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DIVISION OVERVIEW

The 2016-2017 Division of Information Technology Annual Report provides an overview of the major accomplishments of the division from July 1, 2016 through June 30, 2017, as well as goals for fiscal year 2018.

MISSION STATEMENT

The Division of Information Technology is committed to delivering a strategic advantage to Radford University by fostering creative and innovative use of technology to achieve the university’s objectives. The division promotes effective stewardship of information assets and provides a secure, highly reliable technology infrastructure along with high quality, customer-oriented services and support, to meet the ever-changing needs of students, faculty and staff.

DIVISION HIGHLIGHTS

- Installed technology for the College of Humanities and Behavioral Sciences building providing the latest network, Wi-Fi, and classroom technologies in addition to several specialized spaces including a TV Studio, Emergency Operations Center, Social Media Watch Center and Court Room.
- Supported Enrollment Management with the integration and launch of a new undergraduate application from Royall & Company.
- Launched Starfish as a new tool to assist with student advising and retention.
- Developed a proof-of-concept student retention analytics model in collaboration with faculty in the Artis College of Science and Technology using IBM Watson Analytics.
- Transitioned email anti-spam services to Microsoft simplifying management and support while reducing costs.
- Enhanced the Desire 2 Learn (D2L) learning management system by upgrading to the new “Daylight Experience” user interface.
- Transitioned the campus Cable TV system to Dish Network providing a new channel lineup with almost 100 high-definition channels including HBO and Cinemax.
- Installed Wi-Fi, networking and audio/video technology for the Whitt Hall renovation project.
- Implemented the Cisco Umbrella (OpenDNS) tool to help protect desktop, laptop and mobile computers from malware.
- Migrated the Library web site to the campus content management system to enhance consistency and simplicity in management.
- Enhanced network monitoring with the installation of Gigimon and ELK.
- Installed the report manager module in the Banner document management suite.
- Developed and implemented an electronic student exit interview process.
- Implemented Medicat Compliance to improve student immunization tracking and reporting.
- Completed the annual IT audit with the Auditor of Public Accounts (APA) with no findings reported.
MAJOR GOALS & INITIATIVES FOR 2017 – 2018

- Explore Big Data/Analytics for improved decision-making.
- Implement non-emergency Text Messaging.
- Develop additional functionality for mobile applications and services.
- Complete the rollout of the Chrome River Travel and Expense Management system.
- Support the upgrade of PeopleAdmin 7 to SelectSuite for Human Resources Applicant Tracking, Position Management, Performance Management and On-Boarding.
- Implement the payroll interface between Banner and the new Commonwealth of Virginia accounting system Cardinal.
- Expand the usage of Two-Factor Authentication to improve security of university systems.
- Move additional systems and services to the Cloud when/where appropriate.
- Implement an enhanced Enterprise Reporting strategy.
- Continue to work towards maximizing the use of computer labs and enhance access to software in the most cost effective manner.
- Implement a virtual lab providing cloud-based access to common computer lab software.
- Implement an online proctoring tool to validate the identity of students taking online exams.
- Complete the implementation of the new ePortfolio system – Portfolium.
- Enhance and further deploy Constituent Relationship Management (CRM) system functionality in Radius and Starfish.
- Transition faculty and staff mailboxes to Office 365.
- Plan technology architecture for the Reed/Curie renovation.
- Plan and begin the implementation of Banner 9.
- Upgrade university copiers and multi-function devices through a competitive bid process.
- Continue to develop new features and functionality in the Banner ERP system and other ancillary systems to improve efficiencies and provide information for strategic decision-making.
- Continue to enhance and upgrade IT infrastructure to support information systems and services in a secure, highly available and high-performing environment.
- Continue to enhance the functionality and support of classroom technologies.
ELECTRONIC ENGINEERING & COMMUNICATION SERVICES

MISSION STATEMENT

The mission of Electronic Engineering and Communication Services (EECS) is to provide up-to-date engineering and technical support for all campus electronic learning spaces, campus radio station WVRU, campus cable television systems, satellite downlink facilities, internet up-linking systems for professional television broadcast access, campus digital signage, audio-visual (AV) support engineering, graduation streaming services, and repair and disposition of various electronic equipment.

MAJOR ACCOMPLISHMENTS

Technology Installed for the College of Humanities and Behavioral Sciences Building

A tremendous amount of effort went into completing technology installations in the new College of Humanities and Behavioral Sciences building. This building provides a variety of technology to meet the needs of the college. Some of the technology installed in this building includes:

BUILDING INFRASTRUCTURE
- Building infrastructure for phones, network connections and Wi-Fi.

DIGITAL SIGNAGE SYSTEM
- Digital signage throughout the building, including two 3x3 video walls at the main entrances, to provide information, building maps, emergency alerts and other notifications to the campus community.

