Information Technology Services Division Annual Report FY 2012

Executive Summary

During academic year 11-12, the Information Technology Services Division (ITSD) has implemented major initiatives to improve the technology infrastructure at UMass Boston, to enhance support for learning, teaching and research, and to improve the business processes and outreach efforts of the university as well as ITSD's own internal processes.

INFRASRUCTURE: ITSD has developed a comprehensive plan for future technology support (See Appendix 2) and completed a multi-year project to upgrade wiring in all campus buildings. New Ethernet switches with faster uplink speeds as well as an upgrade to the campus internet pipe have improved UMass Boston's ability to run high-speed services over the network. Wireless network expansion continued with additional access points and coverage. In Telecom, ITSD has upgraded the PBX and the voicemail systems as well as replacing over 1000 older phone sets. ITSD has continued to participate in the development of technology specifications and standards for the Integrated Sciences Complex, Utility Corridor and Roadway renovation project, and the General Academic building. Information security has been improved with the upgrade of campus internet firewalls and the initiation of a certificate system through the InCommon Federation to enhance email and server security. The rollout of the Enterprise Policy Orchestrator (EPO) system has continued with more than 2600 computers enrolled to provide seamless anti-virus protection and data loss prevention.

LEARNING AND TEACHING: ITSD has continued to upgrade and enhance classrooms and labs to improve the teaching environment. Clickers (personal response systems) are now a standard feature in large classrooms. The computers in the Blue and White lab and the Graduate Research Lab as well as the furniture in the Blue and White lab were replaced to accommodate both computer and lecture style teaching. Fifteen laptops were added to the popular laptop cart program, and Mac and PC classroom laptops were also replaced. The Virtual Computing Lab was pilot-tested with several faculty. Software upgrades included NVIVO (quantitative analysis), MatLab, SPSS, Mathematica and Adobe Creative Suite 5.5, and for the first time, Mathematica was offered to students at no charge. Content enhancement has continued for both OpenCourseWare (now up to 60 courses) and iTunes U, where downloads topped 1400 a month this year. ITSD's Educational Technology group in conjunction with the CIT held its fifth annual Ed Tech Conference with over 140 attendees. ITSD supported CEHD's e-portfolio pilot. More than 1200 classes used Blackboard Learning Management System this year, and ITSD has actively participated with UMOL in the selection and implementation of a new LMS. More than 1000 people participated in over 400 teaching with technology workshops in FY 12. Collaborating with the Ross Center, staff in Educational

Technology and the Video Production Center received a Campus Technology Innovators Award for their work in making online courses accessible for deaf students.

RESEARCH: ITSD hired a new manager of research support to work with faculty in meeting the technology needs of their research projects. ITSD also installed a new Symmetric Computing 192-core shared memory system for researchers and has developed a VPN solution to allow research assistants to access their work from off-campus.

BUSINESS PROCESSES AND OUTREACH: ITSD supported the expansion of self-service functionality of PeopleSoft HCM, Identity Management, and Summit Reporting and completed the upgrade of the PeopleSoft Finance system. ITSD supported the successful implementation of Image Now document imaging for the Registrars' Office, Graduate, and Undergraduate Admissions and completed the Phase I migration of the R25 event and classroom management system. ITSD implemented the R25 Pricing Module allowing real time pricing and quotation creation for event management. ITSD replaced the homegrown afrWEB (Annual Faculty Reports) application with Digital Measures Activity Insight. ITSD completed the implementation of the new Emergency Notification System (RAVE). ITSD led the university's 3-year web re-architecture project, providing technical project oversight, information architecture, design, and content inventory phases, build, and training. The new site went live for the start of the academic year and already one of the videos developed for the new site has won a prestigious Telly Award. ITSD redeveloped the university's mobile web site, to provide information to an extended number of hand-held devices. ITSD's Video Production Center continued to provide digital support and streaming coverage for major campus events including President Caret's inauguration.

INTERNAL PROCESSES: ITSD participated in the MISO survey for the second time this year, a national benchmark for IT and Library organizations. Respondents' overall satisfaction (satisfied+somewhat satisfied) with IT services ranged from 81 % (faculty), 88% (staff) to 91% (students). ITSD also collaborated with the Library to conduct a series of faculty interviews on instructional and research support needs. A fully functional IT Service Catalog was created and populated on the web. Change management business processes were investigated and documented for FY13 implementation. Working with the Provost, ITSD established an Academic Technology Advisory Committee to provide a mechanism for better interaction with the academic stakeholders.

See Appendices as noted for further information.

Appendix 1: IT Strategic Plan 2011-2015

Appendix 2: UMass Boston Infrastructure Plan Executive Summary December 2011

Appendix 3: ITSD Professional Development, Presentations and Publications FY 12

Appendix 4: Selected ITSD Metrics FY 12

ITSD Strategic Goals and Accomplishments AY 11-12

For AY 11-12, ITSD established the strategic goals shown below in support of the University's goals. Following each goal is a brief report on the accomplishment of the initiatives related to each.

