





Virginia Commonwealth University is:

Diverse - In every sense of the word

Urban - Seamlessly integrated with the city of Richmond

Involved - Working with communities to improve lives everywhere

Inquisitive - Conducting research with a creative twist

Pioneering - Exploring new ways to advance human health.

The people, projects, and accomplishments included in this report represent how the VCU Technology Services team embodies and enables what VCU is all about. Information technology plays a key role in everything we do here at VCU. We make IT real to help the VCU community to Make It Real.

Alex Henson

*Chief Information Officer,
VCU Technology Services*

VCU Technology Services provides essential tools and services to help our students, staff, and faculty adapt and innovate in an ever-changing learning environment.

The technology solutions we deliver enhance communication, education, research, and the overall VCU experience for the entire VCU community.

Academic Technologies

Labs and Classrooms Computing

Upgrades

Reduced the cost of Adobe Creative Cloud subscriptions for students by \$23 per year and synced the offerings to a semester-basis to simplify things. In addition, students can now purchase an Adobe CC subscription during the semester when they need it.

Data Items

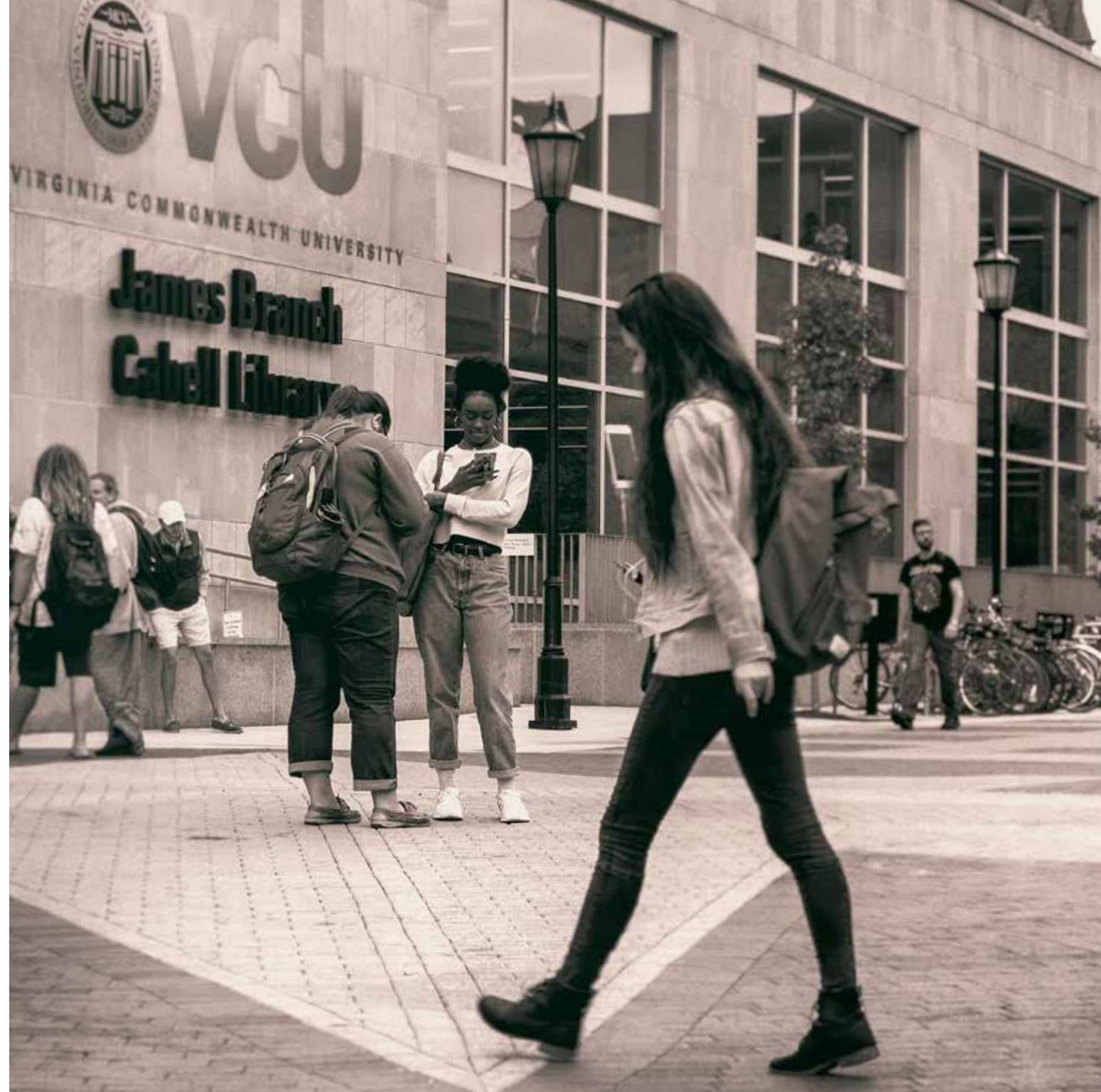
Over 1,137,000 downloads of software packaged by the Labs and Classroom Computing team. Many of these are automated software downloads happening each time a podium system reboots.

