



**Division of Information Technologies**

2011-2012 Annual Report

**Introduction**

The dedicated members of the Division of Information Technologies work diligently on a recurring basis to understand and address the ever-changing technology needs of the University of Mary Washington community. This work is conducted in support of students, faculty, staff and administration across multiple campuses to include Fredericksburg, Stafford and Dahlgren.

The Division has met and overcome many challenges over this past year including necessary repair and replacement of aging hardware and infrastructure, budgetary shortages, contract and vendor changes, personnel shortages and changes in management structure, systems corruption and outage, power failures, damaging storms and even a regional earthquake. The IT team met and overcame these adversities, accomplishing a tremendous amount in terms of overall services provided and projects successfully completed. This annual report details but some of the many successful accomplishments and contributions the division has made this past year.

I remain extremely proud of the IT Division – as a team, we remain dedicated to meeting customer needs while also incorporating a spirit of continued improvement for the division.

**Justin Webb**

*Acting Chief Information Officer*

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## **Mission Statement**

The Information Technology Division mission is to provide the technical infrastructure, information resources, and services that advance the university's strategic goals; enhance instructional technology, teaching and learning; promote effective and efficient work processes; and support information decision making and institutional reporting.

## **Summary of Report**

This Annual Report documents the Information Technologies Division performance over the 2011-2012 timeframe (Fiscal Year 2012), as related to the University Strategic Plan Objectives and the IT Strategic Priorities as established in the UMW IT Strategic Plan 2011-2014.

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## Strategic Targets

UMW Strategic Plan Objective 1.G	IT Strategic Priority
Build on the University of Mary Washington's rich engagement with academic technologies and the study of teaching and learning, and ensure that UMW becomes a leader in the fields of pedagogical scholarship, library services and information resources.	Enable and Support Teaching, Learning and Library Activities
<p><b>Result:</b> Working with the Provost's office, recommendations were formed on what lab and classroom spaces should be upgraded/replaced using ETF funding. This included the replacement of aging computers in five instructional labs and twenty classrooms as well as replacement of video projectors. The IT study to determine the need for multiple labs with recommendations for changes is ongoing.</p>	
University Strategic Plan Objective 5.E	IT Strategic Priority
Design, procure, install and maintain a superior information and instructional technology infrastructure that supports all UMW organizational functions and provides the technology, tools, training, and user support that allows all members of the institution to use technology effectively and efficiently.	Maintain and Improve the Core Infrastructure
<p><b>Result:</b> The UMW IT Strategic Plan 2011-2014 was developed and approved providing a framework and supporting objectives to the overall UMW Strategic Plan 2009-2014. IT Infrastructure provided oversight responsibility for the technical design and installation of the IT infrastructure for multiple capital projects in FY12. New and/or renovated projects completed include the Anderson Center, Monroe, Dahlgren Campus, Eagle Village 4<sup>th</sup> floor and 2<sup>nd</sup> floor offices, and Randolph/Mason. Upgrades were made to the wireless network in the academic buildings as well as a VoIP upgrade. The computer refresh project was initiated to replace aging computers for faculty/staff or classroom and lab computers requiring upgrades. Through the coordinated efforts of ITSS and ITBO the primary computers of each employee were identified, inventoried and refresh machines were purchased. The replacement cycle is currently underway with an expected completion date of Fall 2012. In order to appropriately protect UMW's mission-critical IT assets, and provide room for growth, construction of a new data center is underway. The IT Convergence Center (ITCC) data center is in the planning and design phase. The IT division is actively involved and will continue to be instrumental in the implementation and support of the project as it moves forward.</p>	
University Strategic Plan objective 2.D	IT Strategic Priority
Develop and implement administrative policies and services that directly support students' initiatives and programming; review and, as necessary, modify administrative policies to	Support and Enable Administrative Information Systems and Business Intelligence

