GEORGE MASON UNIVERSITY | Information Technology Services

ANNUAL REPORT
FISCAL YEAR 2016

ANNUAL REPORT FY2016

It was a transformational year for Information Technology Services (ITS). We concentrated our efforts on improving areas identified by the Mason community and on working together as "One ITS" to develop a strategic plan and begin to forge a culture of using technology to make it easier for the Mason community to do its work.

Special thanks to the Information Technology Governance Group (ITGG), Faculty Senate Technology Policy Committee (FSTPC), Technology Leadership Council (TLC), Systems Administrator Leadership Team (SALT), and senior administration, whose support and partnership made progress possible.

We will continue to align with Mason's strategic priorities and use our FY2017 goals to achieve our strategic objectives. We will develop metrics to improve transparency and measure progress. We will redesign services and our website to make it easier for Mason community members to understand and access information technology services.

We continue to focus on and build services for students, faculty, and staff, and are engaged in a number of collaborative projects with Mason colleges, schools, institutes, and departments to advance the collective experience.

Please enjoy our annual report highlighting our progress in fiscal year 2016.

Sincerely,

Marilyn T. Smith
Vice President and CIO

Information Technology Services

WHO WE ARE
Information Technology Services (ITS) is Mason's central IT organization. We provide IT resources, systems, and services to the university community. Seven teams comprise ITS, employing over 400 full-time, part-time, and wage employees.

OUR TEAMS
- Academic Strategies
- Enterprise Applications
- Enterprise Infrastructure
- IT Security
- Learning Support Services
- Network Engineering & Technology
- Strategic Business Operations

WHAT WE DO
GROUNDED BY OUR MISSION
ITS works transparently to drive excellence in teaching, research, and administrative operations

WHY WE DO IT
ENLIGHTENED BY OUR VISION
To provide superior technology and collaborative solutions that inspire life-changing learning and success for our students and the entire Mason community

HOW WE DO IT
GUIDED BY OUR VALUES
- Teamwork
- Respect
- Integrity
- Communication
- Innovation

ALIGNED WITH OUR PRINCIPLES
- Listen to our customers and engage with our partners to align resources
- Incorporate life cycle planning to develop sustainable services
- Value our people by encouraging their professional growth, promoting well-being, and recognizing excellence
- Ensure that information technology assets are protected and monitored, to reduce university risk
- Deliver solutions that catalyze student success

Providing services and support that help make Mason great

SERVICES
- Aquia Data Center
- Business Intelligence
- Computer & Software Resources
- Customer Support
- GMU-TV
- Email & Telecom
- Infrastructure & Network
- Patriot Tech
- Project Management
- Web Content Management

SUPPORT
- Application Integration
- Blackboard & Collaborate
- Distance Education
- Enterprise Applications
- IT Security
- ITS Support Center
- STAR Lab & CLUB
- Technology Enhanced Classrooms
- Videoconferencing & Telepresence
- Virtual Computing Labs

PROJECTS THAT IMPROVE THE ACADEMIC AND ADMINISTRATIVE EXPERIENCE

- Supported Request for Proposal (RFP) process for selection of online education partner (Wiley)

- Partnered in Student Experience Redesign project

- Refreshed Innovation Hall classrooms and completed third floor Makerspace

- Improved Fenwick Library audio/visual capabilities

- Upgraded Blackboard Learning Management System and increased storage

- Increased faculty Blackboard course usage from previous year (from 66% to 73%)

- Updated Mobile Mason and increased usage

- Implemented Kaltura's CaptureSpace tool

- Implemented Lynda.com

- Decommissioned Skillport

- Developed GMU-TV Roadmap

- Implemented new graduate admissions system

- Began implemention of the Student Success collaborative project

GMU-TV Studio B Redesign

Studio B is GMU-TV's studio space dedicated to developing content for academic courses, live webinars, and training materials for administrative units. Although in use for more than 10 years, the studio had never been refurbished. To do so, GMU-TV spoke with its faculty clients, deans, and instructional designers to better understand the needs and what an ideal teaching studio should look like. After evaluating feedback from stakeholders, GMU-TV redesigned the space to be multi-functional with reduced setup time, and requiring no more than three people to produce content. The redesigned studio supports Mason's strategic goals of innovation and accessibility.

