# Table of Contents

DIVISION OVERVIEW .......................................................................................................................... 2

ELECTRONIC ENGINEERING & COMMUNICATION SERVICES .......................................................... 5

ENTERPRISE SYSTEMS .................................................................................................................... 7

INFORMATION SECURITY .............................................................................................................. 12

IT INFRASTRUCTURE ..................................................................................................................... 14

PLANNING, POLICY & COMPLIANCE ............................................................................................ 17

PRINTING SERVICES..................................................................................................................... 19

PROJECT MANAGEMENT ............................................................................................................... 21

TECHNOLOGY SUPPORT SERVICES .............................................................................................. 23

WEB & MOBILE TECHNOLOGIES ................................................................................................. 28

APPENDIX A | Supported Systems ............................................................................................... 31

APPENDIX B | Alignment of Division Highlights with University Strategic Goals .......................... 33
DIVISION OVERVIEW

The 2015-2016 Division of Information Technology Annual Report provides an overview of the major accomplishments of the division from July 1, 2015 through June 30, 2016, as well as goals for fiscal year 2017.

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, so as to meet the ever-changing needs of students, faculty and staff.

Division Highlights

- Installed technology for the Center for the Sciences building providing the latest network, Wi-Fi, classroom and audio-visual functionality for this state-of-the-art facility.
- Launched a redesigned, responsive Radford.edu web presence based on the new branding initiative.
- Launched RU Mobile version 5 with additional functionality and features.
- Completed the Identity and Access Management System project.
- Rolled out Raiser's Edge with NetCommunity to support fundraising and alumni involvement.
• Continued to evolve Radius and implemented AgileAdvisor to support student success.
• Completed the integration between Banner and Cardinal, the new Commonwealth of Virginia financial management system.
• Prepared for the next major release of Banner, Banner XE.
• Provisioned new servers and storage to new and updated systems.
• Upgraded printing capabilities in Printing Services.
• Enhanced the automation for the WVRU Radio Station with upgrades and increased storage.
• Announced the release of the ITOneStop self-service portal to the campus community.
• Implemented ServiceNow modules for demand and project management to enhance project intake, prioritization and tracking. Also implemented the change management module to provide an electronic workflow for tracking and approving changes to campus IT systems.
• Updated the campus firewall and intrusion protection architecture to enhance network security.
• Transitioned system snapshots and backups to the Virginia Tech data center.
• Relocated the Technology Assistance Center from Heth to Walker Hall.
• Completed a major review of Risk Assessment and Business Impact Analysis to help ensure a secure computing environment.
• Restructured Enterprise Systems & Web Services to create the Web and Mobile Technologies department to focus on and enhance the use of changing web and mobile technology.
• Led the initiative to develop a Heat Map of the top ten risks that could impact the mission of Radford University.
• Successfully completed an audit with the Auditor of Public Accounts with no findings reported.

**Major Initiatives for 2016 – 2017**

• Work with Admissions and Royall & Company to improve student recruiting outcomes.
• Complete the installation of infrastructure and technology for the College of Humanities and Behavioral Sciences building, including a new state-of-the-art television studio.
• Implement the student registration module for Banner XE.
• Transition faculty and staff email to Office 365.
• Launch Starfish as a new tool to assist with advising and retention.
• Continue to optimize computer labs and enhance student access to software.
• Plan and implement technology for Whitt Hall renovation project.
• Replace and expand usage of two-factor authentication for sensitive systems.
• Implement an Intrusion Detection system (IDS) to enhance security.
• Investigate software packages to enhance printing automation/workflow, web-to-print, and variable data capabilities.
• Research and review alternative portal solutions.
• Purchase and implement non-emergency SMS texting solution for campus use and integrate with various campus applications.
• Review Enterprise reporting strategy.
• Review and evaluate collaboration tools for faculty and staff.
• Expand the use of the document management/imaging system.
• Expand the deployment of workflows.
• Support the upgrade of the Human Resources applicant tracking and position management software.
• Begin implementation of a new Travel and Expense Management system.
• Develop a “proof of concept” predictive analytics model using IBM Watson Analytics.
• 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

Center for the Sciences Technology Installation

Technology for the Center for the Sciences building was planned and installed to support the needs of faculty teaching in the new, state-of-the-art facility. High-resolution LED displays were used instead of traditional projectors in most spaces to provide sharper and brighter images. AV systems integrated in the building include the large lecture hall, 19 teaching labs, 2 computer labs, and 4 classrooms. High-resolution ceiling mounted document cameras were installed to provide the ability to display items and perform demonstrations. A conference room was also outfitted with a telepresence system to provide video conferencing capabilities.

Electronic Learning Space Upgrades

Electronic Engineering and Communication Services upgraded more than 50 electronic classroom facilities including the Doctor of Physical Therapy (DPT) Program in Roanoke, the Roanoke Higher Education Center, Walker, Young, Russell, Porterfield, and Covington halls. Twenty-nine classrooms received laser projectors providing enhanced images and instant-on functionality. Software and interfaces were changed on the Crestron control systems in 185 learning spaces to enhance usability and support.

AV Troubleshooting guide developed

An AV troubleshooting guide was created to enhance and expand support for the electronic learning spaces on campus. The new guide allows helpdesk and other staff to better assist with support requests and expedite repairs.
Enhanced Automation for WVRU Radio Station

Radford's WVRU FM radio station provides opportunities for student interns to learn about the operation of a radio station. The radio station’s studio automation system was upgraded to the latest software and operating system enhancing functionality and simplifying programming. The automation storage system space was increased providing greater storage and enhanced reliability.