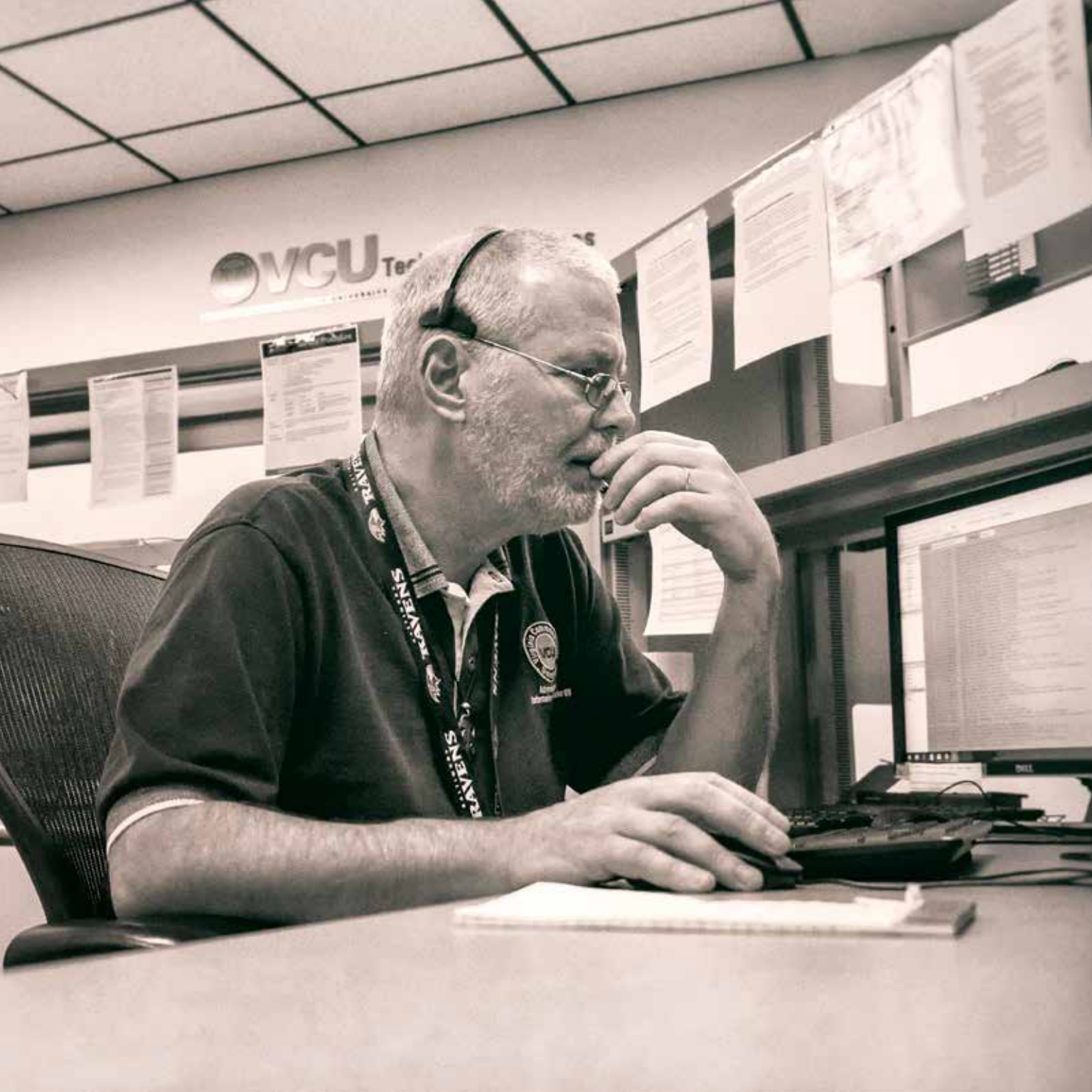
Team Spotlight

Meaningful impact for students includes work with many students in the Wilder School. These students did not have access to a computer to run the ESRI ArcGIS software on their laptop to provide them with loaner laptops with the software they needed already loaded and ready to use.

Many of the students we worked with experienced low-bandwidth connections. As a result, the remote access option wasn't an option and loaner laptops provided a much better solution.

The laptop loaner program continues to play an important role supporting VCU students who may not have a device compatible with the software they need to use. This challenge is not unique to a single department, school, or college.





Academic Technologies

Learning Systems

Benefits

- Exam Proctoring Tool - Coordinated a proctoring tool evaluation with VCU ALTLab/ VCU Online.
- Respondus is renewed for another year and remains available.
- After more than twenty years of Blackboard at VCU, Learning Systems successfully decommissioned the system. As a result, beginning in the summer of 2021, all online VCU courses were using Canvas.

Transition from Blackboard to Canvas

- One hundred public-facing askIT pages developed as documentation.
- Integration of third-party tools and documentation of new processes for approval of these tools.
- Integration and rollout of TurnItIn for plagiarism detection university-wide.
- Facilitated the Canvas Faculty Workgroup to gather feedback and input from key stakeholders.
- Introduction of Canvas Catalog: a system for additional avenues for online education, including continuous education, non-credited, non-VCU, and income driving sources.
- Transitioning to Canvas emphasized the importance of pursuing more accessible and user-friendly tools for faculty, staff, and students to utilize in online learning spaces.