TV STUDIO
- A state of the art production TV Studio to support the faculty and students in the School of Communication. The studio incorporates a number of new HDTV cameras and tele-prompters, a two-wall green screen, LED lighting and the ability to have two television sets for quick switching from a desk shot to a standup shot. The studio connects to a Live Time Network (LTN) digital Internet network, which allows high quality uplinks to other television stations and TV networks. Switching and control systems, like those found in a typical production TV studio, allow students to learn to operate production TV equipment.
MULTIMEDIA CLASSROOMS

- 13 multimedia classrooms with the latest audio/video equipment. Flat panel displays were installed throughout the building instead of projectors.

COMPUTER LABS

- 7 computer labs, consisting of both PC and Mac labs, outfitted with multimedia classroom equipment to allow for instruction and student use.

CAMERA / VIDEO OBSERVATION SYSTEM

- A video camera observation system for several departments to observe live or recorded videos for designated observation rooms in the building.

EMERGENCY OPERATIONS CENTER

- An emergency operations center, with a 5x2 video wall in the front and a 3x1 video wall in the rear, to allow the criminal justice program to perform a number of simulations. This space also includes a mock e-911 workstation with software that can be used for e-911 simulations and training.

SOCIAL MEDIA WATCH CENTER

- A social media watch center, with a 5x2 video wall and 3 high end workstations, for faculty and students to observe and analyze social media sites.

COURT ROOM

- A mock courtroom configured with monitors and cameras to provide students a realistic judicial trial setting.
FCC Filing Updated for WVRU Radio Station

The Radford University campus radio station, WVRU, is a fully functional, educational, 500-watt broadcast radio station licensed by the Federal Communications Commission (FCC). Every eight years the University must apply to the FCC for a renewal of the station license. This renewal was submitted and approved along with a transfer of control.

Cable Television Transitioned to Direct TV

In May, Cable TV upgraded from Direct TV to a higher quality Dish Network system offering a new 109 channel lineup. Most of the channels provide high definition pictures and high quality stereo sound. In response to residential student surveys, the new lineup now includes HBO and Cinemax.

Channel 14.2 was added allowing for live broadcasts from the television studio located in the College of Humanities and Behavioral Sciences building. This channel will provide the ability for students to practice a live broadcast that goes out over the campus cable TV system.

Other upgrades to the cable television environment include a new digital TV channel to feed digital signage specifically for the College of Humanities & Behavioral Sciences (CHBS), a new fiber modulator to feed additional cable TV signals to new campus locations including CHBS, and new fiber connection to the Armstrong CATV head-end.

Learning Spaces Upgraded

Various learning spaces were upgraded or reconfigured as renovation and construction efforts continued for McGuffey, Young, Russell, Whitt, and Walker. New laser projectors were installed at the Roanoke Higher Education Center to support the Doctor of Physical Therapy program. New smartboards were installed in Covington.

BY THE NUMBERS

- 22 new electronic learning spaces installed and 12 additional spaces upgraded
- 53 new breakout meeting collaboration spaces created and 8 additional spaces upgraded
- 35 new laser projectors installed
- 697 computers decommissioned to surplus
- Provided AV support for 302 events including 13 basketball games and 2 baseball games
- Streamed to Facebook Live the Spring 2017 Graduate Hooding Ceremony, the 2017 Martin Luther King Jr. Commemorative Program, the IGNITE 2017 Student Leadership Conference, and the Spring 2017 COBE and BB&T Global Capitalism Lecture Series Luncheon
- Streamed to YouTube 3 Undergraduate Commencement Ceremonies, the 2016/17 New Student Convocation, and the 2017 Martin Luther King Jr. Commemorative Program
- Recorded and produced 2 videos for the Cheryl Aguinick Hochberg Art exhibit
- Provided audio, network IP connections, troubleshooting, broadcasting and streaming support (through WVRU website) for 32 basketball games and 6 episodes of Highlander Hoops
- Repaired 29 Apple Computers, 8 Lenovo Computers, and 15 printers
ENTERPRISE SYSTEMS

MISSION STATEMENT

The mission of Enterprise Systems is to provide systems analysis, design, programming, and implementation services supporting core university administrative systems and business processes. This includes:

- Actively partnering with our customers to evaluate and recommend business services where additional automation increases efficiencies for system users.
- Planning and implementing fully integrated administrative systems.
- Providing university employees access to transactional and historical data for operational and strategic planning purposes.
- Engaging the university community to develop and enhance reporting strategies to support the academic mission of the university.

MAJOR ACCOMPLISHMENTS

New Undergraduate Application launched with Royall & Company

Enterprise Systems supported Enrollment Management to deploy a new admissions application process. Designed in consultation with the office of Enrollment Management and Royall & Company, the new application supports the university’s recruitment plan and objectives. Data interfaces between Royall & Company, Banner and Radius Customer Relationship Management applications were developed to streamline processing of admission application data and to improve reporting and analytics. Analysis continues to expand the use of application data and forms and to make enhancements for both business and technical processes.
Launched Starfish for Student Advising and Retention

The Starfish Student Advising system successfully launched prior to the fall 2016 semester. Starfish CONNECT™, the online appointment scheduling and case management module of the Starfish platform, facilitates meaningful contact between students and their advisors, instructors, and tutors. The module encourages students to engage more deeply in their academic lives by connecting them to the people and resources best equipped to help them succeed. Starfish EARLY ALERT™, the early warning and student-tracking module of the Starfish platform, collects information and manages concerns in a way that respects different groups’ unique workflows, so they can engage more deeply with more students. The modules, combined, enhance and expand services and tools designed for student success and retention. To ensure ongoing utilization of the products and to oversee future enhancements, training and reporting needs, the university appointed a Starfish governance committee.