As part of the upgrade, SMARTWEB technology was incorporated in all aspects of the automation including: unattended-recording, playback, FTP delivery, and radio program scheduling. Music file handling can be performed through the web interface.

Campus Digital Signage Updates

An upgrade to the Symon digital signage technology was completed to simplify programming and add video formats. The weather service application was upgraded to provide seamless integration and additional graphics capabilities. New channels were added to allow building specific information screens for Martin Hall, Center for the Sciences, College of Humanities and Behavioral Sciences, Center for Visual and Performing Arts, McConnell Library, and Kyle Hall.

Audio System Upgrades

New portable AV equipment including digital mixers, digital snakes, XLR splitters, microphones, speakers and cables was purchased to provide support for ad-hoc events in venues where additional sound reinforcement is temporarily needed. Sound reinforcement was installed in the Student Wellness and Fitness Center and a Shure Wireless Microphone System was installed in the Peters Hall Gym. The SELU Barn also received a new Crestron AV switching and audio system to enhance functionality for meetings held in the venue.

By the Numbers

- 50 electronic learning spaces upgraded
- Provided AV support for 207 campus events and 14 basketball games
- Streamed 3 graduation ceremonies (1 spring and 2 winter) and the New Student Convocation
- 7 conference and campus events recorded and videos produced, including the McConnell Day Celebration, The Big Read, and the New Student Convocation
- 10 new digital signage locations added
- 694 computers processed for surplus
- 104 Apple Computers, 21 Lenovo Computers, and 47 printers repaired

Goals for 2016-2017

- Continue to provide technologically advanced learning spaces for instruction.
- Expand digital signage on campus.
- Explore additional funding avenues for the WVRU radio station.
- Provide a quality television studio for the College of Humanities and Behavioral Sciences which will integrate well with instructional needs, as well as provide for live broadcasts.
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

Banner/Cardinal Integration Completed

Cardinal, the Commonwealth’s new financial management system, was integrated with Banner replacing the old integration with CARS. Radford technical and functional staff invested over a year attending the required planning and training sessions, and integrating Cardinal with the Banner system. A complete rewrite of interfaces was required to synchronize the two systems. Radford’s implementation successfully launched on schedule in February 2016.

LawRoom Title IX Training for Faculty, Staff and Students Launched

The LawRoom Title IX training product was purchased to provide the training content, tracking and reporting for required annual Title IX training. Enterprise Systems provided data loads, testing and support for user access and single sign-on functionality.

Updated Billing and Refund Processes for Augustmester

Augustmester became an official term in 2015. Multiple processes were modified to accommodate changes to billing, financial aid, refund and drop processing for this new term.

Integrated Peer Transfer Services for International Payments

Peer Transfer provides a means for international students to conveniently make payments to their student account in US currency. Enterprise Systems worked closely with Peer Transfer, Nelnet and other Radford staff to make this integration a smooth transition for students.

Banner 8 Upgrades Deployed to Meet Banner XE Requirements

Eighteen Banner modules and the integration to the Commonwealth’s eVA procurement system were upgraded, tested and deployed to production. The upgrades set up the infrastructure and application environment to implement the first phase of Banner XE, the next major version release.
**Banner XE Development Environment Established**

The next major release for Banner, Banner XE, was installed in a development environment for assessment and testing. Functional and technical teams received training from Ellucian for Banner modules that are currently available. Planning and discussions are underway for a phased Banner XE rollout to production.

**Upgraded AdAstra Classroom Scheduling System to a Cloud Hosted System**

Enterprise Systems, in conjunction with IT Infrastructure, migrated the AdAstra system to a cloud hosted solution. The implementation of this service will enable RU to take advantage of more automated upgrades from the vendor and position RU to implement the tool more globally across campus.

**Implementation of the New Graduate Admissions Deposit Report**

Graduate Admissions has implemented seat deposits for some Graduate programs. Enterprise Systems worked closely with Student Accounts, Nelnet and Graduate Admissions to accept these new deposits and to build the necessary technical processes to support the new business process and reporting needs.

**Operational Data Store Upgraded to Latest Release**

This upgrade positioned Enterprise Systems to utilize Materialized Views data structure and to prepare for the deprecation of Oracle streams.

**Implemented Secure-Drop Windows Environment for Banner Batch Server Files**

Enterprise Systems worked with various administrative offices to utilize a Windows-based share controlled by Active Directory Global Groups for data uploads and Banner processing. This provides tighter controls to be placed on batch servers and placed the access to these shares in the hands of each administrative data owner.

**Implemented Undergraduate Applicant Processing Through Hobsons’ Radius**

In conjunction with Admissions, Enterprise Systems implemented integrations from Radius to Banner for undergraduate applications. Completed applications, application decisions and test score integrations were also created to ensure Radius and Banner were synchronized for applicant reporting and processing.

**Loaded eVA Receiving Data in Banner**

Automatic loads to synchronize receiving data from the Commonwealth’s eVA procurement system to Banner were implemented. Synchronizing the receiving data improves reporting and allows Finance to test efficiencies of a 3-way matching process in Banner for invoicing.

**Implemented Language Culture Institute (LCI) Student Tracking**

Enterprise Systems implemented new processes for LCI program administrators to add and remove LCI students from the program. The new process improves tracking and managing security and access of these students.
Updated Degree Audit System
Degree Works was upgraded to take advantage of improved functionality for the Student Planner and Transfer modules.