New Services

- Canvas 24/7 Support
- Canvas-Kaltura integration for video management in the LMS

- The transition from Echo360 to Cattura hardware capture devices

Upgrades

- Academic Technologies partnered with VCU Online to schedule and deliver training for faculty during the Learning Management System transition from Blackboard to Canvas. This collaborative effort solidified a vital partnership and provided a varied level of training and consultations and an expanded schedule to meet faculty needs.
- Provided more training to faculty and staff and partnered with VCU Online and AltLab to deliver training, making the transition from Blackboard to Canvas smoother. In addition, this training allowed the faculty to present better courses for students.
- Enhancements to Kaltura's integration with existing technologies and further feature development.
- Cloud recording integration was integrated with Zoom.
- Live streaming capability was provided.
- Capture release: individual user software for video recording was provided.

Kaltura Stats

- Kaltura system started at VCU in mid-2015, but usage only started ramping up in late 2018.
- Total Kaltura entries: 191,860 (before 2020, 24,880 total entries)
- Total contributors: 6,673
- Total added hours of content: 104,863
- Total hours viewed: 849,449
- Total unique viewers: 39,596
- Total bandwidth consumption: 380.6 TB

Academic Technologies

Learning Systems

Data Items

- Total training sessions offered: 97
- Number of VCU-led sessions: 82
- Number of vendor-led sessions: 15
- Total number of registrants: 2,170
- The average number of registrations per session: 181
- Number of support tickets handled by the Learning Systems team: 4,048
- Kaltura storage and bandwidth consumption: 1.5 Petabytes

Team Spotlight

Learning Systems support includes Blackboard, Canvas, and Kaltura. The usage of these tools also drastically increased, presenting challenges for maintaining the quality of service in an unprecedented time.

Learning Systems assisted with the rollout of the return to campus training.

Media Support Services

Classroom Support

Benefits

- Sixteen standard central classrooms were updated where equipment had reached the end of life.
- Six lecture halls updated in Monroe Park Campus Academic Learning Commons, along with Smith 103 and Nursing 1013.

- End-of-life hardware was replaced with the notable addition of ceiling microphones, allowing for better classroom conversations with Zoom calls or PC-based captures.
- Additionally, this upgrade provides additional flexibility to the instructor by not needing to stand behind a podium to have their voice heard by the far site.

Data Items

- 535 audio-visual system tickets resolved.
- 6,438 preventative maintenance efforts in central classrooms completed.
- Forty-nine ad hoc training sessions were completed, and 14 scheduled training sessions (total 63) for faculty and users of our centrally supported classrooms.
- Our staff completed 126 independent staff development efforts.

Team Spotlight

The Classroom Support Team responded to the past year with a great commitment to making the best of a difficult situation. Our team was regularly on campus to ensure the classroom systems continued to function for each faculty member teaching on campus. In addition, VCU is following Commonwealth of Virginia guidelines. In doing so, we developed new processes for cleaning podiums and equipment to keep customers safe.