Phase II for Electronic Personnel Action Forms completed

Phase II of the Banner Electronic Personnel Action Forms (EPAFs) project launched in October 2016 to replace paper-based form and signature processes with online forms and approval workflows. The 10 new EPAFs included Department Change, Department & Budget/FOAP Change, Budget/FOAP Change, Grant Continuation without Budget/FOAP Change, Grant Continuation with Budget/FOAP Change, Wage Continuation, Hourly Rate Change, Job Termination, Job Title Change and Supervisor Change.

Developed analytics models for Student Retention using IBM Watson Analytics

Enterprise Systems partnered with IBM to provide students and faculty with free access to Watson Analytics, a cloud-based analytics service that enables a business user to be a “citizen data scientist”. Collaborating closely with faculty in the Artis College of Science and Technology, the team developed and tested a proof-of-concept predictive analytics model for student retention. Anonymized datasets were developed for data exploration and to maintain data security.
Cognos Reporting Tool Upgraded to IBM Cognos Analytics

Enterprise Systems upgraded the University’s administrative reporting environment to Cognos Analytics. In conjunction with the upgrade, Enterprise Reporting provided training and support sessions to assist users in accessing and navigating the new environment. This new environment provides an expanded set of tools available for end user reporting and data analysis.

Student Immunization Tracking and Reporting Improved with Medicat

Medicat Compliance was implemented to replace a manual paper-based process for immunization tracking and reporting. Students now enter and view their immunization verification and documentation online, and receive electronic reminders for approaching deadlines.

Electronic Student Exit Interview Process Developed

A new Banner Student Exit Interview process was developed and implemented. This process allows the university to more effectively track data collected when students withdraw from the university. This data will provide additional insight into retention issues and various aspects of student withdrawals.

Banner 8 Upgrades Planned to Meet Banner 9 Requirements

In March 2017, Ellucian announced a December 2018 end-of-life date for Banner 8. The University will be required to transition to a new version of the suite, Banner 9 Administrative Pages (formerly Banner XE), by that date. In preparation, Enterprise Systems began the process to upgrade eleven Banner 8 modules in the test environment, and administrative offices began testing. Planning is underway to upgrade these modules in production in July 2017. This upgrade to Banner 8 will provide the foundation required for the implementation of Banner 9 Administrative Pages in 2018.

Banner Workflow upgraded

The Banner Workflow module was upgraded in preparation for the first campus-wide workflow implementation. Enterprise Systems, in conjunction with Sponsored Programs and Grants Management, created a process to replace the paper-based approval process for external Grant Requests for Proposal. User training for the new Grant Request for Proposal and approval process is planned for fall 2017.

Installed Banner Document Management Suite Report Manager Module

A new module of the Banner Document Management Suite (BDMS) was installed to further support the electronic data management capabilities within Banner. The Report Manager module was installed for initial testing and development during fall 2016. The new module will enhance the BDMS application by
allowing users to integrate electronic documents into Banner from extract files. The initial use will be to image application files received by Undergraduate and Graduate Admissions from third-party vendors.

### Additional Enhancements and Improvements

- The Degree Works Transfer Equivalency upgrade, finalized in September 2016, provides prospective transfer students the ability to verify transfer credit at RU more efficiently.
- The Commonwealth kicked off the Cardinal Payroll project with Radford and other state agencies in November 2016. Cardinal Payroll will replace CIPPS for payroll processing through the Department of Accounts. Regular meetings in Richmond are being attended by both functional and technical staff to build the necessary interfaces and processes to smoothly transition the university’s payroll to Cardinal between May and October of 2018.
- PeopleAdmin SelectSuite implementation started February 2017 to replace PeopleAdmin 5.8 and introduce new interfaces and onboarding tools. New integration with Banner will be implemented in the first phase along with Applicant Tracking and Position Management. The second phase of the project will include configuration of the Performance Management module. The target completion date for the project is October 2017.
- Planning and assessment started in December 2016 for ChromeRiver Travel and Expense Management. The initial pilot phase for 100 employees is slated to begin in summer 2017.
- A new cloud-based crowdfunding platform, Community Funded, was implemented and integrated with the Raiser’s Edge platform used by University Advancement. The first campaign launched in March 2017.

### BY THE NUMBERS

- 146 user-requested enhancements and integrations completed for Administrative Systems
- 62 upgrades and patches applied to Administrative Systems
- 92 custom reports developed or revised for the campus community
- 101 deprecated reports archived or replaced during the Cognos Analytics upgrade
- 14 enhancements to the Operational Data Store for reporting purposes
IDENTITY SERVICES & IT AUDIT COMPLIANCE

MISSION STATEMENT
Identity Services & IT Audit Compliance maintains the identity and access management environment, and supports the division’s strategic planning, project portfolio management, IT audit, and policy and compliance initiatives.

