Technology is a part of virtually every aspect of our lives. From the ways our homes are controlled, to how we shop, manage our finances, travel, and consume entertainment, we are inextricably linked with the technologies that power our world. This is especially true at the University of Virginia, where technology is integral to how we teach and learn, conduct research, and maintain the daily operations of the University. UVA Information Technology Services (ITS) strives to provide the appropriate technology products, services, security, and support necessary to enable the faculty, staff, and students of today to learn and discover the possibilities of tomorrow.

Working with our stakeholders to achieve this vision, we use four guiding principles to shape the resulting solutions:

- **Connect**: reducing barriers to communications and collaboration across Grounds and beyond
- **Access**: providing facile and streamlined access to information, systems, and IT services
- **Simplify**: reducing unnecessary complexity, duplication, and administration of IT systems and processes
- **Innovate**: seeking new and improved solutions to create value for the University and its stakeholders

In our *Year in Review 2018*, we look back at what we have accomplished toward this vision. 2018 was an especially busy year, and we are grateful both for our dedicated staff and to our partners across Grounds who made all of this possible!

Looking forward to what we can do in 2019 and beyond.

Virginia H. Evans  
Chief Information Officer
Providing technology-enabled platforms for teaching in the classroom
UVACOLLAB: FORMING PARTNERSHIPS AROUND GROUNDS & ACROSS THE GLOBE

UVACollab, the University’s central online course management and collaboration system, is designed to support teaching, learning, and teamwork. Powered by Sakai, Collab’s customizable, open-source foundation, this tool innovates and evolves to meet the needs of a constantly changing teaching and learning landscape.

Within UVACollab’s digital environment, faculty create course sites with rosters, syllabi, and other materials for their students to access. Staff members, researchers, and others across the University manage sites for collaboration with project teams, research groups, and committees. Currently, there are about 30,000 collaboration sites in use. Through partnerships across departments, schools, and the UVACollab team, this system continues to be enhanced with new tools and capabilities—many of which are used by the global Sakai community.

2018 Enhancements & Projects

- Upgraded Kaltura Media Gallery to a modern look & feel
- Created a new Gradebook to simplify grading
- Continued work on the Site Builder Project which targets pedagogical goals
- Launched a new Statistics tool to analyze engagement

91% courses using UVACollab
Enabling an exceptional educational experience for our students
CLASSROOMS EQUIPPED WITH LEADING-EDGE TECHNOLOGY

Partnering with the Office of the Executive Vice President & Provost, ITS maintains and supports world-class technology in more than 175 classrooms across Grounds. These academic spaces are ever evolving alongside new and innovative ways of teaching and learning, with the latest developments including active learning spaces and flipped classrooms. At the core of these rooms are standardized technologies, allowing faculty to move seamlessly from one to the next and contributing to the flexibility of class scheduling. Technical support is provided six days a week and is readily available to keep courses on time and functioning smoothly. Along with refreshing existing equipment in 2018, the classrooms team made their first foray into laser projection.

175 classrooms with ITS-supported technologies

5,471 courses conducted in ITS classrooms in 2018

382,414 hours students spent in ITS classrooms in 2018
Research efforts at UVA are growing in volume and complexity and include more than $1B in proposal activity just in this past year. Managing UVA’s Sponsored Programs portfolio that processes and tracks these resulting grants requires the use of the latest technology. In 2018, Information Technology Services’ Custom Applications and Consulting Services (CACS), with the UVA Office of Sponsored Programs (OSP), completed the third year of the ResearchUVA System project. Highlights include enhancements to the Electronic Proposal Routing Form (ePRF), data analysis improvements, Sponsor Award capture, and user interface and workflow for processing eNFAs (non-funded agreements).

Removing the barriers to research & discovery
**100 GB RESEARCH NETWORK CONNECTION**

To support growing research network needs, ITS completed projects in 2018 to upgrade UVA’s global research network connection and further enhance network capacity. ITS increased UVA’s primary research network connection to 100Gbps, which also allowed next-generation, high-performance access to commercial service providers such as Google, Microsoft, and Apple. To take advantage of this increased bandwidth, ITS enhanced network capacity across Grounds by adding higher bandwidth redundant connections (10Gbps) to a prioritized list of academic buildings.

**QUALTRICS RESEARCH SUITE**

In partnership with schools and departments across the University, ITS provides access to the Qualtrics Research Suite, a robust survey tool with a multitude of question types, complex survey flow patterns, and the ability to complete NetBadge-authenticated surveys. In 2018, UVA was one of the top 30 universities to use Qualtrics, based on number of surveys and responses.