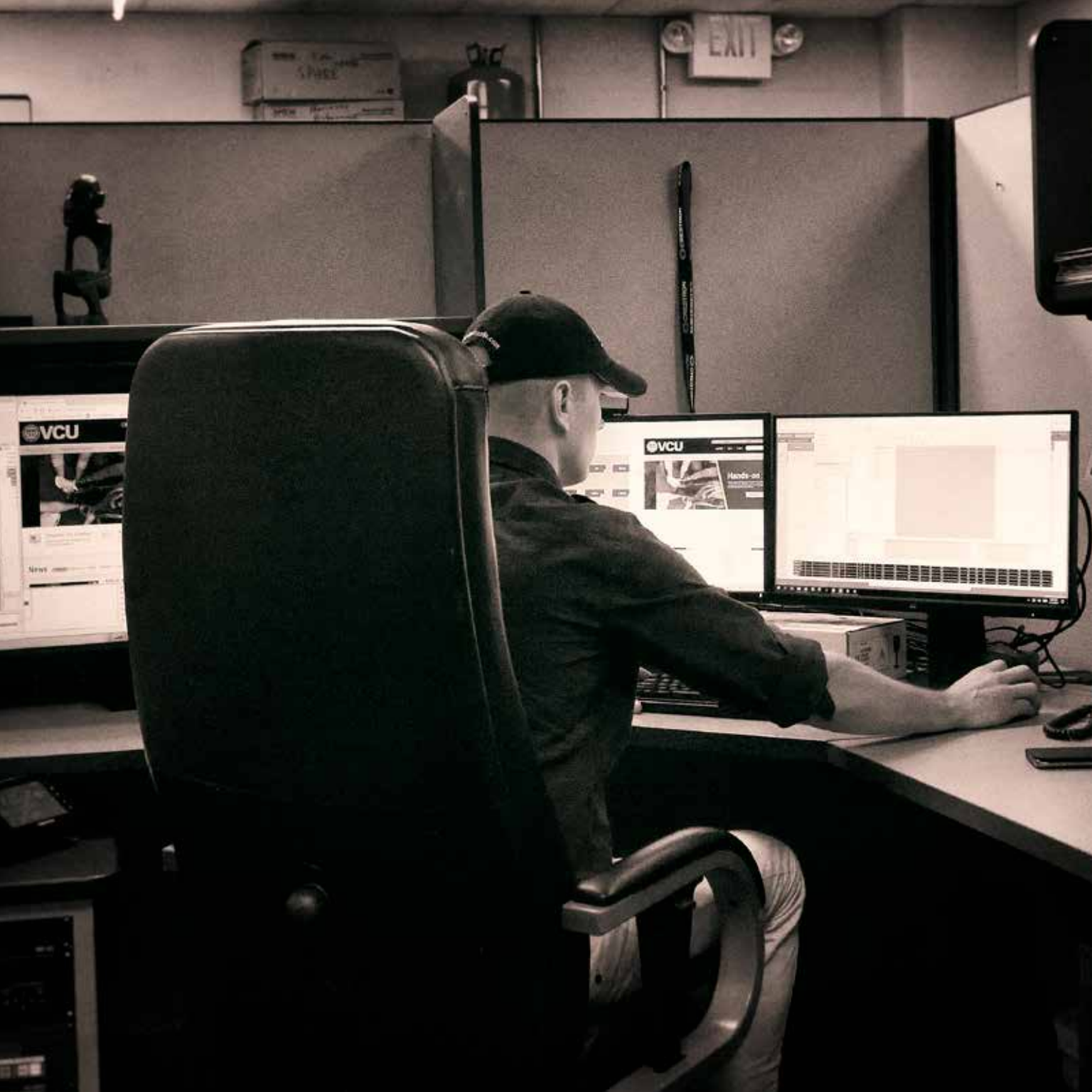
Media Support Services

Engineering and Design

Benefits

Engineering Research Building - Media Support Services Engineering and Design managed all systems integrated into the new four-story lab building, connected to the existing College of Engineering East Hall.





Academic Technologies

Media Support Services Engineering and Design

Benefits, cont.

- STEM - Planning for the new Science, Technology, and Mathematics (STEM) Building included continuing to refine scope requirements for audio-visual solutions on the STEM Building.

Data Items

- Twenty eight Media Support Services Engineering and Design projects were processed by Media Support Services through purchase orders through project completion.
- The cost of projects purchased through Media Support Services Engineering and Design and integrated totaled \$2,083,812.
- Media Support Services Engineering and Design planned and oversaw the integration of over 60 newly installed systems
- Media Support Services Engineering and Design programmed forty three systems internally.

Team Spotlight

Media Support Services Engineering and Design implemented “virtual” stagings and commissions as a way to continue providing quality control to systems integrated by Media Support Services Engineering and Design, without the necessity of staff physically being onsite.

Media Support Services Production and Teleconferencing

Benefits

Provide access to and support for Zoom conferencing in support of the university’s

teaching and learning, research, patient care, and professional collaboration missions, allowing operations to continue despite the shutting down of campus facilities and lack of access to physical classrooms and offices due to COVID-19.

New Services

With access to our studio and other university facilities cut off, for the first time, Media Support Services Video Production and Teleconferencing conducted remote video productions via Zoom, 25 in all.

Media Support Services Production and Teleconferencing

Upgrades

With large, in-person gatherings off the table during the pandemic, many events shifted online via Zoom Webinar. A 500-seat Webinar feature was rented to university departments to support these events and assisted others in purchasing annual Zoom Webinar subscriptions of their own. This service began earlier than FY20-21, but it took off in a big way this year, with a total of 99 Zoom Webinar rentals and 18 departmental purchases. Altogether, VCU owners/renters conducted 872 webinars.

Data Items

- Total meetings conducted on VCU Zoom: 781,312
- Total participants involved: 5,727,372
- Countries reached: 170
- Total meeting minutes: 335,947,509
- New users: 8,840

Academic Technologies

Media Support Services
Production and Teleconferencing, cont.

Team Spotlight

Zoom conferencing kept the university connected throughout the pandemic, allowing classes and collaborations to continue without interruption despite our inability to gather in person. The volume of time spent in Zoom meetings by VCU users exceeded 5.5 million hours.

By offering remote production and direction services via Zoom, we were able to help multiple departments meet their project goals under grant funding.

Administrative Systems

Benefits

- Student Success: Administrative Systems created a new Banner Self-Service page for students to verify their current physical location, allowing compliance with a federal regulation to determine the state or other place where students are physically located while taking courses.
- Student Success: Administrative Systems collaborated with Strategic Enrollment Management and the Office of the Provost to implement the new course, faculty, and student interface files for the Student Opportunity Center platform, which supports the “REAL” initiative.
- Student Success: Administrative Systems collaborated with Payroll and Procurement to produce new interface files for the yearly and quarterly tax reporting to the new tax vendor ADP.

- Student Success: Administrative Systems collaborated with the Identity and Access Management team and VCU Health System to enhance processes, files, and the person database to support the VCU Health System migration to Workday.

New Services

- Diversity driving excellence: Administrative Systems implemented a filter to reject non-alphanumeric characters and system commands entered in the Name of Use (not last name) field in Banner Self-Service.

