IT Research   Information Technology

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Information Technology Project Update: 2011-2012

Marshall University. Division of Information Technology

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9/17/2012

Executive Summary

Marshall University Information Technology (MUIT) strives to provide seamless access to global resources, a robust infrastructure and current tools to support our faculty, staff and students, and high levels of technology to compete and excel in a world characterized by constant change with increased mobility. MUIT engages in collaborative relationships within the University and with the local community acting as a trusted partner anticipating needs and responding with innovative solutions in support of the University's mission of teaching, research, and service via extensive research and planning endeavors.

We support flexible active learning programs and collaborative environments geared to improve student success and outcomes. From the moment a student shows interest in our institution, analytic tools begin collecting information on his or her demography, academic, and social needs. New tools such as Banner Recruiting & Admissions and Retention Performance Suites, Degree Works, and the Student Success Collaborative all use our robust Banner Enterprise Resource Management (ERP) system to provide proactive information that will provide triggers for improved academic advising, retention, and student engagement. Information resources will continue to be tailored to users' needs based on their roles and academic acumen. The upgrade to Blackboard Learn 9.1 and Collaborate brings improved mobile, outcome, and collaboration tools. Our centrally scheduled classrooms are being redesigned to support critical thinking and collaboration in an evolving technologically engaging world. All new program facilities have and will be designed as *next generation* learning environments.

Our wireless infrastructure and telephony have all been upgraded in support of an ever increasing demand for our mobile access. This includes ensuring that students living on campus have full access to both a wireless and wired environment. With our upcoming new myMU portal the university will push information to the individual based on his or her role and needs. The new MU responsive web design pages, the upgrade of the MUMobile app, and integrated scheduling and calendaring tools all support users regardless of location or device.

There are several projects underway that support digital preservation and literacy. The Marshall University Digital Scholar is a digital repository tool for archiving and publicly disseminating digital data. MUIT serves to collect, preserve, and provide global access to the university's scholarly and creative work. The new institution document retention schedule and the Banner Document Management Suite work hand-in-hand preserving our most critical institutional documents while new Virtual Museum Exhibits allow the world to experience our unique collections.

The MUIT Information Security team will continue to focus our efforts on proactively identifying risks posed to campus information technology assets. We will continue to partner with campus IT service providers to reduce those risks through improvements in our process, the

selection and proper configuration of our products, and through increased training and awareness programs for our faculty, staff and students.

Our cloud, virtualization projects, electric upgrade to the machine room, and new MUIT billing and inventory systems all provide efficient green tools for our campus. Our administrative processes continue to be streamlined from cost-effective and customer service perspectives.

Marshall University is leading West Virginia in our cyberinfrastructure and building for the future of telehealth and research capability. Cyberinfrastructure will continue to be a major player in both academic and research grants. It opens new possibilities for collaborative research for "Big Data" and leverages research dollars. MU has already received a combination of federal grants that expand or support our cyberinfrastructure; these include the NSF CI-TRAIN that provided the HPC Cluster, the Internet2 SEPG grant for connectivity, and the FCC Telehealth grant for a fiber ring around Huntington.

The Marshall University Information Technology Council (ITC) is the official university body governing University-wide policy for computer, library, distributed education, and network usage at Marshall University. This was an active year for providing policies, guidelines, and procedure for our IT resources.

Academic

Over the last 20 plus years, faculty and students have found innovative and effective ways to use the Internet for teaching and learning. Learning Management Systems have evolved to include cloud and social networking, and Marshall University's learning technologies have continued to expand and evolve in response. Now, more than ever before, the ability to engage students in their learning is critical to their success. Evolving learning technologies afford new opportunities for deeper student engagement. In working with Academic Affairs and the President, Information Technology is progressing with deploying and/or supporting several technologies that are designed to have a major impact on student success.
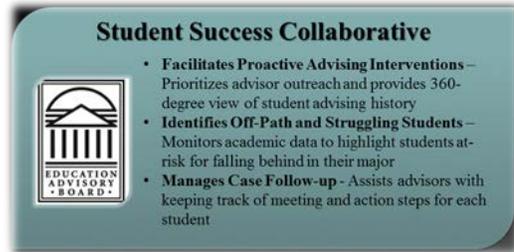
Student Success

Marshall University Information Technology (MUIT) manages and provides technical support for the MUOnline environment that includes almost the complete suite of Blackboard products that are interfaced to our comprehensive Banner ERP. All MU courses receive an online course section in Blackboard Learn and have access to tools such as Turn-it-In, Blackboard Collaborate, Respondus, Camtasia Relay, MyCourse Eval, and Lynda.com. We continue to experiment with in-class collaboration tools such as Tidebreak, Learn Space and products similar to Apple TV. Students using mobile devices access their course materials via the MUMobile app. Our unified IT support desk is available virtually around the clock for all their IT support needs. Since libraries are part of the Information Technology team, tutoring and reference questions are also addressed via the same support desk. IT also supports a robust Faculty Development Center to assist with the online conversion of course materials. MUOnline also supports Online College Courses in the High School program that includes a free course called "How to Succeed in College." It is designed to expose high school students to best practices for taking online courses. It also creates a perfect opportunity to make connections with the K-12 community in the hopes they will eventually come to MU as full-time college students.