Expanded Enterprise System Upgrade Cycle
Approximately 90 software releases were installed, tested and deployed this cycle to upgrade supported systems.

Additional Enhancements and Improvements

- Multiple physical servers migrated to a virtual server environment.
- Annual Sensitive System Security Certification process.
- Supported Year End processing for Finance, Foundation, Facilities and Fixed Assets.
- Provided data for multiple Freedom of Information Act requests for administrative offices.
- Supported the Facilities AIM IQ reporting implementation.
- Supported the annual Leave Liability analysis.
- Completed implementation and integrations for Blackbaud Raiser’s Edge and Net Community, including integrations for Campus Call.
- Supported Web Services with AEM load testing.
- Implemented Phase 1 of Position Budgeting project.
- Expanded the use of Banner Data Defense encryption for training and testing databases.
- Developed systems and processes to support reporting for Accounts Receivable aging.
- Created database views to support Office 365 Pro Plus software access for faculty and staff.
- Created process and infrastructure to support the addition of Purchase Order Title information for Budget reporting and controls.
- Implemented Hobsons’ Agile Advisor for student advising.
- Upgraded AppWorx job scheduler to version 9.0.1.
- Upgraded Evisions Intellecheck and Form Fusion to a new web client and updated all templates.
- Enhanced Disability Resource Office accommodations letters.
- Supported the implementation and enhancement of the Service Now product and workflows.
- Upgraded Banner Document Management to Version 7.0.
- Updated multiple systems and templates with new RU branding.
- Provided support, reporting and assessment for multiple internal and state audit requests.
- Assisted with testing and implementation of the Java 8 upgrade for Banner.
- Supported on-boarding interfaces with Barnes and Noble bookstore.
- Developed processes for the College of Education to load, match, and apply Praxis test scores for existing students.
- Began assessment and planning for the 12c migration of all Oracle Servers.
- Began assessment and planning for implementation of new Student Health system.
- Upgraded Python to version 3 for development use.
- Continued implementation of the Harvest lifecycle code management processes for Cognos/ODS.
• Upgraded the Odyssey Housing Management System.
• Supported the President’s Legislative outreach for graduated students and Advocacy Day activities.
• Transitioned department to 2 factor VPN access for sensitive systems.
• Implemented integrations with Student Activities OrgSync system.
• Provided first year support for the Faculty Annual Report system, Activity Insight.
• Provided first year support for the Wellness Center data extract and load.
• Supported Systems Administration’s implementation of a monthly OS patch schedule.
• Coordinated and completed the Ellucian Action Planning engagement.
• Implemented the Financial Aid Federal Shopping Sheet in Banner.
• Implemented the Budget Security model to support the Position Budgeting project.
• Completed formal review and documentation for audit of the SSB Student Profile.
• Developed Banner interface to the new OCLC Library Management system.
• Implemented Small, Women and Minority certification reporting for historical transactions.
• Created automated processes for the Quarterly Finance audit reports.
• Implemented changes to ECSI from Campus Partners Perkins loan service for Financial Aid/AR.
• Supported data needs for reporting of Contractors in Banner/ODS.
• Provided support for the Finance Asset Works scanning system.
• Supported development of reporting needs for Manpower Control/Affordable Care Act changes.
• Developed multiple automated reports for internal audit and HR/Payroll data.
• Created application in Banner Document Management System for College of Education to store program specific documentation.

By the Numbers

• 194 user-requested enhancements and integrations completed for Administrative Systems
• 178 upgrades and patches applied to Administrative Systems
• 82 custom reports developed or revised for the campus community
• 24 enhancements to the Operational Data Store for reporting purposes

Goals for 2016-2017

• Continue implementation and integration of additional features and functionality in the integrated, enterprise-wide customer relationship management (CRM) systems.
• Implement Hobsons’ Starfish to support student retention.
• Finalize the installation, testing and implementation of the Banner XE student module in the production environment.
• Support the Human Resources implementation of the second phase of electronic workflows.
• Support the implementation of the Nelnet Enterprise upgrade for Finance and Student Accounts.
• Support the upgrade of the Human Resources applicant tracking and position management software.
• Migrate Oracle databases to Oracle 12C.
• Upgrade the reporting environment to ODS 8.5 and Cognos Analytics.
• Implement Medicat software in support of the Student Health immunization tracking and reporting imitative.
• Finalize new Degree Works functionality for the Transfer Equivalency, Student Education Planner and the Curriculum Planning Assistant.
• Fully implement wait listing functionality in Banner Self Service (SSB) course registration.
• Expand the use of the document management/imaging system.
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

Intrusion Protection System (IPS) and Firewall Upgraded
In conjunction with Network Services, the architecture for the IPS and outside firewall was reconfigured. The changes improve security, permit greater capacity and increase granular control of permitted and non-permitted network traffic. In addition, new technology was purchased to build a new intrusion detection system (IDS).

Major Review of Business Impact Analysis and Risk Assessment
In accordance with best practices and the university's security standard, the University collaborated with an outside consulting firm to conduct the required three-year review of the IT sensitive system inventory, Business Impact Analysis, and Risk Assessments.

Increased Vulnerability Scanning and Penetration Testing
The Information Security Engineer achieved Penetration Tester (GPEN) certification in March, 2016, which increased capability within the department to assess target networks and systems to find security vulnerabilities. One detailed penetration test was conducted for a cloud-based mobile service scheduled to be online in July, 2016. Improved vulnerability monitoring technologies and increased capacity for continuous scanning across the domain were also implemented to strengthen the security program.

