided invaluable work and guidance. IT staff across campus built migration groups to maximize support and minimize disruption. And volunteers staffed a support kiosk in the Main Library for faculty and staff who did not have tech support. With this move to the cloud, the University benefited from avoided hardware costs for 65TB of email storage and now enjoys significant new features for campus staff.

34K

ACCOUNTS MIGRATED

CAMPUS PARTNERS FOR EMAIL MIGRATION PROJECT:

- | | |
|---|--|
| BIO5 | DEPARTMENT OF GEOSCIENCES |
| COLLEGE OF AGRICULTURAL & LIFE SCIENCES | DISABILITY RESOURCE CENTER |
| COLLEGE OF EDUCATION | ELLER COLLEGE |
| COLLEGE OF ENGINEERING | GRADUATE COLLEGE |
| COLLEGE OF LAW | HOUSING & RESIDENCE LIFE |
| COLLEGE OF MEDICINE – TUCSON | STUDENT AFFAIRS SYSTEMS GROUP |
| COLLEGE OF SOCIAL & BEHAVIORAL SCIENCES | UNIVERSITY LIBRARIES |
| | UNIVERSITY INFORMATION TECHNOLOGY SERVICES |



CAMPUS + UITS + MARKETING & BRAND MANAGEMENT

= UA SITES

ON-BRAND | MOBILE | RESPONSIVE | ACCESSIBLE

A NEW ERA OF WEB DEVELOPMENT

Marketing & Brand Management saw a need for colleges and departments to make branded websites more easily. UITS Campus Web Services wanted a more standard platform with security and accessibility compliance. The two groups partnered with other campus web developers in a collaborative effort dubbed UA Digital. After three years of hard work, the group has optimized Quickstart, a turn-key solution providing assets incorporating the UA brand and web best practices. Quickstart is also used as the basis for UA Sites, a templated website service for rapid launches.

CAMPUS WEB SERVICES

WEBSITES LAUNCHED	230
WEBSITES MIGRATED TO CLOUD	900+

“THE CAMPUS WEB SERVICE TEAM’S STRATEGY & LONG HOURS HAVE TAKEN THE STRESS OUT OF WEBSITE LAUNCHES ALMOST ENTIRELY.”

— BARRETT BAFFERT, DIRECTOR OF DIGITAL MARKETING, MARKETING & BRAND MANAGEMENT

24/7 IT SUPPORT CENTER

Serving students, faculty, and staff daily.

104K

TOTAL REQUESTS FOR SERVICE

SERVICE DESK CALLS	73.6K
WALK-IN ASSISTANCE	10K
EMAIL / WEB / SECURITY	5.5K
CHAT ASSISTANCE	14.1K
CUSTOMER PORTAL	1K

UASERVICE IMPLEMENTATION

Representatives from over 20 departments chose Cherwell as the campus service request and tracking solution, which rolled out in July 2017 as UAService. The 24/7 IT Support Center and other UITS teams are using it, as are 8 other campus units and more to come.

CAMPUS WEB SERVICES

Campus Web Services launched the new Arizona.edu, security.arizona.edu, provost.arizona.edu, president.arizona.edu, and numerous other new sites. Additionally, it migrated over 900 sites to cloud services.

5TH ANNUAL IT SUMMIT

The 5th annual IT Summit provided a forum for 600 campus IT professionals to teach, learn, communicate, and build relationships. An additional Workshop Day was included for the first time, where participants got more in-depth, hands-on experience with various IT topics.

IT LEADERSHIP ACADEMY

The IT Leadership Academy’s third cohort of UA IT professionals completed their course. This partnership between the Division of Human Resources and UITS has produced 72 alumni who are creating a more cohesive, collaborative, forward-thinking campus IT community.

SERVICES

- CAMPUS OUTREACH
- CAMPUS WEB SERVICES
- 24/7 IT SUPPORT CENTER
- DESKTOP SUPPORT (FEE-BASED)
- SOFTWARE
 - EMAIL
 - WINDOWS/OFFICE
 - ADOBE
 - BOX
 - RED HAT LINUX
 - ACTIVE DIRECTORY
 - ZOOM