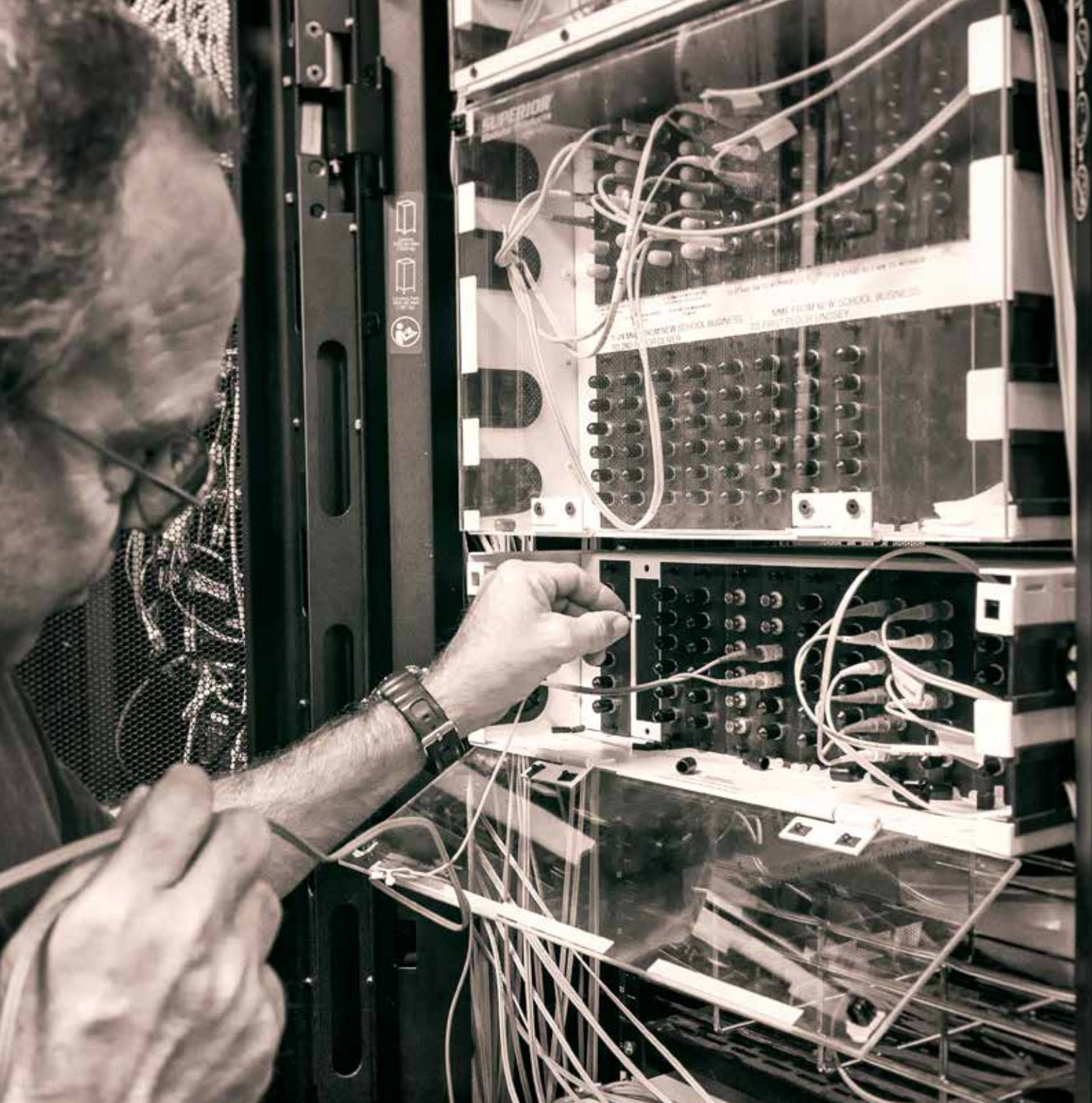
Upgrades

- Student Success: Administrative Systems converted 275 incomplete grades of I to FI in the Banner system for fall 2020, allowing VCU Records and Registration to avoid altering the grades for students manually. The grades of I were due to Covid-19 related issues last year.
- Student Success: Administrative Systems batch inserted 1,653 PP/PS grades into the Banner system for spring 2021, allowing VCU Records and Registration to avoid manually entering the grades for students.
- Student Success: Administrative Systems batch updated the Banner class start and end dates after existing course registrations for fall 2020, eliminating the confusion of having different class dates. The class start and end dates changed as a result of the Covid-19 related issues.

Data Items

- Administrative Systems maintains approximately 50 enterprise systems on 42 servers using multiple databases and performs over 17,000 file transfers. The primary systems are Banner Self-Service, Banner Administrative Pages, Degree Works, and integration.





Application Services

Collaboration Services

Collaboration Services completed the merge of two Google Workspace domains, mymail.vcu.edu and vcu.edu, into one domain where students and faculty/staff Google Workspace accounts now reside. During the merge, more than 23,000 student accounts were migrated.

Benefits

- Dual role students/employees use one Google Workspace account.
- Document sharing is more manageable, with document ownership allowable between faculty, staff, and students.
- Mail and Calendar delegation and calendar invitations are simplified.
- Secondary calendar delegation and management allowed between faculty, staff, and students.
- Students can now be delegated access to generic departmental accounts.
- Integration of Google tools with third-party applications, like Canvas, is much easier.

New Services

Faculty, staff, and students moved to Google Workspace for Education Plus. This comprehensive edition includes enhanced security features, tools for teaching and learning, and more.

Upgrades

This year, there were significant visual and feature changes for Google Chat and Google Meet optimizes and improve the general experience of both services. Google Meet now includes features such as breakout rooms, polls, recording, attendance reporting, and more. Google Chat was improved with clarification and customization of the current status.