Additional Enhancements and Improvements
- Provided policy input to new wireless designs that were implemented this year.
- Provided input to a three-year plan for improvement of network architecture to include role-based provisioning for campus networks.
- Developed a Cybersecurity Month (October) campaign centered around password policy.
- Developed daily reports for the security events in the log infrastructure.
- Reviewed security controls and review process for 5 third-party application vendors.

By the Numbers
- 44 pre-production vulnerability scans and reviews
- 19 malware incidents
- 13 security awareness articles produced for campus newsletters or knowledge base articles
- 2 security awareness presentations

**Goals for 2016-2017**

- Replace and expand usage of two-factor authentication for sensitive systems.
- Implement an Intrusion Detection System (IDS).
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

Implemented New Logging Server Hardware and Architecture

Operation and Systems Administration completed the installation of new logging server hardware. During this installation, a redesign of the application architecture was completed. This redesign allowed for the split of the search engine and the database to increase the speed of queries and reports.

Implemented System Backups and Snapshots at Virginia Tech for Additional Redundancy

IT Infrastructure implemented an off-site rack of equipment in the Virginia Tech data center to support system backups and snapshots. This rack of equipment includes a small number of servers, storage, and a disk based backup appliance. There will be continued evaluation of this implementation to determine future expansion.

Expanded the Wireless Infrastructure Throughout Campus

As the use of Internet resources by the university community continues to grow, the need for wireless access increases on an annual basis. Network Services personnel enhanced the wireless coverage in residence halls and academic spaces with the latest in wireless technologies.

Move Cloud Hosted Applications to Single Sign-On

As part of the Identity Management system implementation, a Central Authentication Server/Shibboleth server was installed to provide centralized Single Sign-On (SSO) service. This service allows the use of Radford credentials to log into a variety of campus systems and services. During the past year many systems were migrated to Shibboleth authentication. These systems include Hire a Highlander, Campus Guard, Desire 2 Learn, TK20 Education Assessment Solution, Fusion Recreation software, Ad Astra Scheduling, Alcohol.edu, Lawroom Title IX training/tracking, InfoEd, PeopleAdmin, Kaltura, Hobsons’ CRM, Parchment, eVA and RU Express.

Infrastructure Installations

Network Services and Auxiliary Services Support completed the installation of door access, security cameras, wireless access points, telephone cabling, network connectivity and cable TV for the Center for the Sciences, the Athletic Hitting facility, Pocahontas and Bolling.
**Implemented New Web Server Environment**

Working with Web and Mobile Technologies, IT Infrastructure provided new servers, additional storage and firewall changes that were part of the new web server environment. The effort of both teams provided a successful launch of a new version of content management software and the rebranding of the campus web server.

**Replaced Border Firewalls**

Network Services replaced the outside border firewalls as part of an effort to separate the firewall and intrusion prevention system. Extensive testing with the Security and Voice/Video teams ensured a successful implementation.

**Implemented a Site to Site VPN for AdAstra Room Scheduling Software**

As part of the implementation of the cloud based AdAstra, Network Services implemented a site to site Virtual Private Network (VPN) connection to allow secure access to scheduling data.

**Replaced Firewalls that protect the Credit Card Terminals on Campus**

Network Services implemented a new firewall and intrusion prevention system to provide increased security for credit card processing locations. These devices support Payment Card Industry (PCI) compliance initiatives.

**Implemented Technology for Doctor of Physical Therapy (DPT) Program in Roanoke**

Network Services worked with Carillion to provide wireless access for DPT students, faculty and staff. This implementation allowed the DPT users to have access to wireless all day without using the Carillion guest network. Installed new state-of-the-art Speaker Track video conferencing system and an Anatomage table with two wall mounted displays.

**Provisioned Servers and Storage**

Additional servers and storage were provisioned for the upgrades to the Class Climate faculty evaluation system, eVA to support the Cardinal project, Degree Works, the new mobile app, and the document management system.

**By the Numbers**

- 3000 residence hall ports tested
- 345 million spam messages blocked
- 150 reports for Vending Sales generated
- 100 reports for Dining Sales generated
- 85 reports for events using ID card swipe devices generated
- 1500 events that had the potential for an outage avoided
- 135 hard drives destroyed and recycled where appropriate
- 160 Wi-Fi access points installed in the Center for the Sciences, Bolling and Pocahontas
- 2300 data ports installed in the Center for the Sciences, Bolling and Pocahontas
- 53 door access locations added in the Center for the Sciences
- 300 CATV ports installed in the Center for the Sciences, Bolling and Pocahontas
Goals for 2016-2017

- Migrate faculty/staff email to Office 365.
- Continue implementation and testing of IPv6.
- Continue to enhance the off-site data center for additional service redundancy.
- Monitor and adjust bandwidth to meet campus needs.
- Upgrade campus voice and telepresence systems.
- Continue to transition cloud hosted applications to single sign-on where applicable.
- Work with Facilities Management to reduce electrical usage.
- Work with campus Internet vendors to find ways to implement enhancements and services to campus community.
- Implement new campus id card servers and software.
PLANNING, POLICY & COMPLIANCE

Mission Statement

Planning, Policy and Compliance supports the division’s strategic planning, project portfolio management, IT audit, policy and compliance initiatives. In September 2014, the office was restructured and assumed oversight and responsibility for the Identity Management system implementation and support.