BUILDING INFRASTRUCTURE FOR TOMORROW'S TECHNOLOGY

**4TH
FASTEST**

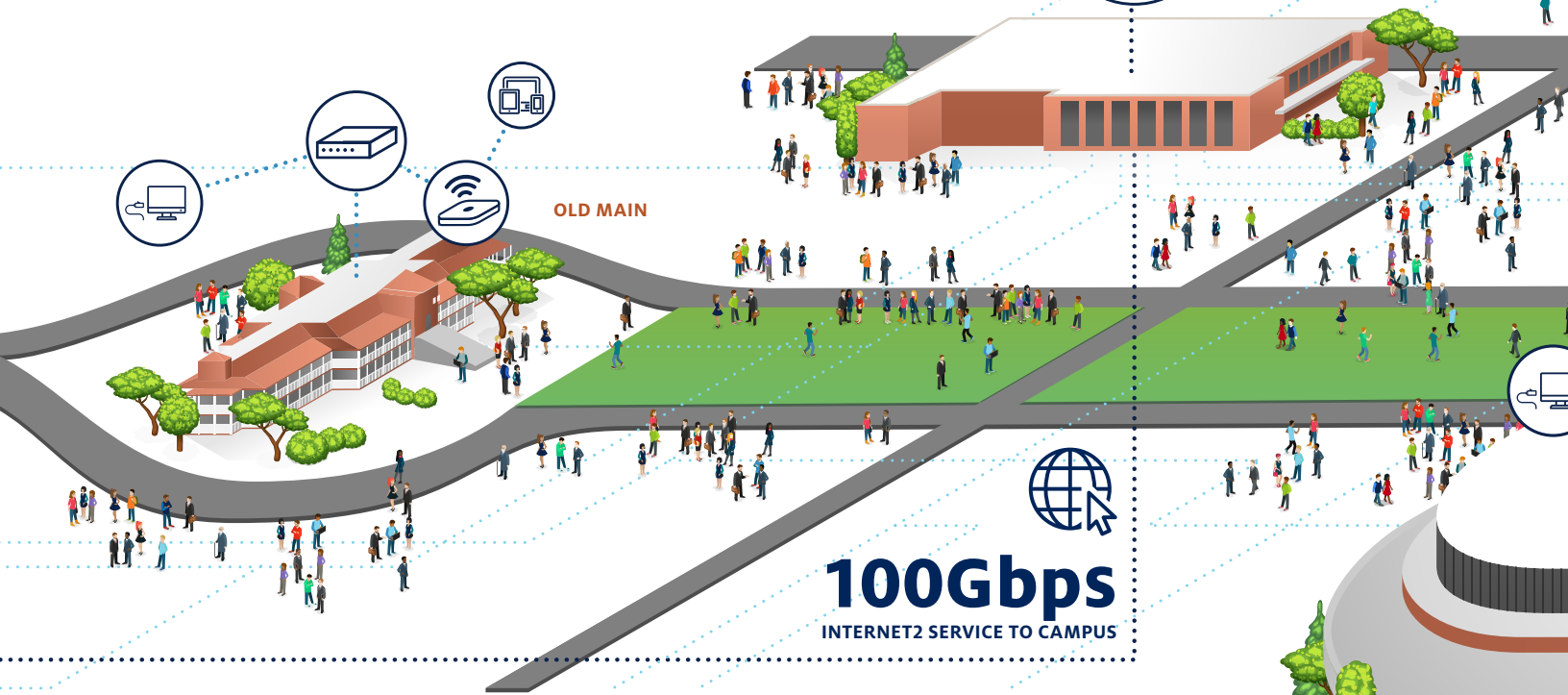
CAMPUS WIFI NETWORK IN THE US

(PCMag August 2018)

UITs Network and Operations is designing and maintaining the next generation of technology infrastructure for students, faculty, and staff as they increase the demand for network availability, performance, and security with their digital devices.