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reduce red tape, redundancy and obstacles; ensure that staff are informed about and responsive to student needs, that student services are high-quality, and that communication between staff and students is meaningful, timely, and effective	
<b>Result:</b> Consolidation of ad hoc tools was accomplished as well as the development of a consolidated report catalog for users. Ongoing efforts are in place to continue to build ways for the UMW community to extract information in the form of reports, data files, or spreadsheets. There are over 200 reports that can now be executed via Reporting Services in 26 business areas. With the implementation of the KACE Service Desk module, improved metrics and reporting provide data for analysis and identify opportunities for improvement.	
<b>University Strategic Plan Objective 5.A</b>	<b>IT Strategic Priority</b>
UMW will become an employer of choice.	Support and Train Technology Users
<b>Result:</b> Successful search and hiring of 8 positions within the IT Division. The IT Project Management Office was reestablished to provide oversight of projects and build a consistent communications process. The enhancement and expansion of technology training offerings for faculty and staff is an on-going challenge and will be revisited in 2012 to better understand the IT roles and capabilities.	
	<b>IT Strategic Priority</b>
	Maintain and Enhance Information Security
<b>Result:</b> Annual Security Awareness courses are required for all employees. Additional training is required for IT personnel, Data Stewards and Data Security Contacts. The Identity Theft Committee continues to meet and address issues on a bi-monthly basis. A Data Loss Prevention (DLP) product was implemented to proactively prevent data-related security incidents. Symantec EndPoint Protection (SEP) was installed allowing us to gather and track metrics on computer viruses and infected files.	

### Brief of Activities

#### IT Strategic Plan 2011-2014

The University of Mary Washington Strategic Plan 2009-2014 provides a vision for the University we aspire to be. Included among the plan's important strategic goals and objectives is the recommendation to develop an iterative two- to five-year comprehensive information technology plan for UMW's Fredericksburg, Stafford, and Dahlgren campuses that is aligned with the institution's overall strategic plan and operational budget. The Information Technology Advisory Committee (ITAC) worked collaboratively with the Information Technologies division to develop an IT Strategic Plan in support of the University's Strategic Plan Objective 5.E. The development of the IT Strategic Plan (2011-2014) began in February 2011 and was approved at the November BOV meeting, thanks to efforts of the IT Advisory Committee.

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## **IT Project Management Office (ITPMO)**

The IT Project Management Office (ITPMO) was reestablished in May 2012 with the primary objective of improving project success and communication. The ITPMO focus is on managing IT's project portfolio to ensure successful project completion and appropriate assignment of departmental resources. The PMO is also responsible for proactively communicating information to the campus community on major projects and planned outages.

The reestablishment process for the ITPMO began with identifying and defining a "PMO foundation". This included:

- Inventorying of all existing projects
- Creating an input and filtering process
- Creating a prioritization process
- Defining project periods
- Creating a portfolio and performance metrics
- Developing documentation and templates to assist project managers

With the foundation phase complete, the PMO focus has moved to the coordination, tracking and reporting of active projects. Projects are prioritized based on an internal scoring system which awards points for available resources, likelihood of success, institutional impact and other criteria. During the FY12, a total of 17 projects were tracked to completion.

In addition to the coordination of IT projects, the PMO has developed and refined proactive steps for communication leading to more consistent and professional communication from the department.

## **IT Financials and Budget**

The IT Business Office (ITBO) processed over \$1.5 million in the purchase, receipt and inventory of IT goods. In addition, approximately \$680,000 was processed on the behalf of other departments in terms of receiving and inventory of IT goods and services (mostly from Non-IT budget).

The purchase, receipt and inventory of fixed assets totaled approximately \$3,500,000 of which approximately \$450,000 was from Higher Education Equipment Trust Funds (ETF).

Consistent effort has been applied to locating and identifying "missing" IT fixed assets. The result has produced a significant reduction in the number and associated value of missing fixed assets since FY08. The table below represents the number of assets and associated dollar value that was being certified as "missing" (lost/stolen) each year.

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Fiscal Year	Missing IT Assets	Value
FY08	142	\$593,728.88
FY09	19	\$45,497.01
FY10	8	\$47,020.73
FY11	5	\$15,736.73
FY12	3	\$7,639.00

In excess of 700 new fixed assets were tagged and accounted for during FY12.

## Personnel

The IT Division has experienced much change and growth in terms of staffing in FY12. As the technology needs of UMW continue to evolve, the roles and responsibilities of the IT staff must adjust and expand to meet those needs.

IT Division currently consists of 33 full-time staff	
Back-filled positions in FY12	Current Open Positions
A/V Manager	SharePoint and SQL Server Administrator
Desktop Technician	Applications Developer
Executive Administrative Assistant	Business Intelligence Reports Developer
Oracle Database Administrator	Unix/Linux System Administrator
	Jr. Windows Systems Administrator
New Positions filled in FY12	
IT Project Manager	
Structured Cabling Technician	
Assistant IT Business Manager	

## UMW Data Center

UMW currently has two locations where our critical IT assets reside. One data center is located on Fredericksburg campus in the basement of George Washington Hall, and the other is on the Stafford campus in the basement of the Stafford South building. It is been determined that these existing data centers are not equipped to adequately protect UMW's IT assets. Further study and subsequent recommendations have resulted in UMW pursuing the construction of the IT Convergence Center (ITCC) on the Fredericksburg campus. The proposed ITCC will include a new data center in its design. The new technology design for the ITCC Data Center is expected to increase efficiency of operations by expanding the use of virtualization of servers, network equipment, etc. The IT division has been actively involved throughout the design and planning phases of the project and will continue to be instrumental to the implementation and support of the project as it moves forward. The anticipated completion date for the ITCC Data Center is March, 2014.