Retention - Next Generation Analytics

Now, more than ever before, the ability to engage students in their learning is critical to their success. Evolving learning technologies afford new opportunities for deeper student engagement. Several student retention projects are underway that are targeted to improving the University's retention efforts.
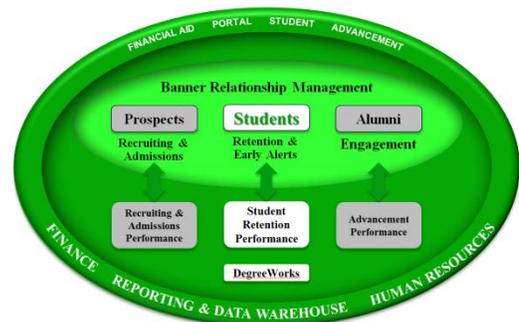
- **Banner Student Recruiting** - Last year, MUIT worked with Academic Affairs and the Office of Recruitment to deploy the Banner Recruiting and Admissions Performance package. The package provides robust report aids, including trend, multi-dimensional, summary, and detail reports. Our students will be better aligned with the institutional mission through more informed decisions about recruiting and admissions. By using desirability and probability ratings to analyze our admissions funnel, we can find the data needed to plan and execute enrollment tactics, and to support financial aid planning, award packaging, and projected tuition discounts. Academic Affairs can now examine recruiting outcomes by academic program and ranking, financial need, region, gender, ethnicity, and more. This package will move into full production in the fall.

- **Banner Student Retention** - MUIT, throughout the summer of 2012, has been progressing with a variety of components included in the Banner Student Retention Performance package. This product will be in production in the early fall of 2012. It will provide insight into various factors, allowing us to better analyze student progress and student engagement. It improves the student experience through better engagement, and it identifies and engages at-risk or excelling students with robust early alert tools. It will provide scorecards, dashboards, ad-hoc analysis and end-user reporting to gain insight into the right level of detail to make informed decisions and track progress towards goals. This product will help us gain insight into how well the Marshall University retention and student success programs are working. It provides measures such as retention rates, progress towards degree, course performance, and graduation rates, term-to-term, year-to-year, or across years and a variety of attributes for analysis. Questions such as w**ho is at risk on campus and why, what are our retention and degree completion rates, which programs are doing the best job at graduating students on time, how effective are my retention programs and intervention strategies, how do student indicators like preparation, class participation, and community involvement affect performance and what trends can we identify semester to semester and year over year?**
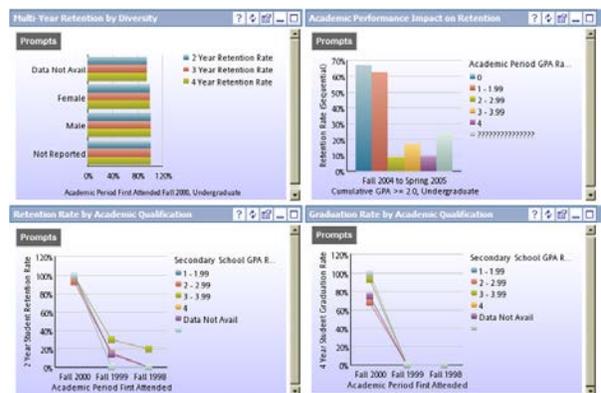
- **Academic Advising** - MUIT, Academic Affairs and the Office of the President have been collaborating on deploying several products that will improve student advising.

o **Degree Works**™ –The product is close to production. Degree Works provides a comprehensive set of web-based academic advising, degree audit, and transfer articulation tools to help students and their advisors negotiate curriculum requirements.