Major Accomplishments

Completed Identity and Access Management System Project

Identity and Access Management securely and efficiently manages the credentials, accounts, identity data, authentication and authorization requirements for accessing university systems and services. The project closed during June 2016, and provided the following contracted deliverables:

- TridentHE core identity management system installed and configured
- Self-service applications developed for users to manage their accounts and information, including Account Activation/Account Claim, Change Password, Forgot Password, and Manage Account Information
- Provisioning and de-provisioning of primary campus systems including Active Directory, Office365, Exchange email, network storage, various Unix/Linux systems
- Account creation process developed for non-person accounts including department, student organization, elevated privilege, and system-level accounts
- Account recertification process for users of sensitive systems
- Online account requests and workflows
- Federation with Shibboleth/CAS for system authentication

Completed Annual User Account Recertification for Sensitive Systems

The required annual recertification of user access to sensitive systems was completed. Worked with Enterprise Systems and Data Owners to review and adjust access as appropriate for job responsibilities.

Successful APA Audit

Successfully completed audit with the Auditor of Public Accounts (APA) with no findings reported.

Reports and Surveys

Coordinated updates for the Information Technology Strategic Plan and other Level II operating authority compliance reports. Prepared submissions for the following reports and surveys: Educause Core Data Survey, Barron’s Survey, College Board Survey, Princeton Review, Peterson’s Undergraduate Survey, RU Fact Book, US News and World Report, Wintergreen Orchard House
Survey.

**By the Numbers**

- 378 requests for access to administrative systems processed
- 1,340 support tickets for identity-related requests processed

**Goals for 2016-2016**

- Continue enhancements to Identity Management systems and workflows to further automate identity services.
- Review and update the division’s IT policies and standards.
- Evaluate governance, risk and compliance software to facilitate management of IT controls and risk assessment.
PRINTING SERVICES

Mission Statement
The mission of Printing Services is to produce high-quality printed materials while minimizing costs and ensuring timely delivery.

Major Accomplishments

Equipment Enhancements
Morgana Digifold Pro high speed, high accuracy equipment was installed to enable creasing and folding of coated and heavyweight stock in one step. The equipment can also perforate, enabling certain difficult-to-perforate jobs to be completed more efficiently.

An Epson Stylus Pro 4900 17-inch inkjet printer was purchased for small to medium sized photos and mid-size posters. Several additional inkjet substrates, including fine art media, were added.

High Profile Printing Projects
Printing Services continued to produce high quality, high profile materials for the campus, thereby alleviating costs and improving efficiencies by producing materials in-house. Such notable pieces include the Quest New Student Orientation Guide (24-page magazine-style booklet), Governor’s School Monthbooks, and The Beehive (the student-run magazine). Reusable roll up banner stands were designed in-house to support the Chinese New Year, mid-autumn festival and other events.

A new, two-sided variable data postcard was developed for Career Services to support the Career Prep Conference. According to Career Services, as soon as the postcards were delivered, registrations went up by 38%, and the conference significantly exceeded its participation goals. This was the result of a combined effort between University Relations, Career Services, Printing Services, and the Post Office.

Updated Database for Job Tracking
A process change was made to consolidate all job tracking into a single database. This change eliminated the need for separate fiscal year files for job tracking, and simplified tracking and reporting. The transition also facilitated substantial time savings by eliminating re-keying of monthly charges and providing easily accessible records for previous work (for re-orders). More itemized descriptions of charges are transferred to Banner to enhance reporting for departments.

Additional Enhancements and Improvements
When the Press Operator retired, a Graphic Production Technician was hired in his place to reflect the shift in workload from offset printing to digital and quick printing.
Printing Services worked closely with University Relations to continue consistent implementation of new branding, and to ensure that departmental orders adhere to university graphic identity standards. This often involves either quickly correcting a submitted piece before production, or educating the client and sending back to the department for adjustment before proceeding with the order.

**By the Numbers**

- 1407 printing requests, many of which involved multiple jobs/items
- 774,000 color impressions
- Printed over 300,000 postcards
- Processed over 3000 cash/check/RU-Express "across-the-counter" transactions, the majority of which were multi-job orders
- 150 boxes of materials shredded, at no charge to departments
- 571 deliveries of toner and staples in support of the managed copier program

**Goals for 2016-2017**

- Investigate software packages to enhance automation/workflow, web-to-print, and variable data capabilities.
- Acquire an additional wide-format printer.
- Acquire a replacement tabbing machine for folded self-mailing pieces.
- Replace current direct-to-plate system with a chemistry-free solution.
- Investigate new envelope printing solutions.
- Train and integrate new graphic technician.
- Research wide-format and single-piece cutting capabilities/equipment.
- Expand jobs database to begin to include auxiliary requests for better tracking/record keeping.
- Pursue additional efficiencies in areas of job management, workflow, copy center turnaround, and physical layout.
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 organization.

Major Accomplishments

Rollout of Raiser's Edge with NetCommunity

Blackbaud’s fundraising software, The Raiser’s Edge, and NetCommunity website solution provide tools to acquire supporters, boost retention of donors, and improve fundraising effectiveness. These systems are used by Advancement and Alumni Relations to build stronger relationships with donors and diversify fundraising capabilities. Both implementations successfully launched on time and within budget.