## Network and Infrastructure

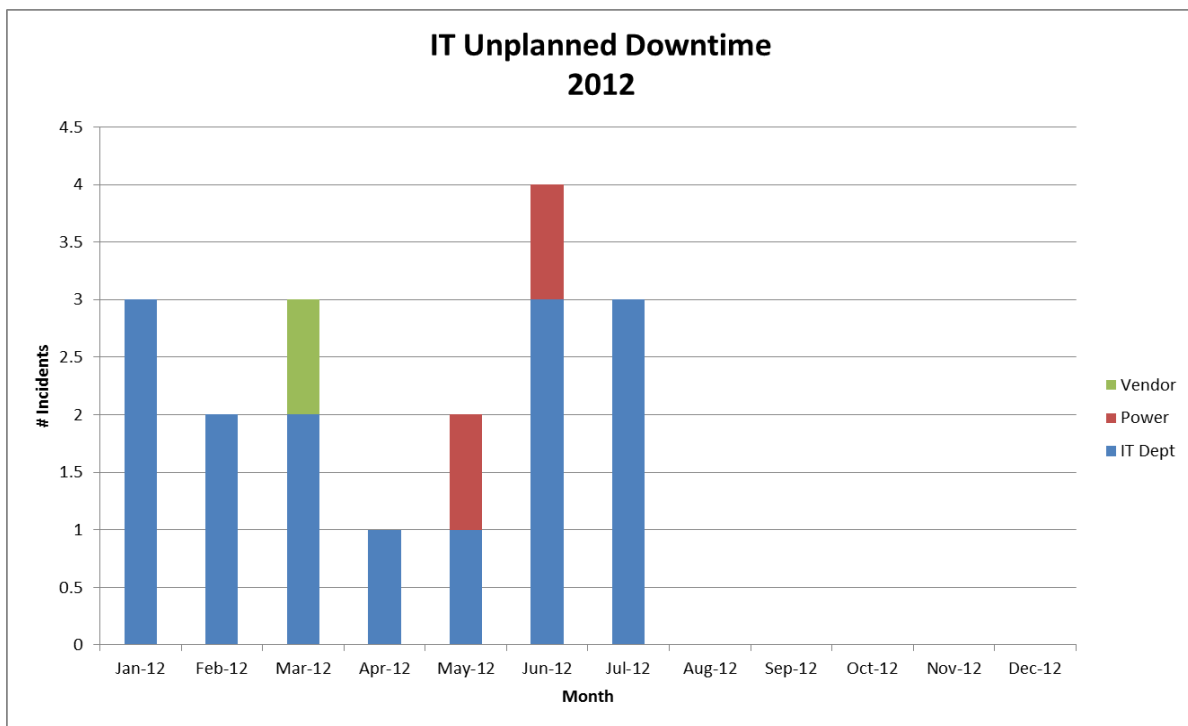
The IT Division strives to provide and support on a daily basis as well as looking to future demands a secure, reliable and robust network and telecommunications infrastructure for all UMW users. As a

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result, the IT environment is constantly changing and expanding to accommodate user demands. VoIP upgrade was completed in December 2011 as well as the upgrade to the wireless network in the academic buildings completed in May 2012. Campus-wide distribution of Apogee Service Set Identifier (SSID) was also implemented in June 2012. Working with Apogee, we advertised their wireless network over our UMW wireless infrastructure thereby allowing student access to the wireless network from any building on campus. ETF server installs were completed with replacement/upgraded servers for the Library, Computer Science and DTLT.