Data Items

- Mass emails sent: 42 million
- Listserv emails sent: 10 million
- Blocked 472 million incoming spam messages
- Delivered emails: 347 million

Team Spotlight

Collaboration Services moved all training classes to an online format and increased course offerings to provide additional training opportunities. They were also instrumental in creating the workflow used by all HR Professionals to log employee status on or off-campus, which contributed to the Daily Health Check email.

Records and Document Management Services Benefits

- Partnered with countless VCU departments and VCU Health System to develop and support operations for COVID-19 testing and reporting for Fall 2020 through Summer 2021, including ADA accommodations, at-will testing, Athletics, Daily Health Check app, Entry Pass app, entry testing for residential students, exemptions, isolation, Kallaco access, quarantine, surveillance, and symptomatic testing.
- Application Services partnered with the VCU Vaccine Corps, Human Resources, Student Health Services, VP Administration, VP Health Sciences, and VCU Health System. These collaborations supported eight mass COVID-19 vaccine clinics in the Spring of 2021 for VCU students, faculty, and employees, including interest surveys, invitations, PrepMod clinic management, and vaccination status reporting.

Application Services

Records and Document Management Services, cont.

New Services

- Daily Health Check - Homegrown app by TS Web Services and Business Intelligence for students, faculty, and employees to report COVID-19 symptoms and track completion status.
- Entry Pass - Homegrown app by TS Web Services and Business Intelligence for students, faculty, and employees to easily see and share their COVID-19 compliance status while visiting university common spaces without sharing sensitive personal or health information.
- Kallaco - COVID-19 test management for test kit order tracking and reporting of lab results.
- Partnered with Student Health Services, VP Health Sciences, TS Web Services for Vaccination Status Reporting.
- Services and Business Intelligence to collect documents, report status of submissions, and applicable exemptions.

Data Items

- 1.25 million ImageNow pages captured
- 598,000 ImageNow workflow transactions
- 231,400 DocuSign signature transactions
- 100 Certificate of Records Destruction (RM-3) approved

Team Spotlight

24,200 asymptomatic tests processed

Web Services

New Services

- Launched Compass, the university web framework, enabling a faster and more efficient way to build consistent and accessible websites.
- Launched the NextGen Accessibility Tool in accessibility service.

Data Items

- 42,390 users on VCU Mobile App (43% increase over last year's total of 30,011)
- 8.74 million Go! Keywords (*VCU url-shortening service*) accessed in 2021 (once every 3.6 seconds). This is an 84% increase over 2020
- 69 campus websites are using Compass
- The new content management system manages 92.4% of VCU Organization websites
- Over 300 clients attended roughly 100 free consulting services by Web Services, contributing over 900 hours of service to the accessibility service of the VCU web community
- 92% of respondents agreed that Siteimprove is extremely useful
- 95% of respondents agreed that Web Services provides excellent support and services for accessibility service
- 96% of respondents agreed that Web Services provides excellent support and services for the content management system
- 29 online storefronts processed \$1.81 million on 13,500 transactions





Application Services

Web Services, cont.

Accessibility Stats

- 394 sites in the accessibility monitoring service
- The average accessibility score for VCU web is 91.1%
- 265 sites with an accessibility score of 90 and above
- 384 sites, out of 394, with an accessibility score of 80 and above - over 97%

Central Services

Fiscal and Administrative Services Benefits

Fiscal and Administrative Services significantly contributed to service requests related to faculty, students, and staff during the pandemic, including software, hardware, personal protective equipment, and other staff support as needed.

Data Items

- 28 engineering and design projects
- 571 procurement transactions
- 90 service level agreements
- 624 service recovery transactions

Information Security

Benefits

- Continued identity and access management work to help with the Google Domain

migration and VCUHS HR system implementation. This project resulted in more efficient provisioning of identities and better collaboration between faculty and students.

- In order to further assure the security of personal information of university constituents, The VCU Information Security Office revised vulnerability management program to more efficiently identify vulnerable systems and remediate against critical issues.
- Provided remote work guidance and technical configuration changes for computers to help VCU employees to adopt to a remote work environment.

New Services

- Expanded patch management for university endpoints
- Expanded security configuration rule templates for university-owned computers

Upgrades

- Vulnerability management and reporting services
- Expanded patch management services

Data Items

- Annual security events triaged against high sensitivity systems: 22,869
- Annual resolved/prevented security incidents against high sensitivity systems: 6,909
- Unique annual phishing emails detected/ reported: 260

Information Security, cont.

Team Spotlight

The VCU Information Security Office helped support other areas in issuing technology recommendations and configuration alterations to help support the remote work and learning brought forth by the pandemic. This includes guidance for remote work, the configuration of work computers to support remote work, the provisioning of enhanced antivirus for remote workers, and virtualized environments to help academic units providing virtual labs to students. The VCU Information Security Office was also instrumental in developing a density monitoring system that allowed building managers to identify possible areas of over-population.

Infrastructure Services

Network Services

Benefits

- Completed the migration of the Cisco cameras to Meraki cameras and Cloud management.
- Completed the migration of 26 firewalls from Cisco to Palo Alto Network's Next Generation solution. This provides intrusion detection and deep packet inspection for campus and data center networks.
- Engineering Research Building (ERB), New Research Building at The Rice Center were networked.
- Planning for the Science, Technology, and Mathematics (STEM) Building and network connections in several parking decks for possible new electric vehicle (EV) hookup is underway.