Continued to Evolve Hobsons’ Radius and Launched AgileAdvisor

The project to implement Hobsons’ Customer Relationship Management (CRM) solution included Radius, a Student Lifecycle Management system, and AgileAdvisor, an appointment scheduling, tracking and communication tool for advisors and students. With Radius, staff can manage day-to-day contact with constituents, create dynamic cross-media marketing campaigns, and respond to inquiries in a timely manner. AgileAdvisor provides convenient online student/advisor communication with an easy-to-use appointment log and advisor dashboard that facilitates note taking, to-do-lists, and follow up communication. The implementation of the CRM and AgileAdvisor were successfully completed on time and within budget.

ServiceNow Project and Portfolio Module Administration

Implementation of the Idea and Demand modules in ServiceNow provided enhanced project selection and prioritization processes. New reports and dashboards were created to improve access, tracking and reporting for the division’s ideas, demands and projects. Ongoing training and support to incorporate project management best practices and utilize ServiceNow functionality was provided for technical project managers. Configurations were tested to support the Helsinki release upgrade scheduled for July 2016.

Starfish Implementation for Student Success and Retention

A new project was initiated to implement Starfish, a product acquired by Hobsons to replace AgileAdvisor. Project planning was completed and configuration, testing and training started during the spring semester. Starfish is slated to launch before the start of fall semester 2016.
**Project Management Support**

New and enhanced Project Management templates, worksheets and forms were developed to improve and standardize project activities. Coaching and mentoring sessions focusing on the Project Management framework and methodology were conducted during Our Turn sessions, IT departmental sessions and 1-on-1 meetings with IT Directors and Managers.

**Goals for 2016-2017**

- Lead high profile projects to achieve university and departmental objectives.
- Add content to the Project Management website for new processes and procedures.
- Update project management standard and framework documentation.
- Support, train and mentor staff on using project management tools, standard methodology, and best practices.
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

ITOneStop Launched

DoIT launched a self-service support portal called ITOneStop to provide users a web-based tool for requesting and monitoring technology support requests. This system allows users to request new services such as phone lines and network ports, reset their password and access the Solutions Library which includes answers to common technical questions. During 2015-2016, 18% of technology support requests came in via this new tool.

Distribution of Technology Support Requests by Type of Contact

<table>
<thead>
<tr>
<th>Type of Contact</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHONE</td>
<td>6,504</td>
</tr>
<tr>
<td>WALK-IN</td>
<td>4,238</td>
</tr>
<tr>
<td>EMAIL</td>
<td>3,962</td>
</tr>
<tr>
<td>SELF-SERVICE</td>
<td>3,491</td>
</tr>
<tr>
<td>OTHER</td>
<td>1,105</td>
</tr>
</tbody>
</table>
Implementation and Support for Technology in the Center for the Sciences

Technology for the Center for the Sciences was installed in the Fall of 2015 in advance of the building opening in January. Two computer labs were installed along with technology in 5 classrooms and 19 science labs. Academic Technologies provided training sessions at the beginning of the Spring semester to familiarize faculty with the technology in these new spaces.

Technology Assistance Center Moved to Walker Hall

In May of 2016, the Technology Assistance Center moved from Heth Hall to Walker Hall. Enhanced walk-in support areas, upgraded space for the support staff, and closer proximity to other IT staff in Walker Hall has provided greater opportunities for collaboration and problem resolution.

Computer Lab Strategy

DoIT continued collecting statistics on computer lab usage to gain a better understanding of how computer labs are utilized on campus and how to more efficiently provide these resources to students and faculty. Analysis of these statistics resulted in closing of the Whitt Hall computer lab and a reduction of the number of computer located in the Walker Hall lab area. DoIT also focused on installing site licensed software on all lab computers, minimizing the need for faculty and students to use a specific departmental lab to access software.

In the fall of 2015, DoIT issued a Request for Information (RFI) to review options for cloud based hosting for software. Transition to a cloud hosted solution would allow students to use their own computers to access software without requiring a download or install. A Request for Proposal (RFP) for cloud based hosting of software applications is underway. Other options under review include the use of a locally hosted Citrix and Windows Terminal Server to allow student access to software both on and off campus.

Transitioned Campus Computers from Symantec Endpoint Protection to Microsoft System Center Endpoint Protection and BitLocker

In the spring of 2016, the anti-virus software on campus computers was transitioned from Symantec Endpoint Protection to Microsoft System Center Endpoint Protection. This change simplified the management of anti-virus software on university computers while also reducing cost. In a similar manner, as computers are replaced, those that require hard drive encryption are being transitioned to BitLocker.

Implemented Third-Party Java Patching on University Computers

Patching of Java and other third party software on university computers has long been a challenge. Using Microsoft System Center Configuration Manager (SCCM), the desktop service staff created a
package for Java patches and, in the spring of 2016, DoIT rolled out the first campus wide Java patch for Windows computers. A second round of Java patches is scheduled for July of 2016.

**Windows 10 Rollout in Campus Computer Labs & Classrooms**

Windows 10 allows DoIT to provide the latest features and functionality while minimizing the user interface changes. DoIT worked throughout the 2015-2016 year to test, develop, and plan the rollout of Windows 10. Installation of Windows 10 on classroom and lab computers in the Center for the Sciences was completed in January. In April, DoIT began rolling out Windows 10 on new faculty computers and increasing the number of Windows 10 training opportunities. Completion of the Windows 10 upgrade to campus computer labs and classroom computers is expected in August of 2016.