UNIVERSITY
INFORMATION
TECHNOLOGY
SERVICES



CONNECT FASTER, SAFER, BETTER, WITH UPGRADED NETWORK

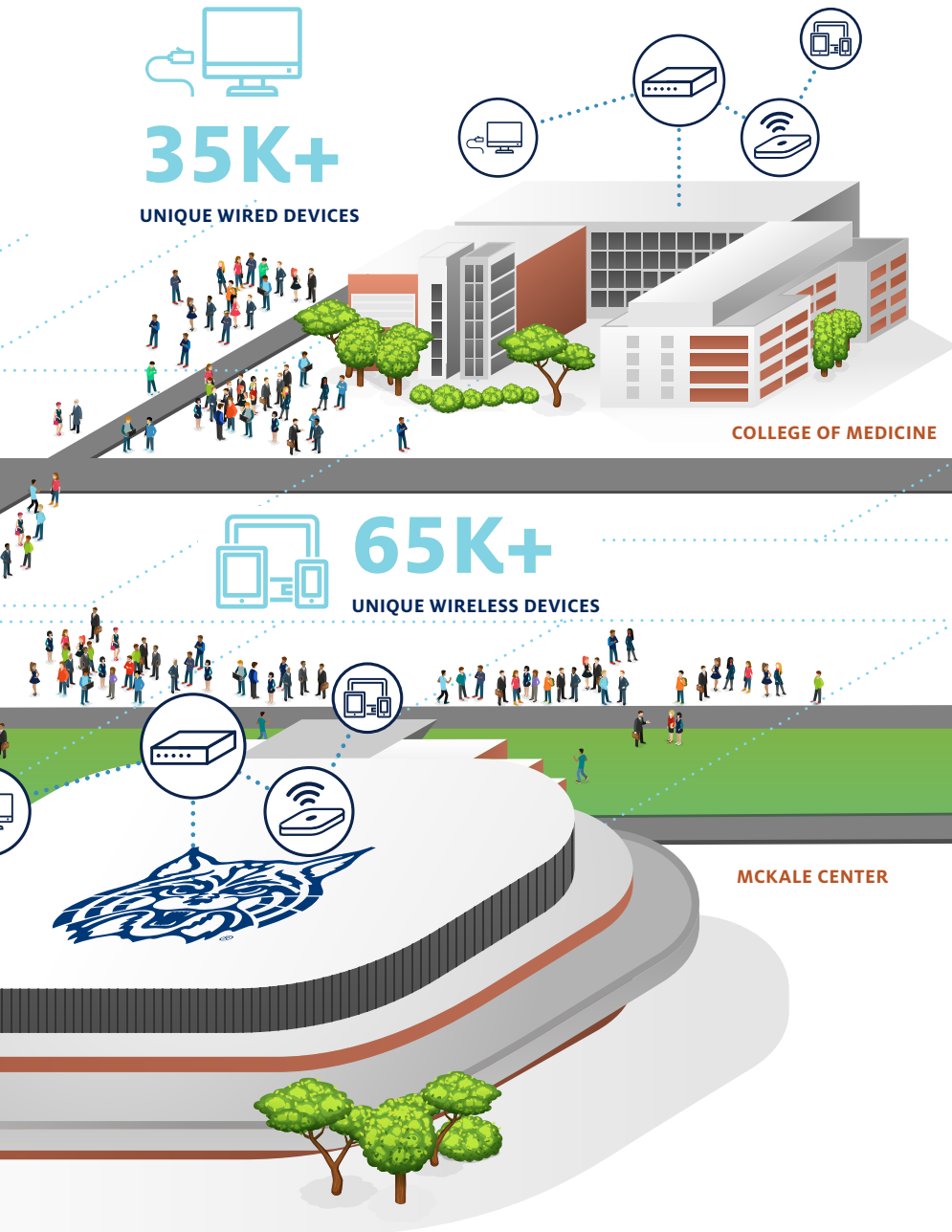
From moving huge research data sets by day, to streaming television in residence halls at night, there are more demands on the campus network than ever before. Artificial intelligence and the Internet of Things means these demands are only increasing. In FY18 UITs concluded a massive \$8M upgrade to the backbone of the campus data network to 100Gbps, while increasing security and improving scalability for future demands.

SUPPORTING “ALL OF US”

When University of Arizona Health Sciences and Banner Health received the largest National Institutes of Health award in Arizona history (\$9 million, expected to total \$60 million over the next five years), they needed a way for their research participants to contact them. UITs telecommunications professionals designed and implemented a call center with automatic greetings and rollover to the next available operator. Over 1 million volunteers participating in the “All of Us” research project can now enroll, ask questions, and set appointments with the study’s representatives.

LEARNING OPPORTUNITY FOR ARIZONA SCHOOLS

Over 100 school district personnel and service providers attended Tucson’s first Sun Corridor Network Learning Day on November 8, 2017. State and national experts explained the high-speed research and education network, demonstrated real world applications in classrooms, and educated attendees on e-rate for schools.



20

CORE NETWORK DEVICES
1 year old



2,143

ROUTERS + SWITCHES CAMPUS WIDE
735 are 7-16 years old (obsolete)



9,568

WI-FI ACCESS POINTS CAMPUS WIDE
5 years old

SERVICES

- NETWORK CORE & INTERNET2 ISP
- CAMPUS DATA NETWORK
- VOICE SERVICES
- NETWORK MANAGEMENT
- NETWORK & DATA CENTER OPERATIONS

300K+

CABLE PAIRS ASSIGNED FOR DATA & VOICE

UA’S TELEPHONE & INTERNET SERVICES SPAN ARIZONA

A critical function of the Infrastructure & Foundational Technologies team is providing voice and data services on campus, across Tucson, and in 12 primary locations across Arizona. The Telecom Team, nicknamed “UA’s Telephone and Internet Company,” serves UA staff and students from Yuma to Flagstaff to Douglas, and even on top of Mt Graham. There is UA telecom service in each of the 15 counties in the state. UA faculty and staff make 50,000 phone calls per business day!

\$3 MILLION

ANNUAL SAVINGS IN THE CLOUD

\$6.0M Refresh in FY14



\$1.9M Refresh in FY18
+\$1.3M Cloud Spend in FY18

ADVANCING AVAILABILITY, EFFICIENCY, & SECURITY WITH CLOUD SERVICES

The UA's Cloud First strategy involves looking first to see whether the service or storage needs can be met offsite rather than investing capital in hardware on campus and the associated service costs.