o **Academic Advisory Board: Student Success Collaborative Project -** MUIT has been working with the Education Advisory Board for the Marshall University data extraction and single sign-on capability via the myMU portal. This project works hand-in-hand with the other MU student retention projects by providing proactive advising interventions, identifying struggling students and providing case follow-up. The project will go live in October of 2012. An executive overview is provided via the following link.
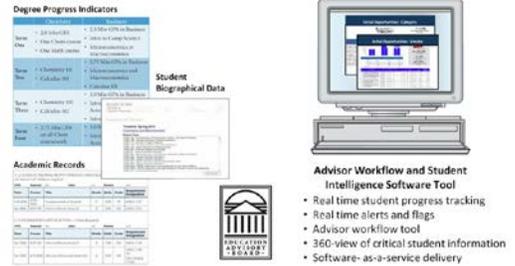
- **X25® Graphical Analytics and Reporting –** In working with the Registrar and the Senior VP for Administration, the MU *X25®* master planning system was deployed. It produces detailed, easy-to-understand graphical views of our centrally scheduled room utilization. These visuals make it easy to identify how our scheduling policies can more efficiently serve the needs of students and faculty. X25 analytics help determine where more space may be needed and where closures or reallocations may be possible. X25 reports are available anytime via the web, giving us the support and concrete analytics we need wherever and whenever we are making planning decisions. This system is now in production, and report requests may be made via the Office of the Registrar.

MUOnline
Learning Management System –
Blackboard Learn 9.1™

In January 2012, MUIT migrated the campus from Blackboard Vista™ to Blackboard Learn 9.1™. The upgrade added a number of key "Web 2.0" tools, including new wiki technology, and will help ensure our Learning Management System (LMS) remains in line with evolving educational technologies. Additionally, it provided new tools for
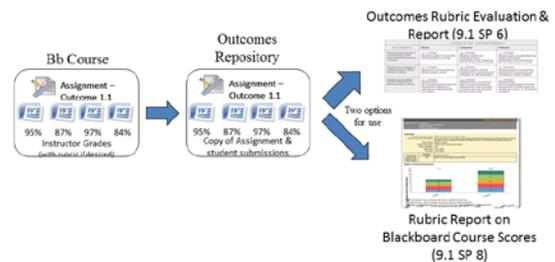
outcomes assessment. Collecting this information can be challenging when data is separate and tools or processes are not coordinated. Blackboard Learn course sections make assessment activities part of the day-to-day teaching and learning activities. Assignments and related student submissions can be automatically collected directly from the course. The Blackboard grade book will be interfaced to our Banner Student module. This will allow for transparent integration of grades from the LMS into Banner, including mid-term and final grades without the faculty member needing to reenter. This will feed the automatic alert triggers that are available in Degree Works, Banner Student and in the Student Success Project.

MUIT partnered with Human Resource Services to provide Blackboard Learn training to faculty and staff to supplement close to 100 on-site training workshops provided through the MUOnline Design Centers on both the Huntington and the South Charleston campuses. Every academic unit, in addition to several campus offices and programs, were reached. During the last year, close to 300 faculty members attended training, and over 1,400 individuals sought assistance from instructional designers.

A graduate-level Counseling course received the 2012 Blackboard Catalyst Award for Exemplary Course Design. The Blackboard Exemplary Course Program Award highlights technologically rich, well-designed and instructionally sound courses that showcase best practices for those who use them.

MUIT has been working with the HEPC on using the faculty-centered, peer review process for online and blended courses called, Quality Matters (QM). Dr. Monica Brooks, Assist VP for Online Learning and Libraries obtained endorsement as a QM peer reviewer at the national level in preparation for the QM review launch on the MU campus. This certification program is a leader in quality assurance for online education. Building on the eight standards stressed by *Quality Matters*, the Center for Teaching and Learning and MUOnline Instructional Designers created a hands-on seminar with an online component to emphasize pedagogy and use of the Blackboard tools and peripherals. Presented as a two-part certification program, the Pedagogy of Teaching and Learning Online (PTLO) program was launched in the fall of 2012. Every effort is being made to improve the over-all quality of the online course program in direct response to student survey responses gathered during 2011-12.

WVROCKS is a project initiated by the Higher Education Policy Commission to increase access to higher education for non-traditional learners by supporting the delivery of high-quality instruction focusing on e-learning best practices for continuous enrollment courses. The goal is to enhance the ability of adults to attain a bachelor's degree through existing Bachelor of Arts degree programs. This year Marshall University was a leading institution in the program; and the MUIT staff continued to support WV ROCKS by serving on the Advisory Board and as adjunct faculty members for

the fall 2012 pilot. Advanced Digital Literacy Skills was revised to mesh with the Quality Matters rubric, and new content accessible to non-MU students was added to provide library support.