**Windows Software Center**

Windows Software Center provides a self-service tool for end users to install university supported software without intervention from the Technology Assistance Center. Over the past year, the number of software packages available in Software Center increased with more than 25 software packages now available for install on university computers.

**Enhanced Training for Faculty and Staff**

Academic Technologies placed an increased emphasis on training this year providing over 214 workshops to faculty and staff. The additional training opportunities allow faculty and staff to make better use of the technology available on campus.

**Printer Kiosks in Moffett and Muse**

Based on input from the Student Government Association (SGA), printer and computer kiosks were added to the first floors of Moffett and Muse halls. This provides students living in Moffett and Muse the ability to print on a high quality printer without leaving their residence hall.

**Annual Faculty/Staff Computer Replacement**

Each year, Academic Technologies coordinates the upgrade cycle for faculty/staff laptop and desktop computers. This includes an open house for faculty to choose the appropriate model, placing equipment orders, imaging and system preparation, training on new features and finally the rollout of new equipment to faculty. Academic Technologies was able to start the process earlier this year with rollouts of new hardware beginning in April.
Video Utilization Growth

Video Conferencing adoptions grew another 24% this past year. Use of video conferencing technologies for non-classroom based meetings included position searches, curriculum council meetings, business meetings, doctoral applicant interviews, student advising, recruitment, and pre-production meetings for theatre engagements. A growing use of video conferencing in the classroom has been utilized by guest speakers covering subjects in Psychology, Literature, and Political Science.

Pilot of Office 365

A pilot group of approximately 70 faculty and staff tested the collaboration features of Office 365, including OneDrive, TeamSites and Lync for Mac, Windows and tablet devices. The Center for Innovative Teaching and Learning, the Technology Assistance Center, Academic Technologies and University Relations are among the departments that have their entire staff actively testing and using the cloud solution. Academic Technologies is using this pilot group to develop a recommended adoption strategy for using Office 365 campus-wide.

Other Technology Support Highlights

- Office 365 Pro Plus made available for faculty/staff as a download for personal computers.
- Adobe Connect upgraded from version 9.0.2 to 9.5.
- Desire2Learn moved to a continuous delivery model providing minor updates on a monthly basis.
- Telepresence units added in Career Services and the Center for the Sciences.
- Assisted with the transition of University 100 content to Desire 2 Learn.
- Conducted the second annual customer satisfaction survey.

By the Numbers

- 214 technology workshops and one-on-one consultations provided
- 408 total new computers deployed
- 25 classrooms upgraded with new computers
- 67 Phone Conferences
- 184 business related Video Conferences
- 106 academic related Video Conferences
- 23 Synchronous Classes via Video
- Processed more than 19,300 support requests (a 28% increase over the prior year)
- 5,062 support requests resolved within 24 hours of initial request
**Goals for 2016-2017**

- Implement and support technology in the new College of Humanities and Behavioral Sciences Building.
- Provide greater access to software for students both on and off campus.
- Continue collaborating with departments and colleges to optimize the number and size of campus computer labs.
- Implement Office 365 and One Drive as a tool for email and document sharing.
- Implement changes to classrooms utilizing Polycom high definition equipment in order to take advantage of high definition content sharing.
- Research collaboration and conferencing solutions that can bridge desktop and room based video conferencing systems.
- Enhance the availability of software for download in the self-service Windows Software Center including the addition of Office 2016.
- Continue to enhance the patching process for software on university owned computers.
- Develop a strategy for rollout of Windows 10 to older campus computers.
- Enhance the knowledge of Technology Assistance Center technicians through additional training and workshops.
- Continue to improve technology support by taking proactive steps including additional training, documentation, software updates, self-service installations and enhanced configuration to minimize the support needed by the campus community.
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

Established Web and Mobile Technologies department
DoIT realigned staff and created a new department, Web and Mobile Technologies, to focus on the rapidly changing and growing landscape of web and mobile technologies. The department will provide research and development for the public facing web presence, internal portal, mobile applications, graphic design, kiosks, other web applications, and integration of those technologies with campus systems.

Website Redesign Completed
Working closely with University Relations, the redesign and responsive implementation of the Radford.edu website was completed. The project included standardized and improved navigation, added functionality, and alignment with the new branding initiative while creating a more mobile-friendly experience.

Adobe Experience Manager CMS Upgrade to Version 6
In conjunction with the redesign, the Adobe Experience Manager content management system was upgraded from version 5.5 to version 6.1. This upgrade provided additional functionality such as responsive design capabilities, and included fixes for many identified problem areas. Version 6.1 also upgraded several underlying technologies which support the architecture and stave off security vulnerabilities.
**RUMobile v5 Launched**

RUMobile went through a complete overhaul this year with the selection and implementation of a new vendor platform. With this change comes new and exciting capabilities for students. The first phase of RUMobile version 5 was launched in June before Quest 2016. New students were the first to download the new app, and use it to view their Quest schedules and their course schedule for the upcoming fall semester. All of the popular capabilities – bus tracker, dining menus, laundry, class schedule, semester grades – were retained in the new version. New features planned for roll out in the coming months include D2L integration to display course assignments and assignment grades, announcements, display of holds on accounts which may block registration, email and more.

**New Search Engine for Radford.edu**

In May, Web and Mobile Technologies rolled out an updated Google-based search engine for the Radford.edu web site. The new search tool allows users to easily monitor and customize search results using various search engine optimization parameters.