2013

- Developed Cloud First Business Case

2014

- Posted Commodity Infrastructure as a Service RFP
- Kicked Off Cloud Initiative

2015

- Trained Staff
- Set Up Development and Test Environments
- Launched first enterprise system UAccess Research (Kuali Coeus) in AWS

OUR CLOUD JOURNEY

RISK

Security

TIME

Deployment • Agility

PURCHASING

Servers • Generators

EQUIPMENT

AC • Battery Backup • Power

CLLOUDAPRISE EFFORTS EQUAL CAPITAL SAVINGS

In 2014, University of Arizona adopted its Cloud First Strategy, which prioritizes the use of cloud services or cloud hosting rather than on-site servers for enterprise services. Since then, UITS has been divesting from computer equipment purchases in favor of cloud services.

The migration of existing on-site enterprise services, celebrated as Cloudaprise, reached a major milestone in FY18 when all enterprise application migrations were completed. 30 systems were migrated in FY18, including UAccess Financials, UAccess Employee, UAccess Student, UAccess Analytics, faculty/staff email, and the university integration and access management tools.

Since Cloudaprise began, UA has experienced substantial reduction in annual refresh spending on computer equipment. UITS has realized other benefits from this shift as well, including enhanced security and agility/speed of deployment. Some of the hidden savings include reduction in power and other equipment categories like AC, backup generators, and batteries, which are not accounted for in the \$3 million per year savings.

CLLOUD LEADERSHIP AWARD

In November 2017, UA was recognized for its efforts in moving enterprise systems to the cloud with an overall win in the inaugural Cloud Leadership Awards, shared with University of Notre Dame. The UA was also recognized as a winner in the Backup/Disaster Recovery category. The awards were presented by E&I Cooperative Services at the 2017 EDUCAUSE Annual conference.

MIGRATION MILESTONES:

These critical systems now enjoy the benefits of cloud for capital savings and enhanced information security:

UACCESS ANALYTICS

UACCESS EMPLOYEE

UACCESS STUDENT

UACCESS FINANCIALS: Kuali financial system

KUALI TOOLS: application development tools

UACBT: Computer Based Training system

LABVIEW: student lab software application

SUNAPSYS: international student information management

DISCOURSE: collaboration software

EDS: Employee Directory Services

WEBAUTH: authentication tool

NETID: authentication tool

GROUPER: group information management system

EPM DATA WAREHOUSE: for Business Intelligence data

IBM ELT DATA STORAGE: for Business Intelligence data

UTILITY SERVER

JIRA: work request tracking

CONFLUENCE: wiki tool

UACONNECT: faculty/staff email

2016

- Continued planning and testing of cloud environments
- Migrated smaller systems as part of ramp up process

2017

- Accelerated pace of enterprise migrations
- University of Arizona receives national Cloud Leadership Award

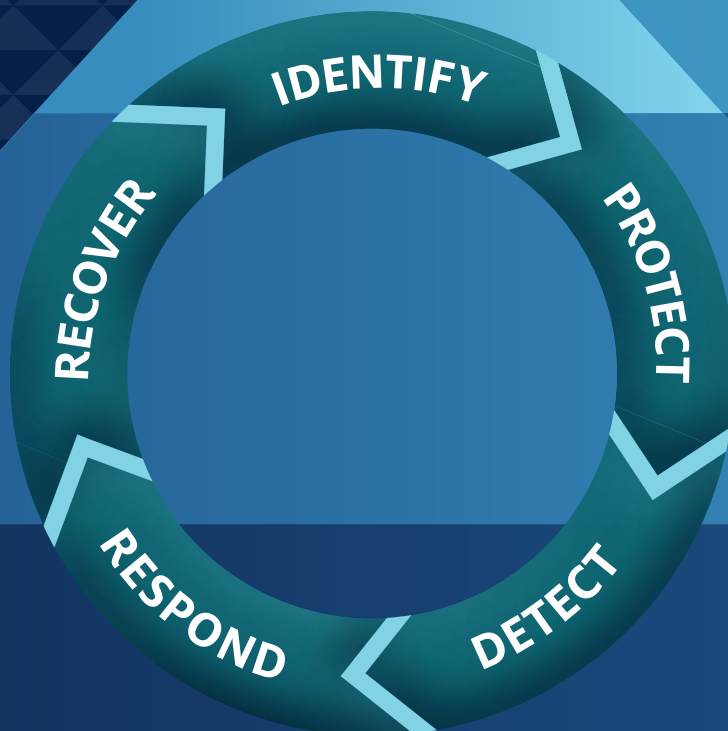
2018

- Completed migration of major enterprise systems to AWS



INFORMATION SECURITY MODEL

The Information Security Office designs and implements a comprehensive security program to protect sensitive information, reduce risk, and define roles and responsibilities.