Online Enrollment

With close to 6,000 enrollments this fall, the program enrollment continues to increase. Student demand and the economy have adjusted traditional student priorities. Additionally, with an increase in graduate enrollments, attention to MA level program growth will be essential in the coming year to meet student demands. MUIT provided support for all functions related to the MUOnline program including but not limited to Blackboard Learn, Wimba, Blackboard Collaborate, Turning Point student response systems, Respondus, Study Mate, Turnitin.com, and Safe Assign.
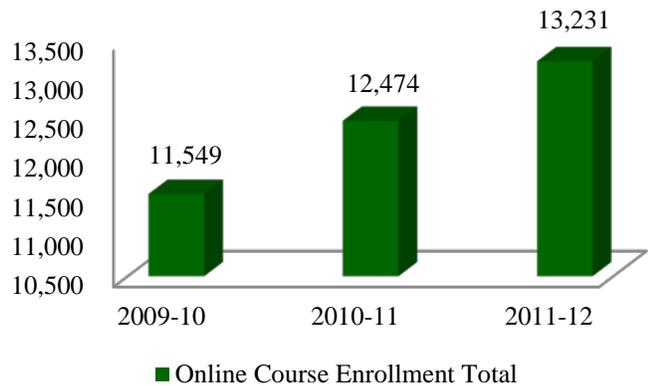
Hybrid Course Support – Hybrid course expansion is taking place with the advent of easy-to-use technologies that faculty are adopting at a very rapid rate.

- **Lecture Capture**
  - **Camtasia Relay**
    Camtasia Relay captures and publishes your lecture or presentation (anything that is happening on your computer screen, plus audio) and publishes it to the Lab's screencast.com account. You can also choose other video formats for download (.avi for Quicktime or .wmv for Windows Media Player). Camtasia Relay has made lecture-capture a necessity among several of the medical and bio-technology classes. Multimedia formats are exported to YouTube or hosted on the MU Camtasia server and shared with students. University offices have also used the program to support internal staff training.
  - **From Wimba Live Classroom to Blackboard Collaborate**™
    Since 2009, *Live Classroom* has been a feature in MUOnline. In July 2010, Blackboard purchased Wimba and Elluminate, another competing web conferencing platform. Because of this merger, Blackboard has created a new set of tools called Collaborate. *Blackboard Collaborate*™ gives you the functionality you need in a 21st century teaching and learning environment, such as two-way audio, multi-point video, interactive whiteboard, application and desktop sharing, rich media, breakout rooms, and session recording. Educators and students can engage as if they were in a traditional classroom, with as good as, or even better,

outcomes. Both products will be supported throughout the upcoming year. To view demos of Collaborate, user guides, and best practices, please view our migration website. Additionally, several IT team members became Bb Collaborate certified trainers and conducted drop-in workshops on topics such as how to perform research using MU resources, navigating the online catalog, avoiding plagiarism/using proper citation, and evaluating resources.

- **Video Streaming**
  o Implementation of Digital Media Management System (Ensemble) integrated to MUOnline. This service, Ensemble Video, is a hosted video service. It can be compared to YouTube or Vimeo but offers numerous advantages over those services.
  o Implemented a highly scalable LiveStream solution for live event casting. This service was used for Commencement and for the Week of Welcome events.

Online College Courses in the High School (OCCHS)

The Marshall University Online College Courses in the High School program offers qualified, highly motivated, self-disciplined high school students the opportunity to take Marshall University courses online – 100% via the internet – for college credit while they are still enrolled in high school.

Record student numbers, which represent an overall 44% enrollment increase, were attained for OCCHS student enrollment during the 2011-2012 academic year. The OCCHS Program also increased its number and variety of OCCHS course offerings for high school students during the 2011-2012 academic year. A 30-second YouTube promotional OCCHS Video was produced. The MUOnline Second Life Island is used for various functions including high school student recruitment and for K-12 professional development.

Collaborative Learning Spaces

MUIT has been working hand-in-hand with several campus areas including the Office of the President, Academic Affairs, Finance and Physical Facilities to renovate centrally scheduled classrooms to new innovative learning and collaboration spaces. The goal is to create a learning environment that supports collaboration, critical thinking and flexible learning styles. Faculty development is a

collaborative process between the IT Team and the Academic Affairs Center for Teaching and Learning. Since the room renovations require painting, additional electric, large flat screens, adjustable podiums, wireless, new mobile furniture (Steelcase node and KI chairs), speakers,

etc., the IT Team must also work very closely with facilities management. Since last July, 50 centrally scheduled classrooms have been renovated. A SharePoint site was created to inform and collect input from the campus community on the project. A general web site that provides important information and training for all of the Technology Enhanced Classrooms (TECI) was created.

## New Academic Areas Renovations

In addition to the Learning Space project, MUIT and Physical Facilities worked with the new School of Physical Therapy that is located in the St. Mary's Education Center and with the new School of Pharmacy that is located at Robert W Coon Education Building to provide a next generation learning environment for critical thinking. The School of Pharmacy renovated the ground and first floors to create two large classrooms, conference room, common non-formal learning spaces and several other formal classrooms. In collaboration with the College of Business and Physical Facilities, Corbly Hall 106 was renovated into a new next generation business environment.

Mobile

Bring Your Own Device (BYOD)

This has been a banner year for students and faculty bringing their own iPad, Tablets, Smart Phones, laptops, etc. In preparation for this onslaught and to better support the living and academic areas, a major wireless upgrade occurred over the summer.