MAJOR ACCOMPLISHMENTS

Completed Annual Recertification for Sensitive Systems
The required annual recertification of user access to sensitive systems was completed. Identity Services worked with Enterprise Systems and Data Owners to review and adjust access as appropriate for job responsibilities.

Successful APA Audit
The annual audit with the Auditor of Public Accounts (APA) was completed. No findings were reported.

Reports and Surveys
Identity Services coordinated and published updates to the Information Technology Strategic Plan and other Level II operating authority compliance reports. Submissions were prepared for the following reports and surveys: Educause Core Data Survey, College Board Survey, Princeton Review, Peterson’s Undergraduate Survey, RU Fact Book and US News and World Report.

BY THE NUMBERS
- 420 requests for access to administrative systems processed
- 765 support tickets for identity-related requests processed
- 458 change requests for account separations processed
INFORMATION SECURITY

MISSION STATEMENT

The mission of the Information Security Office is to protect the confidentiality, integrity, and availability of the university’s computer systems, electronic data and networks from unauthorized access, disclosure, disruption, modification, or destruction.

MAJOR ACCOMPLISHMENTS

Ransomware highlighted for National Cyber Security Awareness Month

Ransomware is a type of malicious software that blocks access to the victim's data or threatens to publish or delete it until a ransom is paid. To raise awareness of this security threat, Radford’s theme for the 2016 National Cyber Security Awareness Month was “Don’t Click, Don’t Pay.” The campaign included posters, buttons for IT personnel and others, messages on Radford’s digital signage, a special web page, printed U. S. Government brochures on this threat, sidewalk chalking of the theme, and presentations to user groups.

Selected a Replacement Intrusion Protection System (IPS)

The Palo Alto Intrusion Protection System (IPS) was selected as the replacement for an aging StoneSoft system to enhance the security environment. The IPS examines network traffic flows to detect and prevent vulnerability exploits. This new IPS will be installed during the summer of 2017.

Enhanced Vulnerability Scans

Scanning university systems to help identify potential vulnerabilities is an important component of the IT security program. This year, schedules were formalized for vulnerability scans that regularly probe restricted areas of the network and produce reports that provide system owners and system administrators with information on potential risks. Work with the system administration staff has resulted in a greater number of ad-hoc scans of servers prior to new production systems being put in place.

Enhanced Network Monitoring with Gigimon and ELK

Growth in the volume of data and number of devices attached to the university network adds complexity and introduces new risks. Visibility into the data in motion across the entire network is critical for identifying these risks. The IT Security team installed two high-throughput taps at the edge of the network to monitor incoming and outgoing traffic. This traffic data is sent to a system comprised of elasticsearch, logstash and kibana, also known as ELK. ELK provides the IT Security team with the ability
to better analyze and understand network traffic and identify new threats and anomalies to enable stronger security.

**BY THE NUMBERS**

- 26 account compromises handled by security
- 58 patch notices forwarded
- 16 penetration tests/server investigations
- 15 phishing/spam incidents investigated
- 30 risk assessments performed
- 197 vulnerability scans performed
IT INFRASTRUCTURE

MISSION STATEMENT

The mission of IT Infrastructure is to provide a secure and highly reliable technology infrastructure for the campus community with a focus on meeting the ever-changing needs and expectations of the university community while minimizing costs.

MAJOR ACCOMPLISHMENTS

Data Center Security Enhanced with New Server Firewall

Maintaining a high level of security is critical for today’s IT environments. Rollout of a next generation Cisco firewall with intrusion prevention capabilities in the campus data centers began in December. In order to minimize disruption, systems were segregated into smaller groups. Security requirements for these systems were then added to the firewall.

Single Sign-On Infrastructure Upgraded and Enhanced

DoIT completed the upgrade to the single sign-on authentication system used by the campus community to log in to systems. This work included an upgrade to the latest Shibboleth version and provided a more reliable system through clustered servers. This also included an upgrade to the Active Directory Federation Service (ADFS) and federation of this service with Shibboleth to allow more seamless access to Office 365. Integrations were completed or updated for Barnes and Noble Ignite, Community Funded, Office 365, T2 Parking, ChromeRiver, Medicat, Handshake, Portfolium and eVA.

Transitioned Anti-Spam processing to Microsoft Anti-Spam

Anti-spam filtering transitioned from Proofpoint to Microsoft’s Exchange Online Protection system. All incoming email to Radford.edu is now filtered by Microsoft. Benefits of the new anti-spam system include reduced hardware and software costs, simplified e-mail routing, increased support, and an architecture consistent with many best practices.

Planning for Faculty/Staff Email Migration to Office 365

Scheduling is underway to complete the transition of faculty/staff mailboxes to Office 365 (O365). DoIT and other selected staff were migrated in an initial pilot phase during the spring semester. The remainder of the faculty and staff email will migrate to O365 during the fall semester. Office 365 users receive significantly larger email boxes, the ability to send larger attachments, and enhanced Outlook web access and features.