FOCUSING ON INFORMATION SECURITY

This year the Information Security Office size was expanded to accommodate today's information security threats to UA and personal digital device users. Eight areas of targeted focus were created and projects either started or progressed to fulfill the needs by newly augmented staffing. Some projects had immediate visibility, such as the implementation of NetID+ two-factor authentication. Others were not as visible as they encompassed systems and processes to protect data within the UA network, such as end-point security systems which protect computer networks and devices.

30k

USERS PROTECTED BY NETID+ AS OF SPRING 2018

PROTECTING PEOPLE & SYSTEMS WITH 2-FACTOR AUTHENTICATION

Current cybersecurity threats mean that it is not so much a matter of if but when a password will get compromised. In order to protect student, employee, and campus data, the university has implemented a policy of 2-factor authentication for all logins. The UA's NetID+ initiative was implemented with the help of five different campus units. IT Support staff across the campus participated in assisting with active enrollment of over 30,000 faculty, staff, designated campus colleagues, and retirees.

SAFE COMPUTING ENVIRONMENT THAT SUPPORTS TEACHING & RESEARCH



SECURE RESEARCH & EDUCATION ENVIRONMENTS



PRIVACY AND REGULATORY REQUIREMENTS

SECURE SYSTEMS



SECURE WEB CODING PRACTICES

NetID+

TWO FACTOR AUTHENTICATION

RAPID RESPONSE



LOGGING & MONITORING



VULNERABILITY & PATCH MANAGEMENT

CREATING A CULTURE OF SECURITY AWARENESS



TRAINING & AWARENESS PROGRAM



GOVERNANCE & COMPLIANCE



RISK ASSESSMENT



DATA CLASSIFICATION

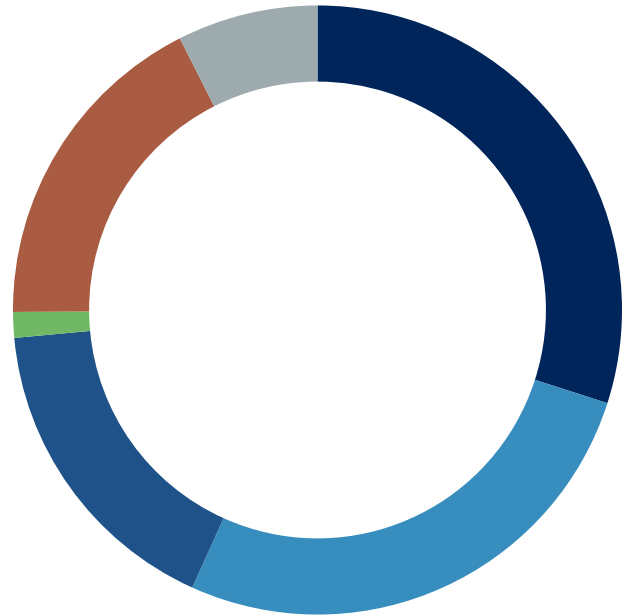
FINANCIAL INSIGHTS

UITs manages an annual budget of approximately \$68.8 million to provide a portfolio of IT services to the University community that support its teaching, learning, and research mission. UITs is committed to transparency and accountability to the UA community, and works to ensure that limited resources are allocated to the highest strategic priorities of the university.

SOURCES OF REVENUE

FOR FISCAL YEAR 2018 – TOTAL \$68.8 MILLION

SOURCE	AMOUNT
▲ STATE APPROPRIATIONS & TUITION	\$20,603,871
▲ SELF-SUSTAINING SERVICES	18,436,319
▲ STUDENT TECHNOLOGY FEE	11,551,773
▲ TECHNOLOGY RESEARCH INITIATIVE	936,722
SUBTOTAL	51,528,685
▲ TEMPORARY SOURCE	5,137,768
▲ CARRY FORWARD	12,132,407
GRAND TOTAL	\$68,798,860



EXPENDITURES BY DEPARTMENT

FOR FISCAL YEAR 2018 – TOTAL \$62.9 MILLION

ORGANIZATION NAME	FY18 SPEND
▲ INFRASTRUCTURE & FOUNDATIONAL TECH	\$25,446,943
▲ UITs ADMIN	9,288,640
▲ STUDENT & ACADEMIC TECHNOLOGIES	8,198,027
▲ ADMINISTRATIVE TECHNOLOGIES	6,411,466
▲ CAMPUS IT PARTNERSHIPS	5,220,974
▲ INFORMATION SECURITY OFFICE	5,014,769
▲ RESEARCH & DISCOVERY TECH	3,324,375
TOTAL	\$62,905,197



STUDENT INFORMATION TECHNOLOGY FEE

Students pay a mandatory annual fee which is used to enhance the University's student learning environment and increases UA's capacities to meet digital environment expectations.