New Services

- COVID-19 monitoring using existing wireless resources

Data Items

- A total of 2,095 network tickets were submitted, with 1862 completed.
 - There are a total of 1,282 cameras currently online.
 - There are a total of 4,208 wireless access points are now online.
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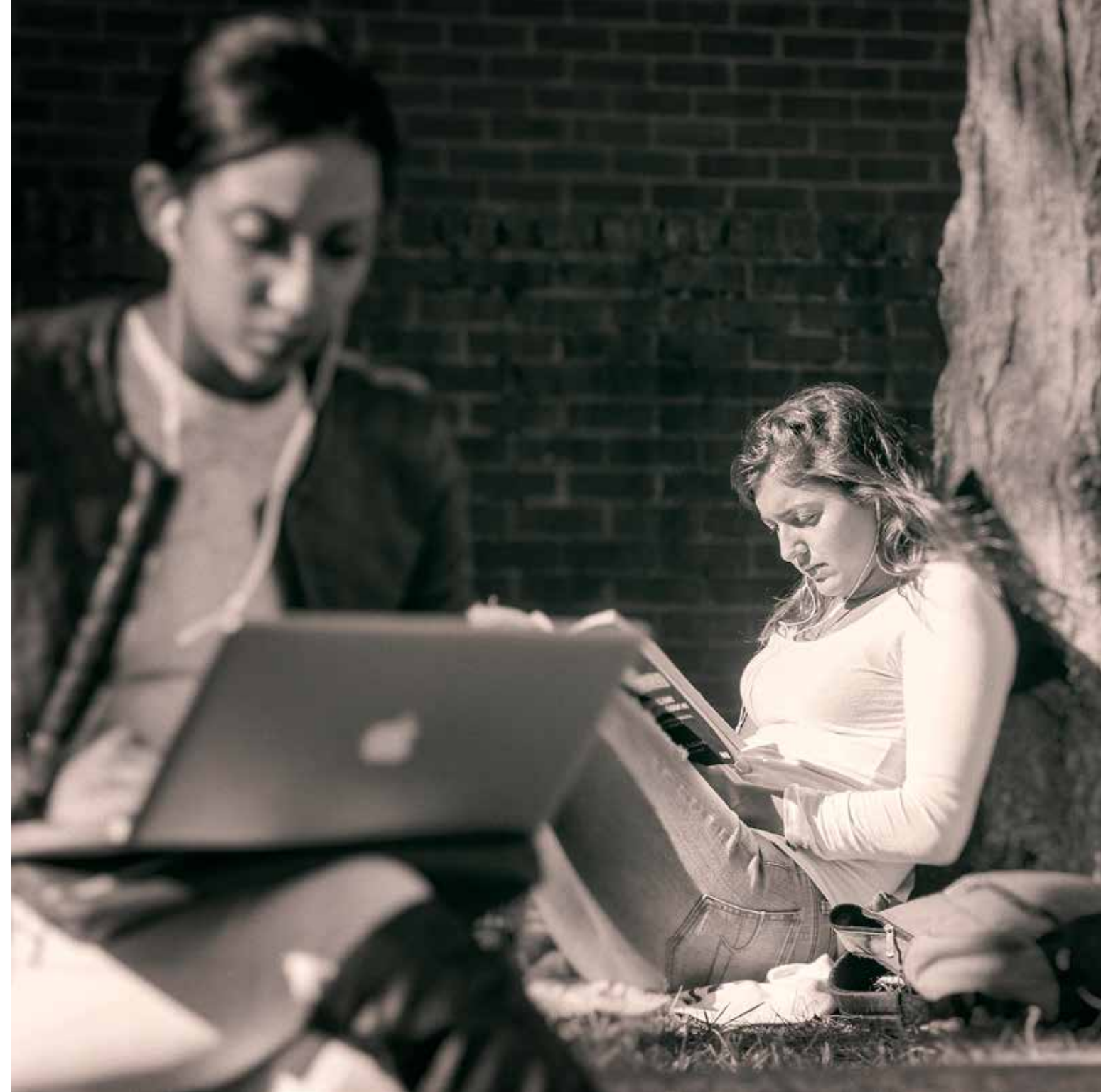
University Computer Center

Benefits

- Started work on the relocation of our primary data center from 900 E. Main (site to become new Virginia Supreme Court building) to a location on the Monroe Park Campus.
- The University Computer Center (UCC) augmented the hyper-converged infrastructure to increase available on-premise virtual resources.

New Services

- With hybrid working, the Network Operations Center helped support other teams by taking on new responsibilities
- Wiped hard disk drives of decommissioned servers
- Running fiber cables
- Helped troubleshoot server issues





Infrastructure Services

University Computer Center, cont. Upgrades

- Virtual machine-based backups implemented to increase protection for virtualized workloads.
- Backend authentication servers upgraded, providing greater security and capacity.