1,005,995 Qualtrics survey responses in 2018

**SECURE COMPUTING CLOUD**

Operating as an on-site secure computing cloud, “Ivy” is a flexible computing environment providing faculty with infrastructure that enables analysis of sensitive information that cannot be analyzed on existing High Performance Computing platforms due to security restrictions. In 2018, ITS Information Security and Enterprise Infrastructure staff worked to implement 110 controls to make a portion of Ivy suitable for new compliance regulations. In addition, ITS made ready a similarly secure off-Grounds cloud using Amazon Web Services.
Over the past three years, UVA Information Security has united people, processes, and tools via the SecureUVA Program to modernize the University’s cyber defenses. Although the SecureUVA projects and initiatives may be coming to a close, the work is far from complete. Cybercrime rates are at an all-time high, with complex threats becoming increasingly difficult to detect and protect against. UVA Information Security remains committed to helping safeguard the University by preventing these threats before they happen. While the impacts made by this work may not be visible, they are considerable. Eleven projects were completed in 2018 toward the SecureUVA effort. UVA Information Security has, with partners across Grounds, implemented a number of significant behind-the-scenes efforts to help enable the University community to safely teach, learn, research, and collaborate.

**SECURE ENVIRONMENT**

- **52,878** users enrolled in 2-Step Login
- **2,422,000** email messages received daily in 2018 (average)
- **1,545,000** incoming emails detected daily as spam in 2018 (average)
- **12,950,900** daily attacks blocked by our intrusion protection system/firewalls
INNOVATIVE INFORMATION SECURITY SOLUTIONS

Improvements to cyber security defenses allow UVA Information Security to protect against, detect, and respond to cyber threats. These and other enhancements combine to create a virtual shield, defending University data and IT resources.

**Protect**

Intrusion protection systems, firewalls, multifactor authentication, security education and awareness, including phishing simulations, antimalware protections, network segmentation, and other tools help protect University data and IT resources from being accessed by unauthorized users.

**Detect**

Intrusion detection systems, security scans, event correlation systems, and other tools detect suspicious activities before they penetrate University IT resources.

**Respond**

Incident response capabilities and systems, data correlation systems, and tabletop exercises help UVA quickly and effectively respond to security incidents.

35% to 5%

The reduction in users falling for phishing messages before and after in-person training

IT SECURITY ADVISORY COMMITTEE

The Information Technology Security Advisory Committee (SAC) provides guidance and assistance to the Chief Information Security Officer (CISO) on matters affecting the SecureUVA Program and related projects. The focus of the committee is on improving the overall cybersecurity environment at the University in a collaborative and outcome-based manner. Members of the committee are responsible for representing the interests of their respective schools and departments as well as the University as a whole.
Making sure the right people have the right access at the right time

931,352

user records in the IAM system
IDENTITY & ACCESS MANAGEMENT

The University depends on a central identity management system to create and maintain digital identities for the Academic Division, the Medical Center, and various University foundations. In 2018, ITS implemented a new, modern Identity and Access Management (IAM) system that recognizes and reflects the concurrent multi-affiliation status of our extensive user community and streamlines the account claiming and activation process for new users.

52,793
active faculty, staff, & student accounts

11,166
active sponsored accounts (foundation employees, contractors, volunteers, etc.)

In 2018, Phase I of the IAM Project was completed and included the following user and provisioning improvements:

- Activate your UVA computing ID and set your password online, before coming to Grounds
- Manage your password and security questions
- Set your preferred or professional name
- Add an alternate email address and phone number for self-service password recovery
- Manage your “from” email address
- Near real-time integration between IAM and Student Information System, Workday, Active Directory, Private LDAP, Community LDAP
- Early account provisioning for new hires
- Multi-valued attributes to reflect concurrent roles and multiple job assignments
Providing a robust collaboration & communication platform for faculty & staff across Grounds
OFFICE 365 IN THE CLOUD

With an Academic Division workforce of over 14,000 full-time faculty and staff—working on our phones, tablets, and laptops across Grounds, around “The Corner” and around the world—we need the ability to connect and work from anywhere, anytime, with files and documents easily accessible in the cloud.

In 2018, ITS completed the deployment of Office 365, an entirely cloud-based suite of tools providing access to Email, Calendaring, Office Online (Word, PowerPoint, Excel), SharePoint Online, One Drive, Skype for Business, Groups, and Teams.

With Office 365, your mobile office is wherever you are as long as you have an internet connection and a mobile device. You can become more effective and efficient while you’re on the go, co-editing documents in real time, analyzing spreadsheets, having live video chats with team members, and much more.
Providing critical infrastructure 24 x 7 x 365

**NETWORK**
- 6,400 WiFi access points
- 95,000 WiFi devices connecting per day

**TELEPHONE**
- 27,000 phones to which we provide service
- 52,000,000 calls handled in 2018

**EMAIL**
- 1,000,000,000 unique emails processed in 2018
**DISASTER RECOVERY, CONTINUITY OF OPERATIONS, & RESILIENCY**

With technology at the heart of much of what we do at UVA, it is important that systems and services run properly. When an unforeseen event happens, ITS must be prepared to recover as quickly as possible to resume normal operations. In 2018, ITS completed a comprehensive review of its disaster recovery and continuity of operations plans to ensure that the University will get back up and running in the shortest time possible in the event of a problem. ITS also devised a plan to continuously review core infrastructure to ensure it can withstand events that would impact the availability of services.