Wireless
MUIT upgraded over 400 existing access points and installed approximately 125 additional AP's with the latest available technology. This upgrade will provide better monitoring, troubleshooting and reporting capabilities. These additions have provided 100% coverage in all student living areas.
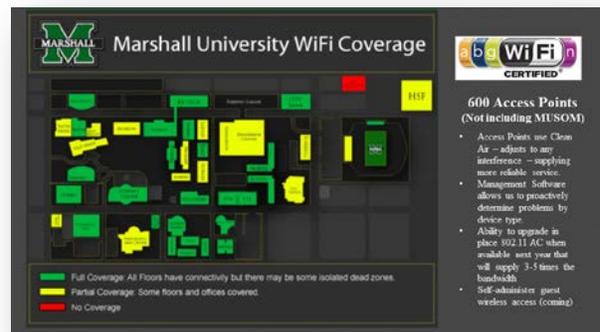
Housing and Residence Life paid for the complete wireless coverage of all the dorms that did not have coverage.   As part of this upgrade MUIT also upgraded the back end AP controller capacity to accommodate future growth and the anticipated release of the 802.11ac technology. Housing and Residence Life paid for the additional wireless coverage of all the dorms. Wireless LAN planning is underway with the evaluation and acquisition based on future growth and move to 802.11ac. An analysis of options for future models of cost recovery and management is underway for FY13.

Telephony

Unified communications (UC) refers to a trend to simplify and integrate all forms of communications. For example, one can receive a voice mail message and then read it in their email inbox using a unified communications program. MU Telecommunications completed a major upgrade to the campus telephony environment, including voice mail, to take advantage of modern unified messaging and communications technology solutions that integrate with the data network. Modular Messaging replaced Audix as the university voice mail system.

MU Mobile

The Marshall University mobile app was upgraded to include an updated campus map with location capabilities, augmented reality and the ability to move the icons within the app. Since the MUMobile resource list is growing, we needed the ability for the user to organize the MU Resources based on their personal preferences and usage. The app is designed to promote the university's major Web-enabled resources to an increasing population of current and potential students using mobile Internet devices. The MU Mobile application can be used to search the campus phone directory, locate buildings on campus, view available courses, keep up with the latest sports scores and get access to events happening on campus.   Blackboard Collaborate® and Blackboard Transact® will be added to the mobile application over the upcoming year.

New Web Format – Responsive Web Design

The purpose of the Marshall University Website Redesign Project is heavily centered on a marketing strategy to recruit students, engage alumni, parents, and friends while serving as a public gateway to our campus. The project will make a delineation of services to existing faculty, staff and students whose needs are best served in the myMU portal as opposed to a public-facing web interface. One of the key features of the new site is that it was developed as a "Responsive Web Design." Responsive websites automatically rearrange content based on the visitor's screen size. This allows one website to work for

smartphones, tablets or desktops, thus a separate mobile site or expensive mobile app is not needed. Some existing University web pages (i.e. www.marshall.edu/it) have already been converted. The main marshall.edu site will be converted in the fall of 2012.

Prior to the opening of the new web design, a new unified University Events Calendar was established to allow for the integration of multiple calendars into a single Events page. This site also allows for iCalendar interfaces. One can easily select items like athletic events, and the event details will populate your personal calendar without reentering the information.

Digital Signage

While newsletters and bulletin boards can only deliver static information, digital signage can make use of many media types to keep the information current and attention grabbing. Most digital signage systems are able to take advantage of dynamic content pulled from RSS feeds or other information systems. By linking Marshall's Resource25 Calendar for event scheduling, the data that is entered into one system can be repurposed in real-time by the signage network without needing additional staff to extract the data and schedule it on the network. The project has expanded to more than 36 signs including the BioTech Video Wall, School of Pharmacy and Physical Therapy.

Information Resources

MU Digital Scholar

Marshall Digital Scholar, the University's digital repository tool for archiving and publicly disseminating digital data, serves to collect, preserve, and provide global access to the scholarly and creative work of faculty, students, and alumni of Marshall University, as well as university publications, images, recordings, archives, and special collections, in order to promote discovery, research, and collaboration across disciplines and institutions. Digital Scholar was expanded to serve as a data repository for the output of research grants, including data sets and research publications, and to meet the requirement of NSF that all research grants include a data management plan.

Literacy

A library marketing campaign was conducted to make students aware of library services available to them in all of the MU libraries; additionally, they launched the READ poster initiative to get faculty and staff involved in promoting the library.

Collection

The collected works collection of medieval and renaissance composers has been moved from Morrow to Drinko; relabeling and shifting continues. A complete revision of the Morrow Stacks is underway to rearrange all of the serials and monographs based on Library of Congress classification; music reference materials were shifted to make the arrangement of these unique materials more logical for patron use.