USE OF FUNDS FY2018	AMOUNT
▲ WIRELESS NETWORK	\$1,951,698
▲ WIRED NETWORK	1,887,488
▲ CLASSROOM TECH	1,193,502
▲ LEARNING MANAGEMENT SYSTEMS	1,301,603
▲ ONLINE LEARNING	700,000
▲ STUDENT HELP DESK	1,584,916
▲ MANAGEMENT & ADMIN SERVICES	616,521
▲ STUDENT INNOVATION FUND (ITSAB)	60,344
▲ UA MOBILE SERVICES	151,456
▲ PREDICTIVE ANALYTICS	218,367
▲ STUDENT COMPUTING LABS	1,122,366
▲ SOFTWARE LICENSING	624,673
USES SUBTOTAL	11,412,934
BEGINNING FUND BALANCE	432,225
SOURCE OF FUNDS	11,551,773
USES OF FUNDS	(11,412,934)
ENDING FUND BALANCE	\$571,064

\$776

PER FTE ANNUALLY

COMMUNICATION USER FTE NETWORK

The Communication User FTE Network Funding Model is the mechanism by which UITS recovers a portion of the costs of providing data and voice connectivity to University of Arizona campus customers. This model is based on Full Time Equivalent (FTE) employees. For FY18, the FTE Rate was \$776 per FTE.

\$149

PAID PER STUDENT PER SEMESTER

**Fee for students entering FY2018 and beyond*

NETWORK

\$50.12

ACADEMIC TECH

\$47.71

IT SUPPORT

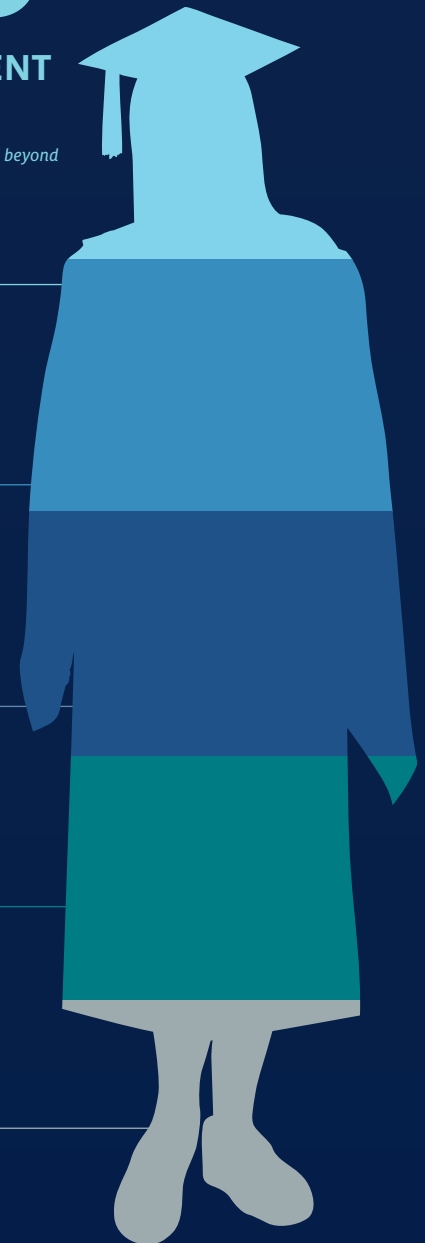
\$28.74

STUDENT TECH

\$20.27

SOFTWARE

\$8.16



\$5M

END OF LIFE NETWORK EQUIPMENT

DEFERRED MAINTENANCE COSTS

The University has accumulated deferred network infrastructure maintenance due to the lack of increase in the FTE fee since 2008. UA has deployed \$23.2M worth of network equipment on campus, \$5M of which is end of life and has not yet been refreshed.

HIGHER EDUCATION IT: PEER DATA ANALYSIS

Educause is a non-profit membership organization for higher education institutions and corporations serving the higher education information technology market. Its mission is to advance higher education through the use of information technology. The University of Arizona is an Educause member organization, along with many of the UA's peer institutions. Below is a peer data analysis for UA and designated peers based on data collected from the Integrated Postsecondary Education Data System for Fall 2016, the National Science Foundation Higher Education Research and Development Survey for FY2016, and the Educause Core Data Service Survey for FY2017.