Innovation Hall Renovation

As part of the collaborative project between the Office of the Provost, Facilities, and ITS, five classrooms were converted from traditional, fixed spaces with rows, to a variety of Active Learning Classrooms (ALCs) that pilot different classroom designs and support flexible, active learning. A sixth classroom will pilot a new design that allows faculty to have all students online with university-supported software or "hide" the provided computers and have students work in teams.

- Selected vendor for Banner study through an RFP process

- Implemented Business Intelligence (BI) reporting for new budget model, INTO reporting, and admissions reporting

- Completed upgrade to BI platform (MicroStrategy)

- Selected Mason web Content Management System (CMS) and web hosting provider

- Implemented new CMS (Drupal)

- Upgraded the COEUS Grant Management System (with the Office of Sponsored Programs)

- Implemented centralized graduate admissions (Hobson's Radius and AppReview)

- Redesigned online deposit application (with Office of Admissions)

- Enhanced the Travel Reimbursement System (TRS)

- Integrated new Virginia Enterprise Resource Planning (ERP) system (Cardinal Project)

- Migrated active data calendar to managed hosting

- Supported the redesign of the Mason website

Integration with the Virginia Enterprise Resource Planning System

This year, the Commonwealth of Virginia upgraded its financial system to an Enterprise Resource Planning (ERP) system. As a state institution, Mason was required to build two-way integration with the Commonwealth's new system. Mason Fiscal Services put together a plan called the Cardinal Project to accomplish this goal. Together with ITS, they built two-way integration between Mason Administrative Systems including Banner and the new state ERP system, which made Mason fully compliant with state requirements.

Lynda.com

Mason's partnership with Lynda.com provides free and unlimited online training to Mason students, faculty, and staff. The online subscription library offers more than 2,000 videos on a broad range of subjects, including business skills, photography, music, video editing and production, animation, and web design and development with new courses added weekly.

Student Wireless Assistance Team

After receiving feedback from students regarding wireless connectivity in the Johnson Center (JC), ITS consulted with an outside vendor to evaluate the situation. Based on the vendor's recommendations, ITS made changes to infrastructure in the JC to improve the wireless network. ITS also instituted a hands-on wireless troubleshooting and support kiosk in the JC. Support Center analysts, Student Resident Technicians (ResTechs), and NET engineers were available at the kiosk to answer questions and make adjustments to users' computers and mobile devices. The pilot SWAT kiosk, which ran from March to the end of the spring semester, helped 657 customers with technology-related concerns. Data showed that most wireless problems were not due to infrastructure and were resolved quickly by changing the configuration or updating the wireless driver on user devices. The SWAT kiosk will continue throughout FY2017.

Business Intelligence (BI) for Enrollment Management

The Business Intelligence Group of ITS (the team that provides a variety of software tools and applications to help Mason groups manage their data) developed a dashboard and reports to support the reporting needs of the Division for Enrollment Management and its supported users. These tools provide the Division, which supports admissions reporting, easier access to the data it needs to compile and create comprehensive student data reports that its users can access directly, a significant advancement in the delivery of student data. Before the tool, the Division had to compile individual reports and email them to users on a weekly basis.

PROJECT SPOTLIGHT

ProPlus for Faculty & Staff

This year, Microsoft Office 365 ProPlus was made available to all Mason employees at no cost. In partnership with Microsoft, Mason provides each employee with the latest version of Microsoft Office to use on their personal (non Mason-owned) computers and mobile devices. Each employee may install Office on up to five (non Mason-owned) computers and five mobile devices.

Data Mart Infrastructure

ITS improved its Data Mart infrastructure, a subject-oriented archive that stores data and uses the retrieved set of information to assist and support the requirements of Mason business offices or academic departments. New tools in the infrastructure enable users to take snapshots of data that can be used in a variety of ways including budget model reporting and student point in time reporting. The new tools are also a pre-requisite for other future Data Marts for student accounts and financial aid, which will be built during future phases.

PROJECT SPOTLIGHT

Off Campus Management of Apple Devices (Casper Suite)

Users with Mac laptops and other Apple devices frequently travel off campus. Now with the newly deployed Casper Suite, ITS can proactively manage the entire lifecycle of these Apple devices from anywhere. This tool enables ITS to deploy and maintain software, respond to security threats, distribute settings, and analyze inventory data whether the devices are on or off campus. Employees at Mason can self-enroll their Mason-owned Mac devices and be assured that they will be kept up-to-date, no matter where they are or when they use them.