Residence Hall Wi-Fi Review and Enhancement Planning

Students living in campus residence halls rely heavily on the wireless network, or Wi-Fi, for their many connected devices. IT Infrastructure compiled results from a student survey and a radio frequency
signal survey in Draper Hall to better analyze coverage and signal issues. Based on these results, wireless access point locations changed for a number of access points to increase coverage and strengthen signals. Additional changes planned for the summer of 2017 will enhance Wi-Fi in other residence halls and provide students with better Wi-Fi coverage, reliability and throughput.

**Enhanced Campus Wireless Access with eduroam**

Network Services implemented eduroam, a service that allows students, faculty and staff from participating institutions to obtain Internet connectivity while on the RU campus without additional administrative or technical support. In addition, when RU students, faculty and staff visit other participating institutions, they can use their “home” login credentials.

**Implemented Cisco Umbrella DNS tool to Protect against Malware**

To better combat the increase in phishing, malware and command and control software, DoIT implemented Cisco Umbrella to protect against these exploits. Cisco Umbrella is a cloud based security platform that uses the internet’s infrastructure to block malicious destinations before a connection is ever established. Umbrella learns from internet activity to automatically identify and block infrastructure staged by attackers to carry out these threats. Umbrella was deployed to campus network devices without interruption of service.

**Other Infrastructure Installations**

Network Services and Auxiliary Support completed installation of door access, security cameras, wireless access points, telephone cabling, network connectivity and cable TV for the new College of Humanities and Behavioral Sciences, as well as Whitt Hall, Porterfield, Russell and Cook. IT Infrastructure also provided infrastructure details during the design phase for the Reed/Curie renovation.

**BY THE NUMBERS**

- 372 million messages blocked or flagged as spam
- 63 door access locations added for new CHBS building, Whitt, Human Resources, CSAT
- 151 new wireless access points added
- 3,848 data ports added for CHBS building, Draper and Whitt renovations
- 308 CATV ports added
PRINTING SERVICES

MISSION STATEMENT

The mission of Printing Services is to produce high quality printed materials for the university community while minimizing costs and ensuring timely delivery.

MAJOR ACCOMPLISHMENTS

Production Equipment Upgrades

In order to provide a reliable and high quality production printing environment, Printing Services reviews hardware on a regular basis and performs replacements and upgrades as needed. This year, several components of the environment upgraded:

- A new Epson SureColor P10000 44” wide format printer was purchased replacing a 7-year old model. This new device prints four times faster and significantly reduces ink costs.
- Upgraded the wide format Raster Image Processor (RIP) Fiery XF to current version
- Replaced a problematic tabletop folder with a new MBM tabletop folder, for thin to medium weight papers. This device is an easier to operate air-fed model that can handles paper up to 13x19 in size.
- Purchased a new 104” cutter with table for cutting wide format media and large boards cleanly and efficiently. This simplifies production of retractable banners that were difficult to cut accurately by hand.

Production of Fundraising and Legislative Proposals

A number of proposals for the President’s Office and/or Advancement were produced throughout the year. These are confidential fundraising and legislative pieces designed by University Relations.

Major Production Print Jobs

Printing Services delivered numerous production print jobs each week. High profile jobs printed over the last year include the following:

- Artis College of Science and Technology pieces, including proposals, invitations, event programs and giant check, as well as numerous other pieces that had to be edited/reprinted in support of the renaming
- Beehive student-run magazine
- Governor’s School Monthbooks
- Wide format Photos for framing in the President's suite and the Richmond office
Numerous retractable and flat displays for the newly rebranded Center for Career and Talent Development

Presidential transition pieces, including Inauguration multi-piece invitations and program inserts, as well as numerous pieces in support of the President’s alumni tour

"Give Your Heart to Art" invitations, posters and programs (University Relations won an Addy award for this)

Scholar-Citizen wide format posters (University Relations won CASE District III award of Excellence and Bronze Educational Award for these; Printing Services re-printed the entries for University Relations)

"Points of Pride" booklets

Recruitment Plan, Action Plan, Economic Impact booklets

BY THE NUMBERS

- Over 756,000 color impressions
- Over 327,000 postcards
- Completed more than 3,500 university and over-the-counter printing requests, many of which involved multiple pieces
- 453 Xerox Toners/Fusers/Drums recycled
- Picked up over 110 boxes of materials to be shredded, at no charge to departments
- Delivered 587 toners & staples in support of Virginia Business Systems managed copier program
- Largest runs: 73,000 Homecoming registration postcards (June) and 71,000 Homecoming save-the-date postcards (March), both of which were UV coated
PROJECT MANAGEMENT

MISSION STATEMENT
The mission of Project Management is to manage key IT projects from implementation through a successful conclusion while creating a foundation for consistent IT project success throughout the division.

MAJOR ACCOMPLISHMENTS

Duo Two-Factor Authentication Project
DoIT transitioned to Duo two-factor authentication this year to increase protection for university services and sensitive systems. Two-factor authentication keeps information safe by requiring users to provide a second layer of security, usually in the form of a generated number, to their username and password before accessing a protected application. Because the second authentication is independent of the username and password, if the password is stolen or compromised, the web application using two-factor authentication is safe from attempted hackers. Project Management worked with IT Infrastructure, IT Security, Identity Services and Technology Support Services to plan and schedule the project. Implementation of two-factor authentication for faculty, staff and students will continue through summer 2018.