University Goals:
1. Advance student success and development
2. Enrich and expand academic programs and research
3. Improve the learning, teaching, and working environment
4. Establish a financial resources model consistent with the university's vision statement
5. Develop an infrastructure supportive of the preceding goals

1. Communicate better and build partnerships, within IT and with customers and university community. (Supporting UG 1,2,3)

- *Supported over 60 University events, including Fall Convocation, IDEAS Boston, Scholarship Gala, President Caret Inauguration, and Commencement*
- *Worked with University Library and a consultant to conduct faculty interviews on teaching and research needs*
- *Redesigned the ITSD Service Catalog for greater ease of use*
- *Published four issues of the Educational Technology Newsletter*
- *Continued to maintain EdTech Facebook page*
- *Presented IT security to incoming students hosted IT information table at orientation*
- *Hosted the annual Educational technology conference in collaboration with CIT*
- *Installed web cameras for marine operations, ISC*
- *Completed the integration of facilities and customer service ticketing system*
- *Led transition planning with departments and program of study who deploy the end-of-life web conferencing tool Wimba Classroom for migration to new synchronous conferencing platforms.*

2. Continue to improve the campus infrastructure. (Supporting UG 1, 2, 3 and 5)

- *Worked with Vantage Consulting to complete an implementation plan for campus infrastructure replacement (See Appendix 2)*
- *Telecom*
    - *Upgraded PBX and voicemail system*
    - *Replaced 1000 old desktop phone sets*
- *Network*
    - *Added 70+ wireless access points*
    - *Extended fiber to Ryan, Snowden and Alumni Lounge*
    - *Built out the faculty/staff wireless network*
    - *Doubled the campus internet bandwidth to 550mb*
    - *Deployed a DMZ in the VDC to allow experimentation without damage to the UMB network*
    - *Built and deployed the guest wireless system*
    - *Implemented the Shibboleth authentication system through InCommon Federation, allowing easier access to resources at other institutions*

- o *Replaced DHCP and DNS servers to enhance features*
- o *Replaced the perimeter firewall*
- *Security*
  - o *Deployed secure FTP service to campus*
  - o *Deployed ePO (Anti-Virus) to over 2,700 computers*
  - o *Developed inventory of computers on ePO*
  - o *Implemented data-loss prevention module*
  - o *Invested in a SIEM logging server to monitor security incidents*
  - o *Implemented eMail & web server certificates for increased security*
- *Video Production*
  - o *Replaced digital signage displays with energy efficient units*
  - o *Migrated to the Bright Cove video cloud system*
- *Data Center/Systems/Operations*
  - o *Completed the re-wiring project (all buildings w/ Category 6 wiring)*
  - o *Consolidated faculty & staff web servers*
  - o *Piloted the Virtual Computer Lab system*
  - o *Migrated web-image server to new platform*
  - o *Upgraded VMWare to latest version*
  - o *Upgraded Xythos to v. 7.2*
  - o *Collaborated with the Nantucket Field Station in improving IT infrastructure and desktop support*
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3. Improve planning. (Supporting UG 1,2,3)

- *Worked with Vantage Consulting to complete an implementation plan to replace the campus infrastructure (See Appendix 2)*
- *Completed a full day planning retreat for all ITSD managers*
- *Revised ITSD's strategic plan out to 2015 (see Appendix 1)*
- *Collaborated with the library in an in-depth study of faculty research and teaching needs*
- *Participated with the library in the MISO Survey*

4. Improve organizational development. (Supporting UG 1,2,3)
- *Implemented a change management group which completed the design of change management process to be implemented in FY 13*
- *Completed the design of the IT project intake process to be implemented in FY 13*
- *Continued staff recognition events—CIO Award for Excellence and Customer Service Award*
- *Supported ITSD staff in more than 100 professional development opportunities including conference attendance and training as well as formal classes (See Appendices3and 4)*

5. Support teaching and learning. (Supporting UG1, 2, 3and 5)
- *Upgraded computers in GRC and furniture in Blue & White Lab*
- *Installed 16 computers on the 8th floor Library*
- *Replaced LCD projectors in Biology & IT Computer Labs; added large LCD monitors in the Training Rooms*

- *Built a new technology enhanced classroom in Wheatley [our first Analog/Digital Classroom]*
- *Upgraded the ITC Conference room to support Analog & Digital technologies*
- *Upgraded Instructional/Research Software – Adobe Creative Suite 5.5; Acrobat X; SPSS 19; NVIVO 9.*
- *Supported the selection and implementation of a new Learning Management System – Learn 9.x*
- *Rolled out Blog service*
- *Upgraded iClicker, Accordent & Camtasia Classroom capture systems*
- *Initiated the migration of VHS to DVD*
- *Piloted new synchronous conferencing tools in fully online and web-enhanced courses and led UMOL synchronous conferencing Special Interest Group*