PROJECTS THAT IMPROVE INFRASTRUCTURE

- Upgraded network equipment in 17 buildings

- Completed Wi-Fi improvements in 18 buildings

- Implemented Office 365 ProPlus for faculty and staff

- Upgraded to Oracle 12c Data Base Management System and Fusion Middleware

- Improved access control for departmental Windows workstations

- Completed application assessment for Windows 10

- Upgraded software tools to monitor equipment racks and equipment components in the Data Center.

- Reconfigured cable TV

- Changed telephony providers for improved performance and functionality

- Upgraded the Disaster Recovery Site Network

PROJECT SPOTLIGHT

Redesign of Disaster Recovery Site Network

Network Engineering and Technology, with support from Enterprise Systems and Messaging, redesigned the networks and upgraded equipment at Mason's disaster recovery site. This redesign ensures the network and its backup solutions remain highly reliable. The redesign improves how the network operates so that Mason can stay better connected. The enhancements add more resiliency to the network as well as the routing and switching electronics in the direct recovery facility. It also allowed ITS to build a new endpoint at the Science and Technology Campus.

Securing Networks

Network Engineering worked to move users off public networks and onto private IP networks, separated from the public network by a firewall. Behind the firewall are all wired systems on any campus, plus the department's remote access space divided into two parts; one for faculty or staff systems and one for student, guest, classroom, and lab systems.

PROJECT SPOTLIGHT

Revamp of Wireless/Public Networks

The wireless/public networks were revamped to provide four networks for users to access the Internet and some of Mason's networks:

- *Bring Your Own Device (BYOD):* Allows devices full access to the Internet; access to Mason systems is equivalent to that of any off campus Internet device
- *Guest:* Provides limited access to the Internet; has Internet equivalent access to Mason systems
- *Eduroam:* Allows users from any participating university limited access to the Internet; has Internet equivalent access to Mason systems (Mason users have similar access at participating universities)
- *Public Print:* Allows Mason associated users to place printers on the network for access from both wired and wireless devices
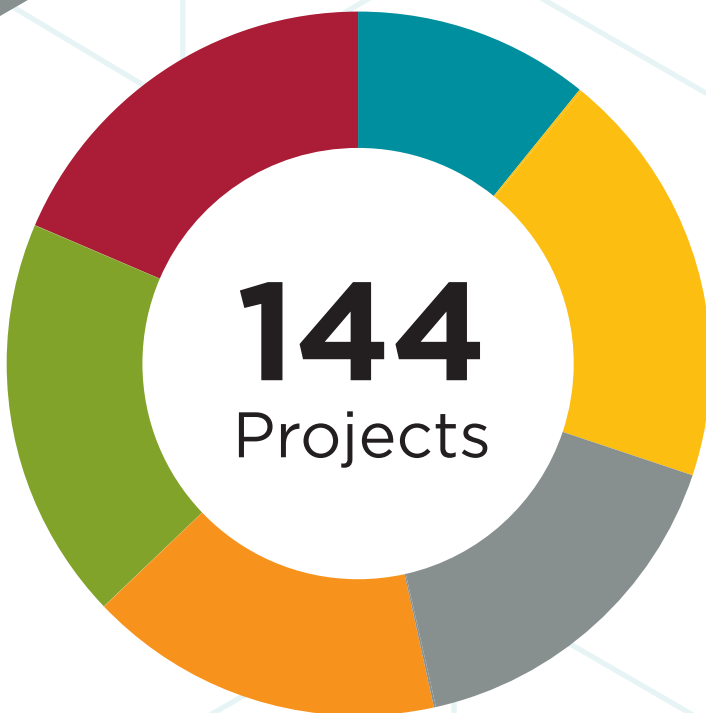
PROJECTS THAT IMPROVE INFORMATION SECURITY

- Improved PatriotPass password reset process

- Improved student password security

- Upgraded email spam filtering software

- Replaced the Juniper Virtual Private Network (VPN) with the Cisco AnyConnect VPN