Several new Virtual Museum Exhibits including the George Hill Library Medicine: Jesse Stuart First Editions; and the Savage Land Grant were made available to the public this year. Work continues as we digitize the WSAZ-TV news film, completing 20 years' worth (1950s to 1970s), and keeping the "Fifty Years Ago Today" current.

Copyright

A risk management assessment has been underway to assess holdings and policies relating to copyright to ensure that Marshall University is in compliance with current changes resulting from the Georgia State University decision. The streaming server will be retired effective June 30, 2013; faculty utilizing this service will be contacted during the coming year. IT staff will assist them in securing alternative resources and/or complying with revised policies for housing and distributing copyrighted works for educational purposes. All illegal LP CD copies have been removed from the shelves and marked as not available in the catalog. If we can have digital copies of these recordings, new discs will be made and placed on the shelf for room use only. If the LP is available in a newer format at a fair price we will replace the LP as funds allow. The library faculty have assisted the Department of Music in complying with current copyright standards for handling both print and digital music resources purchased for educational and performance purposes.

Administrative Enterprise

New myMU Portal

MyCampus is the most widely deployed campus portal and web content management solution in higher education. Marshall's myCampus will be a new and exciting campus portal and web content management solution. The system provides single sign-on access to everything from academic information to social networking for prospective students, current students, faculty and staff, student organizations, university administration, and alumni, and is the "one-stop-shop" for everything related to a wonderful Marshall University experience. The new myCampus will be the future myMU, a more enhanced and technologically advanced version of our online resource. The existing Luminis myMU portal will still exist until the complete transfer is made during the fall and winter. http://mycampuspre.marshall.edu
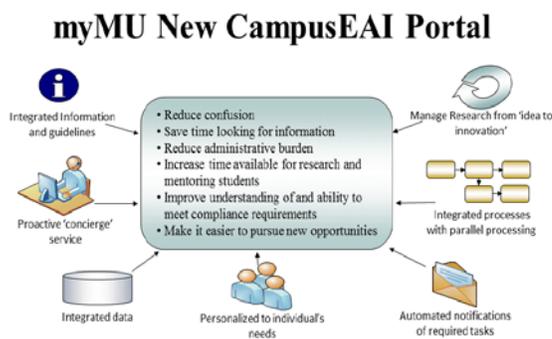
Several of the University enterprise applications projects were updated earlier in the report. Marshall University has had a complete Enterprise Resource Planning (ERP) since 1998. Over the last year, the umbrella company name changed from SunGard to Ellucian. This system has evolved to a complex engine that supports the academic, administrative, research and alumni sectors of Marshall University. Many products, such as Blackboard Learn™, Blackboard Transact™ (University ID), the Library Catalog (Interactive Interfaces, Inc.™), etc., are tightly interfaced and integrated to the Banner ERP.


MU Enterprise Data Systems Relationships
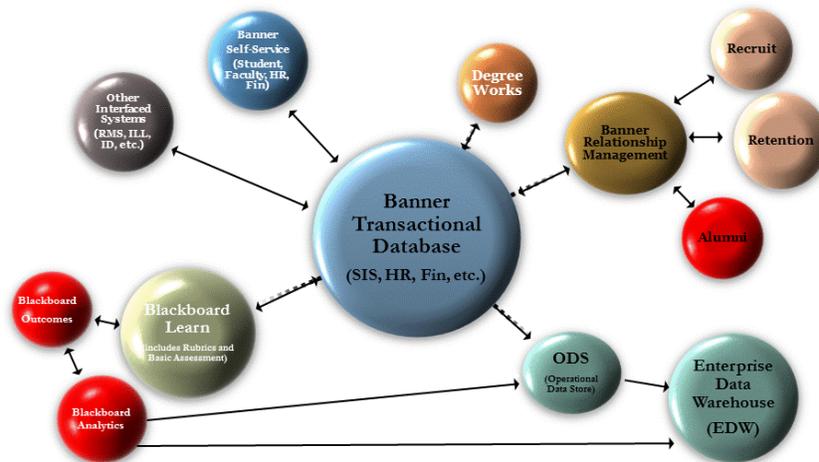
Products listed on the Red Spheres have not yet been purchased by Marshall University

Over the last year, a major effort to deploy the Human Resource component at Marshall University Research Corporation (MURC) has occurred. This project continues to have a positive impact on the University core processes and workflow via a review of our existing practices. This project continues over this year, but will be in full production by next summer.

Over the next year, we will work with Human Resources to interface and integrate a new product called PeopleAdmin™. This product standardizes and simplifies the hiring practice. It will increase the efficiency of MU by automating common talent management functions, including specialized functions for faculty recruiting and search committee management.