Data Items

- The Virtual Environment now supports 860 servers for a net gain of 80 new virtualized systems.
- One hundred sixteen new Windows servers, 32 more than were built in the last fiscal year. Linux servers: 71 new servers and decommissioned 89 servers (160 total), with an average time to completion of 11 working days from task assignment to fulfillment. This increase represents a 33% year-over-year increase compared to the 2019 fiscal year when the team completed 120 similar tasks.
- 100% up-time for the fifth year in a row for the UCC infrastructure since the center's power and cooling was renovated.
- The Network Operations Center took in 1,203 incoming calls.

Team Spotlight

Numerous Computer Center and Network Services staff participated in voluntary COVID-19 support groups and assisted the VCU IT Support Center with user inquiries with the transition to and the support of the enhanced remote work environment.

- The network cabling staff remained on campus, providing immeasurable support to the network engineers and the VCU community.
- Network Services partnered with Information Security and others to develop and deploy a density monitoring solution during the pandemic. Using the installed Meraki wireless system, this technology helped regulate the number of individuals in a given space.
- Upgraded and added more IP addresses to the VPN system to support a heavy remote work environment.

Technology Support Services

Campus Card Services

Benefits

Nine new GET Food (mobile ordering) locations were implemented that accept meal plans and debit plans.

Upgrades

- Campus Card Services continue to work with Facilities Management (FMD) on the key control project. A new key box was installed at ERB/Snead Hall.
- Installed two large key boxes (500 keys) at FMD Operations Center.
- The Department of Animal Resources at Massey Cancer Center upgraded the existing iris scanners and installed some new iris scanners for a total of 31 scanners.

Data Items

- 10,440 service tickets
- 14,417 customer appointments

Technology Support Services

Campus Card Services

Data Items, cont.

- 1,696,946 point of sale transactions totaling \$9,007,111 (many academic and retail locations were closed because of COVID-19)
- 975,064 credit card transactions totaling \$6,099,198

Desktop Services

Benefits

- The Desktop Services team continued to assist our faculty/staff customers with their desktop hardware/software and telework and or hybrid telework needs during the remainder of the COVID-19 pandemic. In turn, it allowed them to enable and empower the VCU student population.
- Assisted with VCU COVID-19 hotline call center on the MCV campus in a collaborative effort with VCU HR and VCU Health Systems.
- Supported a new COVID-19 testing and vaccination center at the VCU Health Hub at 25th.
- Supported onsite and remote Zoom meetings for the VCU Board of Visitors.

New Services

The fixIT operation remained open and moved to the new VCU Bookstore RamTech location with enhanced computer triage and repair areas to provide better student computer hardware service.

Upgrades

Desktop Services evolved its operational status to support the new customer telework model through Zoom meeting support, and remote desktop troubleshooting using various remote access tools.

Data Items

- Desktop Services operation resolved 2,059 incident tickets.
- Desktop Services resolved 1,406 request tickets.
- The fixIT operation opened a total of 439 tickets for faculty/staff/student computer repairs.

Team Spotlight

Desktop Services, fixIT, Public Safety, and Emergency Notifications Systems operations exceeded expectations in FY 20-21 during the COVID-19 pandemic. All operations remained at a high level of support, with designated staff going onsite as needed to service our faculty, staff, and student customers. We had many instances of team members even meeting customers off-campus to exchange and or service computers where an on-campus meeting could not take place due to COVID-19 concerns. Customers like VCU Police and VCU Facilities were able to operate as usual in their 24/7 mode of support due to our team ensuring their desktop computing systems, servers, and applications all remained in working order.

IT Support Center

Benefits

- Completed migration to new equipment checkout system allowing for self-service reservations.
- Provided operational support for COVID-19 testing and related tracking efforts.

New Services

Now offering managed Appointlet scheduling software as a service for VCU departments.

Data Items

- Call answer rate was 96.77%
- Handled 51,366 customer contacts
- Average customer satisfaction was 4.87 (97.48%)

Strategic Communications

Benefits

- The Strategic Communications team assisted with designing numerous COVID-19 branded communications for the Division of Administration, including deliverables and presentations for the VCU Office of the President.
- Managed and scheduled 166 digital signage requests across 137 campus-wide displays.

Telecommunications Services

Benefits

- OnePrint Pay services were expanded to the Pollack and Smith buildings, replacing the P4P devices.
- VCU Telecommunications completed a 1.5-year, multiphased project to redesign and upgrade our Avaya Aura Communications Manager; the platform that provides all voice communications for 20,000+ users of the University and the Health System. The upgrade itself, affected 42 servers in

Richmond, comprising the core system as well as 17 standalone telephone systems throughout central and southern Virginia.

Upgrades

- The CX-E voice messaging systems supporting VCU and the VCU Health System in Richmond and South Hill were upgraded to the latest software release; the systems support ~15,000 subscribers.
- With the recent call recording upgrade, screen recording is now available.

Data Items

- 32,579 billed telephone services.
- 201 billed OnePrint devices
- 9,938 telecommunications service/support tickets processed
- 7,692 calls handled by Client Support Team
- 269 OnePrint service/support tickets processed

Team Spotlight

Our Telecommunications Services voice technicians provided outstanding service throughout the COVID-19 pandemic. They were on site daily to ensure services and support were maintained for our university and hospital customers. Specifically providing support for the frequent, urgent service needs of the VCU Health System as they needed to shift their employee work locations to meet distancing requirements and maintain safety for those continuing to work on site.



Technology Services



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