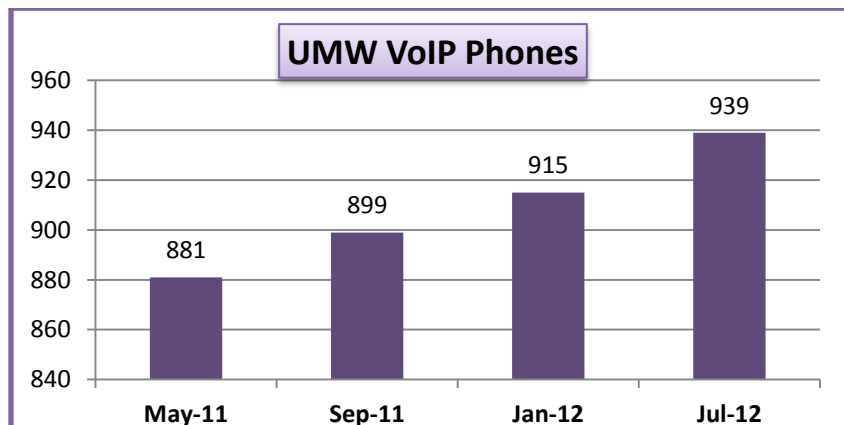
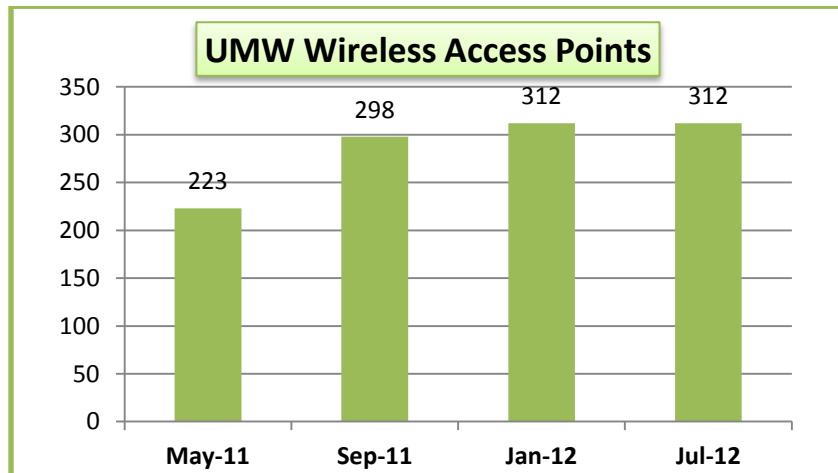
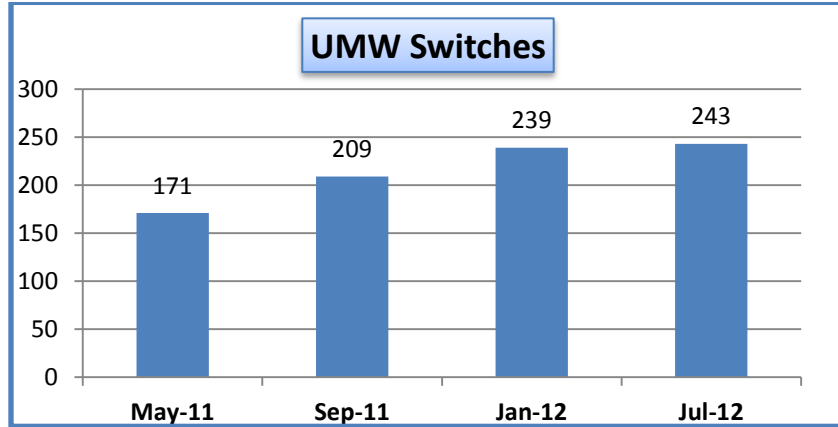
Availability of IT services is paramount to the continued operations and success of the UMW campus. The availability of the network can be impacted by both scheduled and unscheduled downtime. Typically, scheduled downtime is the result of planned activities and any associated downtime is anticipated and managed. Unscheduled downtime, however, are those unexpected and unplanned events that cause major operational issues and negative customer impact. IT monitors and tracks these unplanned events that result in downtime in order to better identify potential issues and proactively implement mitigating solutions or improvements. The chart below provides a snap shot of unplanned activities by source resulting in downtime as of Jan 2012.



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The graphs below represent the number of network devices being supported in the UMW IT environment.





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## Major Software Upgrades

- **Oracle 11g:** In September 2011, Oracle 11g R2, the latest version of database management software, was installed and tested. This software is used to control security, storage and availability of multiple databases at UMW including Banner. The latest version installed was required by Oracle Corporation in order to retain their support without extra fees.
- **SharePoint:** As the UMW community becomes increasingly dependent on the EagleNet portal which runs in SharePoint, efforts continue to move towards a newer and more stable version of SharePoint (2010) to ensure a more reliable and more secure environment for users.

## Computer Refresh Project

As part of Information Technologies computer refresh initiative, ITSS staff has been working to install the replacement computers for approximately 160 users. These are computers that were identified as primary machines for faculty/staff and are being refreshed based on age and funding availability. Sixty machines (38%) have been replaced to date with a scheduled completion for end October, 2012. This initiative is part of an ongoing effort to improve our inventory and better serve end-users.