Just as we have many of the Banner modules that are part of the ERP, we are close to having the complete BlackBoard™ Suite of products comprise this tightly integrated system.

Web Based Teaching & Learning | Real Time Classrooms & Collaboration | Multi-Modal Alerts & Notifications | Campus Commerce & Security | Education Analytics & Reporting | Mobile Access & Connectivity

Blackboard Services

Over the summer, MUIT worked with the MU ID Office on a major upgrade to the existing **Blackboard Transact**™ product. MU students access everything they need using their campus ID card – print and copy services and access to buildings and facilities, plus access to financial aid funds.   In addition to the software, some of the card swipes allow just a 'tap and go' instead of a swipe. Over the upcoming year, eAccounts will be added to the MUMobile mobile app and the myMU portal. It will include the ability to deposit to a stored value account using a credit/debit card; to schedule deposits; to access real time balance information, including board plan meal counts; to view transaction history; to view/download monthly statements; and to report lost and found cards, etc.

Banner Document Management Suite (BDMS)™

The Banner Document Management Suite™ is specifically designed for higher education and provides imaging, document management, data capture, storage management, and output capture and report management for individual departments and for the entire institution. It also provides secure access to information and materials across the Banner Suite of products and even from other vendors' systems.   Banner Document Management Suite™ is the key to simple information management and works closely with Banner Workflow. This is a long-term project and is progressing across core academic and business units. It was moved to the production server in March of 2012. It is a critical component of the MU Document Retention Project.

Data Warehouse
MUIT continues to progress with the data warehouse project. Using IBM Cognos tools provides seamless access to industry-leading business intelligence reporting capabilities. Ellucian Higher Education offers pre-built, out-of-the-box integration with the IBM Cognos 8™ suite of business intelligence

products to extend the value of the Banner data repositories and performance management solutions. These tools meet the needs of our power users, analysts, institutional research, and IT staff as well as non-technical users who want easy ad hoc lists and reports.

Unified IT Billing and Inventory System

In Fiscal Year 2011 – 2012, Marshall University Information Technology began implementation of a unified inventory and billing system. The primary goal of the unified billing and inventory system is to provide one bill to customers for the majority of Information Technology services. Some additional benefits include: monthly billing cycles for all IT services, online invoices, historical data and customer accessible reporting.

Information Security (ITSec)

- **External Network Vulnerability Assessment** – MUIT completed the first external/internal network security vulnerability assessment with the assistance of an external consulting firm. The assessment consisted of testing high-value/high-risk systems that were either Internet-facing or internally accessible.

- **Identity Management & Single-Sign-On Engagement** - Work began in fall of 2011 to modernize the identity management process used to create campus computer accounts. This project is nearing completion and is expected to begin provisioning new accounts during the fall 2012 semester. A technology refresh of the myMU campus web portal (a separate IT project also currently underway) will be the first beneficiary of this project; it will streamline the process whereby University students, faculty and staff are provided network logon accounts as well as easy, self-service management of password resets.

- **MU Alert Emergency Notification System** – Marshall University Emergency Messaging System (MU Alert) is one of several elements of the Marshall University Emergency Notification System. The MU Alert system allows Marshall University to communicate quickly both health and safety-related emergency information through a combination of various communication methods. MU Alert was moved from Everbridge™ to Blackboard Connect™. A completed evaluation, selection and data migration for the MU Alert campus-wide emergency notification system (ENS) was performed. MU Alert sends SMS/txt, e-mail, and voice-calls to the MU campus community. We are anticipating a 25% reduction in the annual subscription cost as well as improved interfaces for University communications teams and end-users.

- **Information Security Awareness & Incident Response** – Continue to provide an updated stream of information security awareness resources thru the InfoSec website (www.marshall.edu/InfoSec), topical updates through the campus digital signage network, production of cyber-security video tips series, quarterly updates to the MUBOG. ITSec team also works alongside the IT Service Desk team and other campus partners to directly support campus students, faculty and staff with incident response and remediation.

- **IT Security Information and Event Management (SEIM) Portal** – Initial selection, acquisition and phase I deployment of a system which will provide collection and analysis of system and application event logs. This system will provide the IT team with two key functions: 1) provide an improved means to collect and audit IT system activity which has already occurred (i.e. incident response); and 2) provide early detection and notification of a wide variety of activities which could pose a threat to the University IT environment.

- **Client Hardware & Software Asset / Endpoint Protection Upgrades** – IT provides a number of core services to identify and protect University IT assets. These inventory and protection products periodically require upgrades which can impact all computers on campus. The Dell/KACE 'KBOX' system was upgraded to provide additional client features and OS patch/application update deployment capacity. The Symantec Endpoint Protection (SEP) software is currently being upgraded to over 5,000 computers to provide new malware detection and improved defense capabilities.