- Added screen saver (session) lock for workstations

- Completed university-wide Payment Card Industry Compliance certification

- Reviewed university security controls to enable Federal compliance

- Implemented a licensed application firewall (to block unauthorized access) to improve protection for 295 WordPress sites
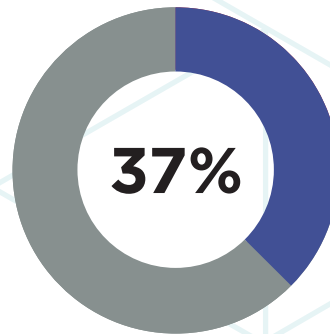
PROJECT SPOTLIGHT

Enhancing Website Security

During the spring, the password website (password.
gmu.edu) underwent changes for enhanced security
and user protection. These changes included adding
an alternative email address field for users. After the
changeover, all users received a one-time prompt to
provide an additional email address and birthdate.
The new option allows users to set an external email
address for authenticating to the site in the event
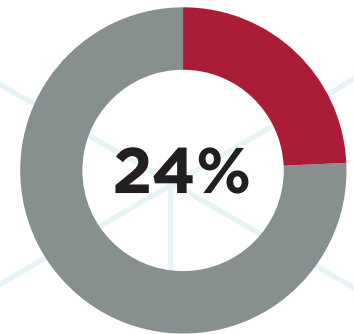of an expired/forgotten password.

FY2016
BY THE NUMBERS

37%

24%

Percentage of projects sponsored by our Mason Partners

Percentage of projects deemed critical to Mason Goals by ITGG

144
Projects

Administrative Systems 19%

Infrastructure 19%

Processes 15%

Security 15%

Academic 11%

Other/Multiple 21%

Information Technology Governance Group (ITGG)
ITGG is comprised of senior leadership representing the colleges and nine functional units. The charter of the ITGG is to review and prioritize new ITS projects while providing strategic insight for ITS leadership. Since its inception, ITGG has:

- Defined five core business drivers for ITS projects

- Developed, piloted, and implemented prioritization criteria for ITS projects

- Prioritized all new strategic initiative and capital investment ITS project submissions in the last 12 months

- Established the project list as the baseline for prioritization work conducted by other governance sub-committees

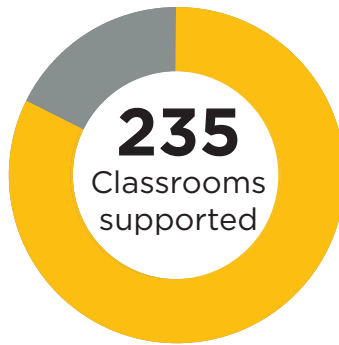- Provided advisory services to ITS

18

ITS Support

16,034
Collaborate web sessions
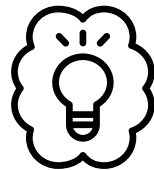
235
Classrooms supported

83%
Technology enhanced classrooms

151
Buildings

885
Unique Smart Data users

Bb
8,174
Blackboard courses

1,407
Videoconferencing & Telepresence events

2,474
Videoconferencing & Telepresence hours

76
Video Enhanced Courses supported

42,384
Support Center calls

ITS Service

3,520
Wireless access points

19,969
Lynda.com courses viewed

7,576
Lynda.com users

~50,000
Banner users
INB

789
MicroStrategy users

93,304
BI reports delivered

myMASON
34,748
Avg. monthly users

$
4,305,105
PatriotTech annual sales
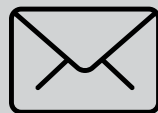
1,080,000,000
Inbound email messages

270
Virtual

213
Non-virtual

483
Servers
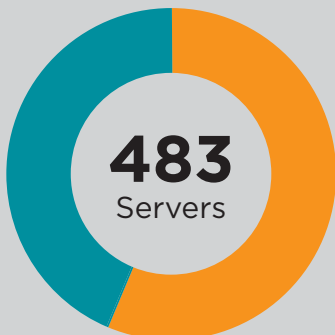
31,415
Avg. monthly Bb users

21,176
Avg. monthly Bb mobile users

Bb

25,129
Office 365 accounts

Lab Usage

110,966
Computer lab logins
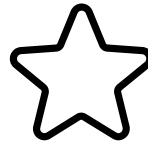
14,086
STAR lab users

CLUB

6,388
Collaborative Learning Hub users

4,354
Virtual Computing Lab (VCL) users

45,682
VCL reservations

Quick Facts of Special Note

- To improve wireless coverage in the Johnson Center, ITS network engineers installed new cabling and activated over 100 new access points