In addition, computers exceeding 5 years of life in labs and classrooms were targeted for replacement as part of our EFT funding. New computers were installed to replace older technology in 20 classrooms and five computer labs, totaling over 100 instructional machines. Obsolete and failing projectors in Lee Hall conference rooms and University Hall on the Stafford Campus were replaced as well.

A dependency and pre-requisite for the computer refresh project involved the inventorying and identification of the primary computer used by every employee at UMW. This was a monumental task encompassing six months effort and coordination between the IT Business Office and ITSS. Now completed this inventory provides the necessary data for identifying and prioritizing the replacement of aging machines. This inventory also allows us to project costs involved in maintaining a regular replacement cycle.

## Support for Teaching and Learning

- **Equipment:** ITSS staff was instrumental in the opening of the Dahlgren Campus installing the new AV/Video conferencing systems and computers in labs and classrooms and providing day-to-day support for the new building and its users. Support has since transitioned to Dahlgren staff but ITSS remains a support partner.

ITSS staff was involved in the design and installation of the AV systems in Monroe Hall as well as in the Randolph Mason seminar rooms. Staff also installed new computers in the labs and classrooms to create technology enabled teaching and learning spaces.

- **Canvas:** Canvas is a learning management system (LMS) created by Instructure. Following a thorough review, UMW personnel made the decision to adopt Canvas as UMW's LMS. Piloted

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in the Summer of 2011, Canvas was implemented in the Fall of 2011. Canvas replaces Blackboard as the system for hosting online learning activities and course content.

- **KACE:** Over the 2011-12 academic year ITSS evaluated and implemented the KACE Service Desk module, replacing the Service Desk Express system that had a long history in IT. KACE provides tools to IT Support Services to better manage our computing environment while allowing us to be more proactive and increasing our overall support for end users. Additionally, KACE helps in keeping software up-to-date and secure, provides increased support capabilities, and better management of inventory to ensure accurate replacement of the oldest computers in our environment.

During the evaluation process, ITSS staff piloted the service desk and found KACE to be flexible, easy to use and accessible from multiple platforms. A migration plan as well as training plan to bring end users up to speed in using the KACE Service Desk were developed and implemented.

With the transition to KACE, ITSS staff now has access to improved metrics and reporting on ticket levels and subject areas associated with end user problems. As a result, various aspects of support are now measured and tracked including volume and quality of service, first call resolution, days to closure, types of incidents, and number of incidents by group. These Help Desk metrics are compiled and shared with the campus community via a monthly IT Scorecard and quarterly reports to the Board of Visitors.

- **Reporting:** Enterprise Applications Services (EAS) continues to build ways for the UMW community to extract information in the form of reports, data files, or spreadsheets. Reporting Services runs within EagleNet and developers can be quickly trained to create attractive, secure, and easy to read tabular reports that UMW users can run themselves on demand. There are over 200 reports that can be executed via Reporting Services in 26 business areas. Departments that used to be dependent on other areas for reporting can now run their reports themselves.

## IT Security

UMW's comprehensive information security program includes required security awareness training for all university employees and is administered by the Director of IT Security and ISO. The Department of Information Security works to safeguard and protect the university's enterprise data and systems from unauthorized access, modification, or dissemination to ensure its availability, confidentiality and integrity. In March 2012 a DLP (Data Loss Prevention) product was purchased and implemented. A DLP solution assists in locating and identifying confidential or highly sensitive information stored in inappropriate locations in order to proactively prevent data-related security incidents.

With the implementation of a new statistical records from Symantec EndPoint Protection (SEP), we are now able to gather and track metrics on computer viruses and infected files. Over a three-month period, approximately 8000 infected files were identified resulting in over 100 infected computers. Of those, 93% were automatically fixed, blocked, or quarantined by the Symantec program with only 7% requiring actual technician assistance.

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## Capital Projects

IT support for capital projects encompasses the oversight of the technical design and installation of the IT infrastructure. In FY2012, IT Infrastructure played a crucial support role in contributing to the adherence of implementation milestones and completion dates for the following capital projects:

- Anderson Center – completed July 2011
- Eagle Village 4<sup>th</sup> Floor and 2<sup>nd</sup> floor offices – completed December 2011
- Dahlgren – completed March 2012
- Randolph/Mason – completed July 2012
- Monroe – completed August 2011

## Appendix

### Help Desk Support Metrics

- IT Help Desk handled approximately 9500 incidents in FY12