Starfish Implemented for Student Success and Retention
Phase 1 of the Starfish project was completed when the Connect and Early Alert system came online August 15, 2016. The Starfish solution is the primary tool for advisors, faculty and students to support student success and retention. Planning for Phase 2 of the Starfish project is underway.

PeopleAdmin Upgrade Project
A new project was initiated to implement SelectSuite, a new solution by PeopleAdmin, that will replace the existing Applicant Tracking, Position Management and Performance Management modules currently in use. A new module will also be added to automate Onboarding new employees along with adding electronic forms and workflows for many other HR processes. Phase I of the project will include integration with Banner along with Applicant Tracking and Position Management. Phase II of the project will focus on Performance Management. Production implementation of SelectSuite is scheduled for October 2017.
Zoho Project Software Selected

Several project management tools were reviewed to support the division’s project management efforts with Zoho Projects being selected. Zoho has an intuitive interface for organizing project milestones and tasks, and allows easy collaboration with team members in or outside of the organization. Zoho provides dashboards, Gantt chart editing and a Kanban board to support different skill levels and approaches for project managers.

BY THE NUMBERS

- 50 new technology ideas submitted
- 24 new project requests submitted and evaluated for project initiation
TECHNOLOGY SUPPORT SERVICES

MISSION STATEMENT

The mission of Technology Support Services is to provide a high quality, customer-oriented technology environment that supports the instructional, research and business needs of the university community. Technology Support Services serves as the single point of contact for coordination and resolution of all university technology support requests.

MAJOR ACCOMPLISHMENTS

Upgraded Desire 2 Learn (D2L) to the new Daylight Interface

DoIT implemented the new D2L Brightspace interface coined the "Daylight Experience". Improvements included a responsive interface for better viewing on all devices, including mobile platforms. The interface was also streamlined for better navigation. In addition to the preparation, testing and final implementation for this project, fourteen training sessions were offered to prepare faculty and staff for the upgrade with a total of 130 participants.

D2L System Review

An in-depth review of the D2L learning management environment was conducted to identify potential areas for improvement. Several suggestions on best practices were incorporated into the Brightspace upgrade. Several other possible improvements for email, course maintenance and account generation were identified and are under review for future inclusion.

Installed Apple Enterprise Connect

DoIT deployed an application for Apple laptop users to simplify the password change process, printing, drive mapping, and a number of other tasks that have been slightly more difficult for Apple users. This will allow university Apple computers to have more of the functionality that is available to Windows systems.

Video Utilization Growth

Video communication continues to grow with a 77% increase for group video conferences this past year. Use of video conferencing technologies have included position searches, curriculum council meetings, business meetings, doctoral applicant interviews, student advising, recruitment, guest speakers, and pre-production meetings for theatre engagements.
Selected Zoom for Video Conferencing and Bridging

For five years, Radford utilized the BlueJeans video conferencing cloud service to bridge room teleconferencing systems with desktop and mobile users. Voice and Video Technologies researched alternative solutions and selected Zoom as a replacement for BlueJeans. Zoom provides enhanced functionality at a reduced cost. The change will include redesigned video classrooms and conference rooms to take full advantage of the technology.

High Profile Video Conferences

Voice and Video Technologies continued to provide support for several high profile events. For the third consecutive year, video conferences connected Boys' State future leaders with Virginia's Attorney General, Lt. Governor, and Gubernatorial candidates. Special events for the community included events connecting audiences with film directors across the sea and other guest speakers covering a wide variety of subjects.

Faculty and Staff Training

Technology Support Services continued to provide training with a wide variety of workshops available throughout the year. Topics included OneDrive, Banner, Desire 2 Learn, Microsoft Office, and classroom technologies. Trainers were also on hand for a variety of other training events including employee orientation, Our Turn, and new faculty orientation. On-demand training was tailored by request for both departments and individuals. Members of the Radford community receiving new computers and iPads were provided training on a range of topics aimed at helping them get up and running with their new hardware and new services as quickly and seamlessly as possible.

Portfolium – ePortfolio System Implementation

Working with the Center for Innovative Teaching and Learning, Technology Support Services evaluated the current ePortfolio system to determine if alternative solutions would be more cost effective, and provide a more intuitive interface for students and faculty. The team held stakeholder meetings and conducted surveys to define functional requirements for a new system. As a result, the team selected and implemented Portfolium. The new system will be available for faculty and students starting fall semester. Support and training will continue throughout the next year as faculty and students transition from the old system.

Customer Satisfaction Survey

For the past three years, DoIT conducted a faculty/staff customer satisfaction survey. Results from this year's survey showed average scores in overall satisfaction continued to climb. The chart below illustrates the increase in customer satisfaction over the three-year period. Based on scores and faculty
comments, targeted areas identified for improvement include immediate classroom support, speed of dispatch, knowledge of the technician responding, and communication with faculty.