**UVA HELP DESK**

The UVA Help Desk supports information technology 24 hours a day, 7 days a week, 365 days a year. Help Desk specialists offer expertise in a broad range of technologies and platforms, answering questions and providing solutions in support of the systems offered by ITS. Support is available via email, phone, and chat.

- **64,018** contacts with Help Desk in 2018
- **90%** calls answered in less than 1 minute
- **4 of 5** overall satisfaction rating
Starting with just 60 laptops in 2014, ITS began offering a Desktop Support service managing and supporting UVA workstations around Grounds. The ITS Desktop Support group now supports 1,000 workstations for nine departments. In 2018, the group assisted UVA Human Resources with the transition of people and technology to different locations, including moving academic staff to the Health System. The group was also instrumental in implementing SecureUVA initiatives on desktops to ensure greater security. This premium service employs modern desktop management tools and practices to reduce costs, improve security, and alleviate departmental resources.
END-TO-END WEBSITE SOLUTIONS

ITS Custom Applications and Consulting Services (CACS) provides full-service digital design, development, and hosting solutions, and creates or redesigns professional end-to-end website solutions, including web-based applications, Salesforce development, and Drupal websites. In 2018, CACS developed 75 Drupal websites for members of the University community, including UVA Parking & Transportation, the International Studies Office, the Vice President for Finance, and the School of Law. A number of applications were implemented or further enhanced across the University in 2018, streamlining the processes of SafeGrounds, ResearchUVA, the UVA Department of Radiology, the Young Writers Workshop, Mass Mail, and more.

ITS SUPPORTED UFIRST & MAJOR WORKDAY IMPLEMENTATION

128 Workday integrations developed

29,934 faculty & staff records migrated through 165 data conversion programs from 3 different HR systems

1,000 specific Workday business processes configured
PARTNERSHIPS

IT ADVISORY COMMITTEE

The IT Advisory Committee (ITAC), along with its permanent and temporary subcommittees, provides ITS with guidance and common solutions. Members of the committee represent the interests of schools, departments, and the University as a whole.

ITAC assisted with 2018 initiatives including SecureUVA, Identity & Access Management, UVA compliance with student data requirements, and adoption of cloud offerings and services. ITAC subcommittees worked on desktop management standards to meet IT audit requirements, and on facilitating LSPs’ requests to ensure better support for end users.

HR/FINANCE SENIOR ADVISORY BOARD

The Human Resources/Finance Senior Advisory Board is comprised of directors and data stewards who assist in prioritizing major initiatives for ITS Enterprise Applications in the areas of human resources and finance. Board members also propose and represent major initiatives in their respective areas for consideration and prioritization before decisions are considered by the Vice Presidents’ Designees and the Integrated System Executive Committee. In 2018, the Board extensively focused on the Workday implementation.

STUDENT INFORMATION SYSTEM ADVISORY BOARD

The Student Information System (SIS) Advisory Board provides institutional recommendations that support the evolution of SIS. Board members serve as ambassadors of SIS within their respective vice presidential or school structures, and provide functional expertise that informs the evolution of SIS. Board members advised the SIS team on several new integrations to and from SIS (Workday, Slate, iExperience), incorporating the Student Information Update form in SIS, a new collaboration with HighPoint to improve the student experience, and the introduction of Delegated Access for limited SIS access to family members.

ENGAGING STUDENTS

In 2018, ITS engaged UVA students participating in the Meriwether Lewis Institute for Citizen Leadership in an in-depth, design-thinking session focused on making improvements to SIS and the course enrollment process. Ideas generated from the group, with help from several student interns, are expected to be implemented in future enhancements to SIS.
Since its inception more than 20 years ago, the Local Support Partner (LSP) program has become one of the largest employee communities at UVA, reaching 350 members in 2018. The LSP and ITS communities interact frequently, with two annual conferences, monthly collectives, and a newly established weekly newsletter providing multiple ways for ITS staff to share news and updates, and for the LSPs to offer essential feedback from their own and their users’ experiences. The LSP program is a vital partnership between ITS and the IT professionals serving departments throughout the University.

This partnership often leads to improved ITS products, services, and community outreach efforts. In 2018, LSP program members worked with ITS to:

- identify and implement changes to the UVA Network Setup Tool
- end support for devices with the lesser-used Windows 8 Operating System (OS)
- implement a new System Center Configuration Manager (SCCM)
- identify ways to streamline support from ITS

Working with stakeholders across Grounds to build solutions together
ITS is focused on offering professional development courses around the 39 skills on the CIO Skills Roadmap.

Dozens of ITS staff spent over 55 hours working directly with new students in orientation sessions, at move-in weekend, and during WiFi clinics.

ITS staff hosted Tech Takeback for 2 days during Earth Week in April.

ITS staff have a combined total of 3,303 years of service to the University.

ITS staff hosted Tech Takeback for 2 days during Earth Week in April.

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ITS uses a project & portfolio management framework on 100s of projects each year, ensuring that available resources are focused on the highest priorities in support of the University’s mission.

Incident Management at ITS follows industry best practices using a dedicated incident response team with pre-defined roles and a 30-minute response time.

Staff fulfilled over 19,000 service requests for the 96 services offered by ITS.