INSTITUTION	STUDENT FTE ¹	GRANT & CONTRACT REVENUE ²	CENTRAL IT FTE ³	CENTRAL IT EXPENDITURES ³	CAMPUS IT FTE ³	CAMPUS IT EXPENDITURES ³
MICHIGAN STATE UNIVERSITY	50,340	\$613,369	—	—	—	—
TEXAS A&M UNIVERSITY	65,632	\$892,718	192	\$45,753,658	426	\$71,386,202
THE OHIO STATE UNIVERSITY	59,482	\$818,464	375	\$73,933,313	1,300	\$120,000,000
THE PENNSYLVANIA STATE UNIVERSITY	47,789	\$825,561	533	\$108,221,888	1,163	\$147,163,369
THE UNIVERSITY OF ARIZONA	43,161	\$604,464	222	\$56,809,063	475	\$58,364,883
THE UNIVERSITY OF IOWA	32,011	\$473,362	288	\$47,408,312	260	\$68,865,700
UNIVERSITY OF CALIFORNIA, DAVIS	36,460	\$741,892	—	—	—	—
UNIVERSITY OF CALIFORNIA, LOS ANGELES	43,548	\$1,037,528	—	—	—	—
UNIVERSITY OF FLORIDA	52,367	\$791,294	394	\$98,487,241	250	\$50,000,000
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN	46,951	\$625,180	251	\$39,991,604	730	\$123,527,090
UNIVERSITY OF MARYLAND	39,083	\$539,388	301	\$47,814,052	—	—
UNIVERSITY OF MINNESOTA	51,579	\$910,181	431	\$73,136,345	900	\$144,000,000
UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	29,468	\$1,045,338	391	\$78,810,494	—	—
UNIVERSITY OF TEXAS AT AUSTIN	51,331	\$621,692	295	\$41,488,066	677	\$127,086,757
UNIVERSITY OF WASHINGTON	45,591	\$1,277,679	478	\$109,614,493	1,500	\$330,000,000
UNIVERSITY OF WISCONSIN-MADISON	42,582	\$1,157,680	527	\$129,907,883	—	—

Sources:

1: Integrated Postsecondary Education Data System - Fall 2016

2: NSF HERD - FY2016

3: Educause Core Data Service - FY2017

TOP 10 IT ISSUES FOR 2018

Educause produces an annual Top 10 list of issues facing the higher education IT community. From key trends to specifics relevant to IT planning, this information helps IT professionals focus on what's important. This year's Top 10 list highlights the broad strategic impact of technology via four primary themes: Institutional Adaptiveness, Improved Student, Outcomes, Improved Decision-Making, and IT Adaptiveness.

TOP 10 IT ISSUES

2018 marked the third year in a row that information security was at the top of the list. Only one other issue, sustainable funding, has topped the annual list more times in a row.

1. INFORMATION SECURITY

Developing a risk-based security strategy that keeps pace with security threats and challenges

2. STUDENT SUCCESS

Managing the system implementations and integrations that support multiple student success initiatives

3. INSTITUTION-WIDE IT STRATEGY

Repositioning or reinforcing the role of IT leadership as an integral strategic partner of institutional leadership in achieving institutional missions

4. DATA-ENABLED INSTITUTIONAL CULTURE

Using BI and analytics to inform the broad conversation and answer big questions

5. STUDENT-CENTERED INSTITUTION

Understanding and advancing technology's role in defining the student experience on campus (from applicants to alumni)

6. HIGHER EDUCATION AFFORDABILITY

Balancing and rightsizing IT priorities and budget to support IT-enabled institutional efficiencies and innovations in the context of institutional funding realities

7. IT STAFFING AND ORGANIZATIONAL MODELS

Ensuring adequate staffing capacity and staff retention in the face of retirements, new sourcing models, growing external competition, rising salaries, and the demands of technology initiatives on both IT and non-IT staff