**DoIT ServiceNow Incident Training**

In order to promote more efficient use of ServiceNow incident handling, Technology Support Services offered training to all Division of Information Technology staff. During the preparation for this training, ticket work flow, system defaults, ticket routing, internal technical communications, and communications with the end user were reviewed and revised where necessary. The session also provided a starting point to develop a new series of efficiency themed staff training geared toward excellence in customer service.

**Selected Computer Lab Virtualization Vendor**

Through a competitive bid process, a vendor was selected to provide cloud services for a computer lab virtualization project. This will be implemented in the fall of 2017 and provide faculty and students with access to software applications commonly available in the campus computer labs.

**Selected Online Proctoring Solution**

Working with a committee of faculty, a request for proposals (RFP) was developed and issued for an online proctoring solution. After review and presentations, a vendor was selected and procurement is working on final contract details for award and implementation by the fall of 2017.

**BY THE NUMBERS**

- 157 technology workshops and one-on-one consultations provided with 830 participants
- 175 total new faculty/staff computers deployed
- 154 new lab computers deployed
- 25 new classroom lectern computers deployed
- 32 new iPads deployed
- 76 phone conferences
- 232 business related video conferences
- 281 academic related video conferences
- 29 synchronous classes via video
- 17,127 support requests processed
- 8,949 support requests resolved within 24 hours of initial request
WEB & MOBILE TECHNOLOGIES

MISSION STATEMENT

The Department of Web & Mobile Technologies is dedicated to the technical development, support, integration and maintenance of Radford University’s web presence, the MyRU Portal, the RUMobile app and various related web applications and technologies. In addition to supporting the development and ongoing changes of Radford University’s online presence, the team works closely with University Relations and the campus community to develop effective, appealing websites that digitally portray RU to the outside world. The team constantly reviews new and upcoming advances in web and mobile technologies with an eye on innovation at Radford University.

MAJOR ACCOMPLISHMENTS

Mongoose Selected for Non-Emergency Text Messaging

Web & Mobile Technologies worked closely with various campus departments to select Mongoose to provide non-emergency text messaging for campus. Mongoose enables meaningful, secure communication between staff and students via the student-preferred method of communication – text message. Guidelines outlining official communications such as payment reminders, financial aid deadlines, and notifications for missing admission documents were developed. Integrations with several enterprise systems were identified for implementation during 2017-2018.

Library Website Migrated to Adobe Experience Manager

In an effort to reduce cost and utilize existing resources, the Library website was redesigned and migrated to the campus content management system, Adobe Experience Manager. Web & Mobile Technologies worked alongside University Relations, Library personnel and a consulting partner to create new features, and give the site a unique look while also keeping it consistent with the Radford University web branding and design standards. The resulting site provides all of the web services offered by the library in a platform that is centrally maintained and upgraded to provide the features and functionality needed in modern web site design.
Radford Magazine migrated to Adobe Experience Manager

Keeping with the goal to reduce cost and utilize existing resources, a redesigned Radford Magazine migrated to the campus content management system, Adobe Experience Manager. Web & Mobile Technologies worked alongside University Relations and a consulting partner to design and develop new custom components and unique features. The magazine will provide a hardcopy and a digital version of the magazine with augmented content and features that will drive readers to the site. The new magazine site was well received and continues to gain readership as features and content change to create a more dynamic magazine experience.

ServiceNow Enhanced for IT Service Management

ServiceNow was adopted in 2015 as the Division’s IT Service Management tool. To ensure consistent use and to maximize usage of this tool, refresher training for DoIT staff was conducted to reinforce best practices for incident management. In addition to two version upgrades, new reports and dashboards were created for project and portfolio management and monitoring.

AEM Web Content Management System Updated

The content management tool used to update web sites across campus was updated to Adobe Experience Manager (AEM) version 6.2. Over 200 content editors benefitted from several behind-the-scenes enhancements, including noticeable improvement in performance with the Digital Asset Management tool.

BY THE NUMBERS

- 4.6 million visits to Radford.edu
- 31.1% new visitors
- 32.86% mobile users and 3.62% tablet users
- 4.1 million visits to MyRU
- 33,950 visits to the virtual walking tour
APPENDIX A | Supported Systems