**MyRU Portal Technical Upgrade and Responsive Design**

Planning and preparation for a multi-layered, major technology upgrade for the MyRU portal continued this year. In addition to upgrades and patches for underlying technologies and security architecture, the Luminis platform on which MyRU is built, is being upgraded from version 5.0.4 to version 5.3. This extensive upgrade will include a mobile responsive design and improve system security. The upgraded system will move to production prior to the fall 2016 semester.

**Social Media Engagement Strategy**

Began second phase which included work with Vine, Tumbler, LinkedIn, and Google+. During the year, support for social media moved to University Relations.

**By the Numbers**

- 13 website overhauls were completed
- 19 new websites were launched
- 5 million visits to Radford.edu
  - 32% new visitors, up 29% from prior year
  - 30% from mobile devices, up 24% from prior year
- 5.7 million visits to MyRU
- 3,600 downloads of new RUMobile app
- 12,800 Twitter followers (22% increase)
- 20,800 Facebook fans (12% increase)
- 2,900 Instagram followers (107% increase)
- 13 social media platforms actively used and monitored
- 33,000 visits to the virtual walking tour

**Goals for 2016-2017**

- Launch upgraded and mobile responsive MyRU Portal.
- Re-development of the MyRU Systems Tab used to assist in issue resolution throughout DoIT.
- Research into the Internet of Things and possibilities for the campus community.
- Development of standard processes and procedures for new and existing integrations with on premise and cloud hosted applications.
- Increased training and focus on Search Engine Optimization features and capabilities for use with Radford.edu site search within the site and throughout the Google world.
- Research and review of alternative portal solutions for MyRU.
- Purchase and implementation of non-emergency SMS texting solution for campus use and integration with various campus applications.
- Increase the download and use of RUMobile through added functionality and increased promotions.
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
o Nelnet Student Tuition/Payment Processing
o Nolij Transfer
o OrgSync RU Involved Student Organizations
o Physical Therapy PTAdmit
o PeopleAdmin
o RuffaloCody Campus Call
o Redrocks Tutor Trac
o Royall & Company Application/Marketing
o Starfish Advising/Retention
o Symplicity Judicial Management
o T2 Parking Management
o Visual Zen (QUEST Orientation)

**Instructional Software/Systems**

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

**University-wide Systems**

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

**Database Management Systems**

o Oracle
o Microsoft SQL

**Operating Systems**

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

#### 2015-2016 Division Highlights

<table>
<thead>
<tr>
<th>2015-2016 Division Highlights</th>
<th>DoIT Strategic Plan</th>
<th>7-17 Strategic Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed technology for the Center for the Sciences building providing the latest network, Wi-Fi, classroom and audio-visual functionality for this state of the art facility.</td>
<td>Goal 2</td>
<td>Goal 2,4</td>
</tr>
<tr>
<td>Launched a redesigned, responsive Radford.edu web presence based on the new branding initiative.</td>
<td>Goal 5</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Launched RU Mobile version 5 with additional functionality and features.</td>
<td>Goal 4,5</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Completed the Identity and Access Management system project.</td>
<td>Goal 3,7</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Rolled out Raiser’s Edge with NetCommunity to support fundraising and alumni involvement.</td>
<td>Goal 3,4</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Continued to evolve Radius and implemented AgileAdvisor to support student success.</td>
<td>Goal 3,4</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Completed the integration between Banner and Cardinal, the new Commonwealth of Virginia financial management system.</td>
<td>Goal 3,4</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Prepared for the next major release of Banner, Banner XE.</td>
<td>Goal 3</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Provisioned new servers and storage to new and updated systems.</td>
<td>Goal 4</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Upgraded printing capabilities in Printing Services.</td>
<td>Goal 8</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Enhanced the automation for the WVRU Radio Station with upgrades and increased storage.</td>
<td>Goal 2,4</td>
<td>Goal 2,4</td>
</tr>
<tr>
<td>Announced the release of the ITOneStop self-service portal to the campus community.</td>
<td>Goal 2,6</td>
<td>Goal 1,2,4</td>
</tr>
<tr>
<td>Implemented ServiceNow modules for demand and project management to enhance project intake, prioritization and tracking. Also implemented the change management module to provide an electronic workflow for tracking and approving changes to campus IT systems.</td>
<td>Goal 2,6,7</td>
<td>Goal 1,2,4</td>
</tr>
<tr>
<td>Updated the campus firewall and intrusion protection architecture to enhance network security.</td>
<td>Goal 7</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Transitioned system snapshots and backups to the Virginia Tech data center.</td>
<td>Goal 4</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Relocated the Technology Assistance Center from Heth to Walker Hall.</td>
<td>Goal 1</td>
<td>Goal 1,4</td>
</tr>
<tr>
<td>Completed a major review of Risk Assessment and Business Impact Analysis to help ensure a secure computing environment.</td>
<td>Goal 7</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Restructured Enterprise Systems &amp; Web Services to create Web and Mobile Technologies department to focus and enhance use of changing web and mobile technology.</td>
<td>Goal 1,2,5</td>
<td>Goal 1,4</td>
</tr>
<tr>
<td>Led the initiative to develop a Heat Map of the top ten risks that could impact the mission of Radford University.</td>
<td>Goal 7</td>
<td>Goal 4</td>
</tr>
<tr>
<td>Successfully completed an audit with the Auditor of Public Accounts with no findings reported.</td>
<td>Goal 7</td>
<td>Goal 2,4</td>
</tr>
</tbody>
</table>