- Patriot Computers was renamed Patriot Tech. The retail store continues to sell the same computer-related merchandise, but the new name reflects the variety of products sold and services provided to Mason customers

- The Technology Support Services desktop team in Fairfax received national recognition, making the HDI Elite 50 for Customer Service for the second consecutive year

1. *Build Resources*

    a. **Continue support for Mason partnership with INTO**
        - Engage with INTO to design and build 13 additional classrooms on the Fairfax Campus
        - Develop additional programs for data exchange with INTO for reporting

2. *Strengthen & Support Organization*

    a. **Support implementation of the New Budget Model**
        - Provide data analysis and reporting functionality

    b. **Participate in the ongoing Student Experience Redesign project**
        - Based on the results and recommendations, participate in the effort to develop the institutional roadmap

    c. **Leverage the existing Banner administrative system to full potential**
        - Complete a study on the Banner administrative system to explore opportunities to maximize its effectiveness

    d. **Partner with Facilities Management to create an integrated network infrastructure improvement plan and roadmap**
        - Address deficiencies identified by the WTC Network Assessment and roadmap
        - Combine WTC roadmap with Facilities Management plant and infrastructure improvement and/or maintenance plans

    e. **Improve effectiveness and efficiencies of Information Technology Services**
        - Implement the new IT service management tool to automate workflow and to better track service delivery metrics
        - Complete cost of services study

    f. **Increase Blackboard use by faculty**
        - In partnership with the Office of the Provost and members of the faculty, promote the use of Blackboard

    g. **Continue to strengthen Mason's information security**
        - Complete the IT Security roadmap, incorporating recommendations from Internal Audit Security Review
        - Procure and install an intrusion protection system
        - Operationalize IT governance, risk, and compliance tool (Modulo) across Mason IT systems

    h. **Leverage GMU-TV to improve ITS transparency and partnership with the Mason Community**

3. *Strategic Initiatives*

a. Support implementation of Wiley partnership to enhance online education for graduate studies
  - Partner with the Office of the Provost to enable system changes to implement new online programs

b. Migrate Mason's web presence to the new Web Content Management System
  - Participate with the Office of Communications and Marketing to provide support to move to a new content management system for the Mason websites

c. Complete a multi-year Information Technology Services (ITS) Strategic Plan
  - Work with the Mason community to communicate and obtain buy-in to the plan
  - Create roadmaps for key areas in ITS
  - Work with the university's research community and the Office of Research to develop a research cyberinfrastructure plan

d. Develop a data strategy working with the Business Intelligence (BI) Steering Committee
  - Work with the offices of Enrollment and Institutional Research & Reporting to develop and implement a model and implementation plan for management reporting, operational reporting, and analytics
  - Review and obtain support from the BI Steering Committee

e. Create a plan to leverage cloud services
  - Identify opportunities for cloud at Mason that will add value to existing services and optimize resources

f. Support the development of Mason Strategic Plan Metrics

STRATEGIC PLANNING

ITS embarked on the development of a strategic plan in May 2015 to support the university's 10-year plan. The initial focus was on creating new Mission, Vision, Principles, and Values statements to establish a common understanding of high-level goals, values, and behaviors. In addition, ITS began data-gathering and interviewed more than 100 stakeholders from across the university about their current and anticipated challenges and how ITS could best help them meet evolving needs. We look forward to completing the planning process this next fiscal year. "We want to give people a target. To show this is why we are here and this is what we are working for," said Randy Anderson, Director of Process and Planning. The team, using Gartner Consulting's recommendations, aims to improve ITS processes, the understanding of ITS's role, and how impact is measured. Updates are provided online at **its.gmu.edu/strategic-plan.cfm**

IMPLEMENTING THE FOUR-YEAR STRATEGIC PLAN

MASON 2014–2024 Strategic Plan/President, Provost, SVP Annual Goals

Guides/Informs

ITS 2017–2020 STRATEGIC PLAN

Guides/Informs

FY16　FY17　FY18　FY19　FY20

ITS Annual Operational Plan — Looking Ahead, 3-6 Month Roadmap for ITS

Guides/Informs

ITS Group/Area Operational Planning — Services, Supports, Major Events, Commitments, Looking Ahead

Guides/Informs

ITS Annual Report — Baseline — Real-Time Monitoring and Scorecards — Assessment