8. DATA MANAGEMENT AND GOVERNANCE

Implementing effective institutional data governance practices

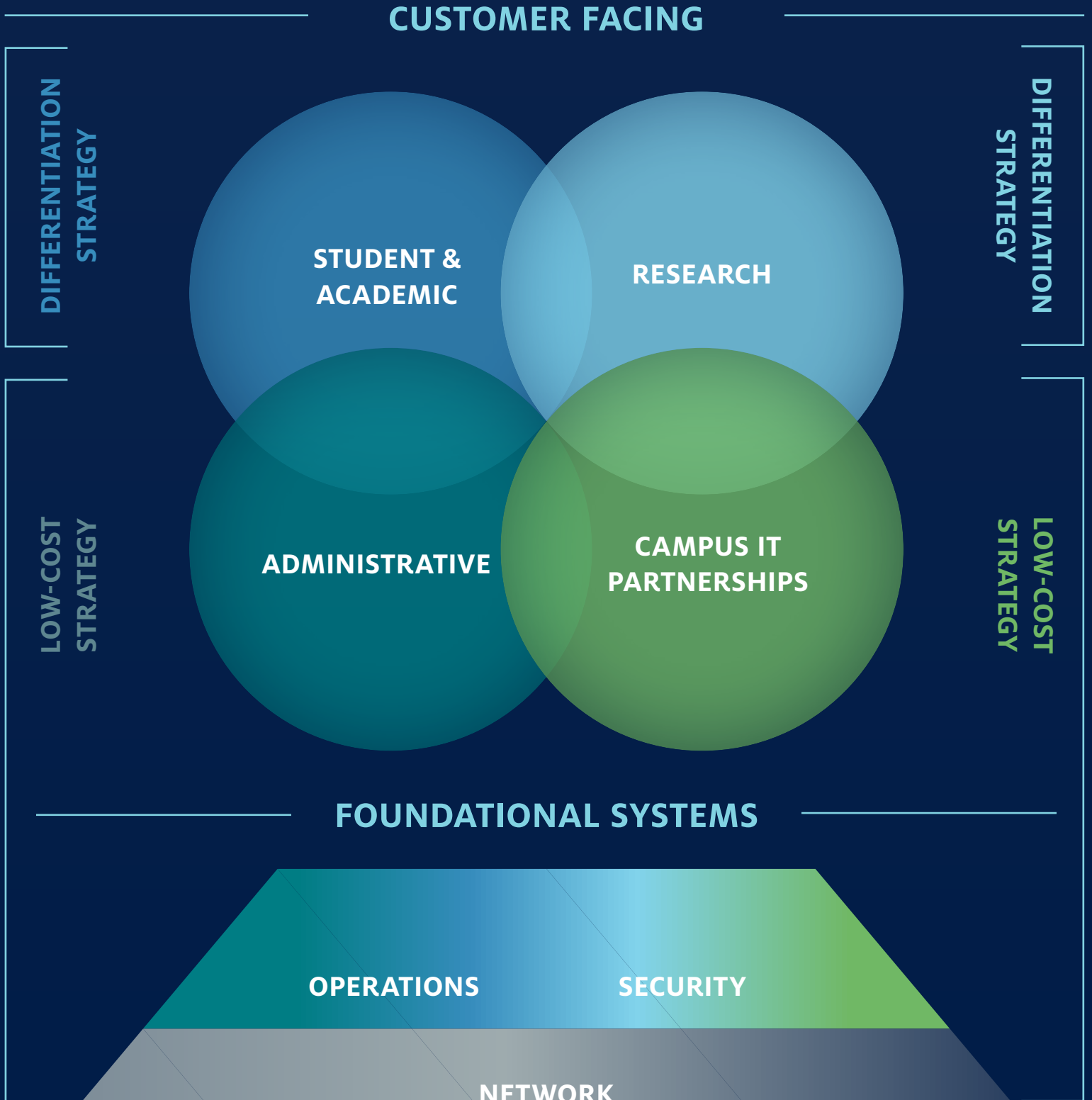
9. DIGITAL INTEGRATIONS

Ensuring system interoperability, scalability, and extensibility, as well as data integrity, standards, and governance, across multiple applications and platforms

10. CHANGE LEADERSHIP

Helping institutional constituents (including the IT staff) adapt to the increasing pace of technology change

UITS ORGANIZATIONAL DESIGN



EXECUTIVE LEADERSHIP TEAM



BARRY BRUMMUND
Chief Information Officer



THOMAS BOURGEOIS
Executive Director,
Campus IT Partnerships



MARISELA CELAYA
Assistant Director, Human
Resources & Organizational
Development; **Vice Chair**,
Senior Leadership Team



LANITA COLLETTE
Chief Information
Security Officer



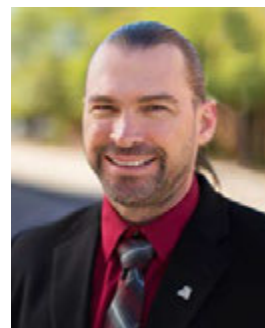
JEREMY FRUMKIN
Executive Director,
Research Technologies



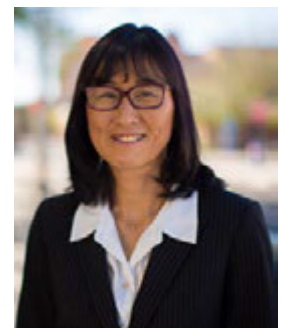
DAVID LANE
Executive Director,
Infrastructure & Foundational
Technologies



SUSAN LEGG
Director, IT Service Management
Chair, Senior Leadership Team



DEREK MASSETH
Chief Technology Officer



MICHIKO PINNINGTON
Senior Director, Finance
& Administration



TIMOTHY SCHWAB
Executive Director,
Administrative Technologies



KELLY SOUTH
Director, Communications
& Marketing



DARCY VAN PATTEN
Executive Director, Student
& Academic Technologies



KAREN WILLIAMS
Vice President, Information
Strategy & University Libraries



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