Administrative Systems

- Academic Works Scholarship Management
- Activity Insight Faculty Annual Report
- Ad Astra Room Scheduling
- AlcoholEdu
- Asset Works Inventory Scanning
- Banner
  - Accounts Receivable
  - Budget Development
  - Human Resources
  - Endowment Management
  - Faculty Load and Compensation
  - Finance
  - Financial Aid
  - Fixed Assets
  - General Person
  - Research Accounting
  - Student Records & Admissions
- Banner Ancillary Systems
  - Banner Document Management System (BDMS/Xtender)
  - Banner Workflow
  - Cognos Reporting
  - Evisions Form Fusion
  - Evisions Intellecheck
  - Operational Data Store (ODS)
  - Quick Address System
  - UC4 Job Scheduling
- Blackboard Connect Emergency Alerts
- Blackbaud Raiser’s Edge Advancement/Fundraising (CRM)
- Bookstore (Book vouchers)
- CIPPS – Commonwealth Payroll
- Cardinal – Commonwealth Accounting
- Class Climate Faculty Evaluations
- Cobblestone Contract Management
- CollegeNet Admit
- Course Catalog
- CBORD CS Gold (RU Express)
- CBORD Odyssey Housing Management
- Degree Works
- eVA – Commonwealth Procurement
- Faculty Enlight Textbook Adoption
- Fusion Student Recreation
- Hire-A-Highlander
- Hobsons Radius Customer Relationship Management (CRM)
- iGrad Financial Literacy Training
- InfoEd Research Planning and Management
- National Student Clearinghouse
- Nelnet Student Tuition/Payment Processing
- Nolij Transfer
- OrgSync RU Involved Student Organizations
- Physical Therapy PTAdmit
- PeopleAdmin
- RuffaloCody Campus Call
- Redrocks Tutor Trac
- Royall & Company Application/Marketing
- Starfish Advising/Retention
- Symplicity Judicial Management
- T2 Parking Management
- Visual Zen (QUEST Orientation)

### Instructional Software/Systems
- Adobe Connect
- Desire 2 Learn Learning Management
- iTunesU
- Kaltura Video Streaming
- Lecture Capture
- Mathematic Statistical Software – SAS, SPSS, JMP, Maple, Mathematica
- Microsoft Office 365 online
- Qualtrics Online Surveys
- Smart Thinking online tutoring

### University-wide Systems
- Active Directory
- Adobe Experience Manager Content Management (RU website)
- Anti-Virus/Anti-Spam
- Digital Signage
- Dublabs RUMobile
- Duo 2-Factor Authentication
- Facilities Management (AIM/ADX/ALC)
- Firewall/VPN Management
- Intrusion Protection/Detection Management
- Luminis Portal (MyRU)
- Lyris Listserv Management
- Microsoft Exchange Email
- Network Security & Access Control (ISE)
- ServiceNow IT Service Management
- Shibboleth Single Sign-On Authentication
- Trident Identity Management System

**Database Management Systems**

- Oracle
- Microsoft SQL

**Operating Systems**

- Windows
- Linux
- Mac OS
APPENDIX B | Alignment of Division Highlights with University Strategic Goals

<table>
<thead>
<tr>
<th>2016-2017 Division Highlights</th>
<th>DoIT Strategic Plan</th>
<th>7-17 Strategic Plan</th>
</tr>
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<tbody>
<tr>
<td>Installed technology for the College of Humanities and Behavioral Sciences building providing the latest network, Wi-Fi, and classroom technologies in addition to several specialized spaces including a TV Studio, Emergency Operations Center, Social Media Watch Center and Court Room.</td>
<td>Goal 2,4</td>
<td>Goal 2,4</td>
</tr>
<tr>
<td>Supported Enrollment Management with the integration and launch of a new undergraduate application from Royall &amp; Company.</td>
<td>Goal 3,4</td>
<td>Goal 1,4</td>
</tr>
<tr>
<td>Launched Starfish as a new tool to assist with student advising and retention.</td>
<td>Goal 2,3</td>
<td>Goal 1,4</td>
</tr>
<tr>
<td>Developed a proof-of-concept student retention analytics model in collaboration with faculty in the Artis College of Science and Technology using IBM Watson Analytics.</td>
<td>Goal 3</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Transitioned email anti-spam services to Microsoft simplifying management and support while reducing costs.</td>
<td>Goal 4</td>
<td>Goal 4</td>
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<tr>
<td>Enhanced the Desire 2 Learn (D2L) learning management system by upgrading to the new “Daylight Experience” user interface.</td>
<td>Goal 2</td>
<td>Goal 2,4</td>
</tr>
<tr>
<td>Transitioned the campus Cable TV system to Dish Network providing a new channel lineup with almost 100 high-definition channels including HBO and Cinemax.</td>
<td>Goal 4</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Installed Wi-Fi, networking and audio/video technology for the Whitt Hall renovation project.</td>
<td>Goal 2,4</td>
<td>Goal 2,4</td>
</tr>
<tr>
<td>Implemented the Cisco Umbrella (OpenDNS) tool to help protect desktop, laptop and mobile computers from malware.</td>
<td>Goal 7</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Migrated the Library web site to the campus content management system to enhance consistency and simplicity in management.</td>
<td>Goal 5</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Enhanced network monitoring with the installation of Gigimon and ELK.</td>
<td>Goal 7</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Installed the report manager module in the Banner document management suite.</td>
<td>Goal 3</td>
<td>Goal 3,4</td>
</tr>
<tr>
<td>Developed and implemented an electronic student exit interview process.</td>
<td>Goal 3</td>
<td>Goal 1,2</td>
</tr>
<tr>
<td>Implemented Medicat Compliance to improve student immunization tracking and reporting.</td>
<td>Goal 3,4</td>
<td>Goal 1,4</td>
</tr>
<tr>
<td>Completed the annual IT audit with the Auditor of Public Accounts (APA) with no findings reported.</td>
<td>Goal 7</td>
<td>Goal 2,4</td>
</tr>
</tbody>
</table>