Cloud

MUIT is currently evaluating Cloud and Private Cloud Compute and Storage Services for various applications including Verizon Cloud Services, EMC Storage and hybrid storage services (Oxygen, Epsilon, VNX, AMOS) against Equalogic and Microsoft Skydrive and Dropbox.

Virtualization

MUIT worked with several University departments to consolidate and "virtualize" individual servers. At the end of June 2012, 78 new servers had been virtualized onto the IT-managed Virtual Platform System. MUIT virtualized hundreds of physical servers within MUIT, bringing the total number of servers virtualized since 2008 to 231 virtual servers hosted on 13 host with the consolidation ratio of 17 to 1. This total number represents over 80% of the total number of servers in the main data centers. The annual electricity savings achieved through virtualization efforts to date estimated to cut 35 percent of kilowatt-hours of power. The energy savings estimation equates to a cost savings of over $18000 per year.

Research

MUIT launched the new Research Computing website. The site presents information to the University community about all research computing results, activities, resources, and services on campus in a single, coordinated website. The site includes NSF Data Management Plans and Templates and modular paragraphs describing the network infrastructure, including our Internet2® resource.

Big Green - HPC

MUIT participates as team members of the NSF CI-TRAIN grant project. At the forefront of the CI-TRAIN project is the High-Performance Computing (HPC) cluster. The HPC cluster, nicknamed "BigGreen," gives the University access to a significant amount of resources and data that formerly were available only to the nation's most highly esteemed research facilities. With the new HPC cluster, our students and faculty now have access to computing power, data and information we could only imagine just a few years ago. MUIT provides the technical support and infrastructure to the cluster.

Internet2® SEGP

Internet2® Sponsored Education Group Participants (SEGP) State Education Networks

We are completing our final year of the Internet2® SEGP project. The National Science Foundation awarded Marshall University, on behalf of the West Virginia Higher Education Policy Commission, a federal grant in 2010 to enhance cyberinfrastructure and to enable inter-campus Internet2® access. In April of 2011, the West Virginia Internet2® Consortium for Sponsored Education Group Participants (SEGP), Marshall University, OARnet (The Ohio Academic and Research network, Columbus), and Internet2® signed an agreement that allowed West Virginia to be the 40th state to offer Internet2® memberships to eligible organizations through a shared membership. Under this agreement, Marshall University was acting as the sponsor and sole SEGP connector and OARnet as the Internet2® connector. Delivery of this service was facilitated by WVNET to its member institutions which included Higher Education institutions, K-12, Libraries, State and Local government, medical facilities, research facilities, and others that meet the requirements of the Internet2®. In May of 2012, this agreement was modified in response to network enhancement initiatives at WVNET to add WVNET as an additional SEGP connector, and 3ROX/Drexel (3Rivers Optical Exchange, Pittsburgh) to be an additional Internet2® connector, thus enhancing access and reliability to those same participants.

Working in collaboration with the CI-TRAIN grant team as well as our NSF EPSCoR RII grant, Marshall University IT continued to collaborate with research computing groups and research faculty on improvements to research computing resources as well as major upgrades to the Computer Room made possible by Capital funds and the CI-TRAIN grant.

Huntington Metro Fiber Ring

This is an $8.4 million FCC grant to the WV Telehealth Alliance, with an MU portion of $850,000. This fiber ring provides a 10Gb metro network connection between the Marshall Huntington Campus, the Medical School Campus, and the two major Medical Centers.

The ring was completed last year, but we have spent this year working with the MUSOM, St. Mary's and Cabell Huntington Hospital to promote sustainability and increase usage. Our new School of Physical Therapy utilizes this fiber link to the main campus.

Governance and Policy

The Information Technology Council is the official University committee governing information technology usage at Marshall University. Over the past year, the council approved the following polices, standards, guidelines and procedures.

Updated Policies

- MUBOG Policy IT- 1 - Information Technology Acceptable Use Policy (ready for MUBOG vote)
- MUBOG Policy IT-2 – Information Security Policy
- MUBOG Policy IT-5 – Distance Education Courses

New Policies

- MUBOG Policy IT- 3 – Electronic Communications Policy (replaced the email policy)

Standards

- ITS – Standard for Baseline Security of Servers

Procedure

- Procedure ITP-13 – Cellular Telephone Voice/Data Services Stipend Plan
- Procedure ITP-2 – Scheduling University Computing Public Facilities
- Procedure ITP-25 – Obtaining and Managing a Site on MU Web Server
- Procedure ITP-34 Marshall University Equipment Lending Procedures
- IT Rate Schedule 2012-2013

Planning

All units of MUIT participated is an extensive review and discussion of each of the ten MUIT Goals that are outlined in the IT Strategic Plan 2011-2016.   This is a dynamic process and is geared to keep the plan an active part of any planning session.