6. Support research. (Supporting UG 2)
- *Hired a Manager of Research Support to assess campus research requirements and implement strategies for research support*
- *Built and deployed server to meet research needs*
- *Added storage to the HPC to meet university needs*
- *Deployed a shared memory HPC system*
- *Participated in the planning for the MGHPCC*
- *Developed a VPN solution for graduate student access to research from off-campus (to be deployed in FY 13*
- *Launched the Center for Innovation and Excellence in eLearning)*

7. Improve and streamline business processes for IT and the University. (Supporting UG 1, 2 and 3)

- *Completed the web re-architecture project (new University web site deployed in August 2011)*
- *Completed integration of student system (WISER) with identity management to allow single-sign-on*
- *Completed migration to a new Emergency Notification System—RAVE Migrated R25, space and event management system from Shrewsbury to SAS environment @ CollegeNet*
- *Upgraded Xythos to the latest version (7.2)*
- *Completed phase I of document imaging project*
- *Implemented MapWorks for student advising and Grade first for athletics*
- *Completed Phase I of AFR (Digital Measure) and commencing phase II*
- *Implemented HR BI dashboard; finance dashboard*
- *Completed the deployment of eCommerce manager*
- *Completed the design of the university portal system (Campus EAI) which will allow for greater personalization of services and messaging*
- *Invested in the KACE – Dell Desktop management system*
- *Worked closely with the University System on initiatives to improve efficiency and effectiveness in purchasing, security, networking and other key areas*
- *Developed two open source Learning Management System servers (Moodle and Sakai) to pilot lower-cost alternatives to support revenue-generating course and content delivery.*

Strengths and Weaknesses

The development of an implementation plan for UMass Boston's Enterprise Technology Architecture is a major strength. This plan has provided ITSD with a comprehensive overview of technology infrastructure and the path needed to replace and enhance it. The related concern is the continuing delay in approval for moving forward with the new data center. The data center is the lynch pin in the proposed enterprise architecture and delay in defining the specifications and location for this is delaying implementation of other parts of the master plan. ITSD has worked closely with the Vice Chancellor for Administration and Finance and the Director of Facilities to coordinate this process.

Considering its limited resources, ITSD has done a good job of implementing new instructional technologies and keeping instructional facilities updated. UMass Boston faculty have access to a wide range of instructional applications and classroom tools including blogs and wikis as well as lecture capture. However, ITSD has not done as well in keeping up with the need for research support as the University hires more and more researchers with sophisticated needs and high expectations of IT support. The hire of a new manager for research support and some increased funding for research equipment and software should begin to improve this in FY 13.

A final area of concern is the increasing proliferation of local technology applications that are acquired without ITSD input and result in implementation issues and extra costs. ITSD staff have put forth heroic efforts to step in at the last minute to redesign and manage these projects, but given the huge support demands of the campus, it is not practical to maintain such an ad-hoc approach. ITSD has developed a plan for improving the project intake process and hopes to work with the Provost and the Vice Chancellor for Finance and Administration to implement a better process for reviewing departmental technology purchases to insure the best use of existing resources and appropriate priorities in line with University goals.

Goals for FY 13

The University of Massachusetts Boston has refined its institutional goals to five broad areas:

- Advance student success and development
- Enrich and expand academic programs and research
- Improve the learning, teaching, and working environment
- Establish a financial resources model consistent with the university's vision statement
- Develop and infrastructure supportive of the preceding goals

ITSD's Strategic Plan, shown in Appendix 1, outlines the major goals for next year. This plan is reviewed annually to ensure continued alignment with the direction of the University.

Some highlighted projects in the next year in relation to the goals shown above:

Student Success and Development

- ITSD will enhance its student employee program to provide greater opportunities for student learning.
- ITSD will expand opportunities to enhance hardware and software availability for students as well as providing more technology training for students.
- ITSD will implement a new web portal for students to make information more easily available and allow greater personalization of information and support for students.

Academic Programs and Research

- With the arrival of a new coordinator for research support, ITSD will continue to enhance its support structure for faculty researchers.
- ITSD will build its research support capacity with the hire of an additional staff member in that department.
- ITSD will expand training and support for qualitative and quantitative analysis programs.
- ITSD expand the software applications available for researchers' use.

Teaching, Learning, Working Environment

- ITSD will work closely with UMass Online to implement a new Learning Management System.
- ITSD will continue to work closely with architects and campus planners to develop and implement technical specifications and standards for the General Academic Building I and ensure that appropriate technology is implemented in the ISC.
- ITSD will build on the pilot experience to develop a production environment for the Virtual Computing Lab.
- Working with the Library, ITSD will implement an "iPad in the classroom" program – the use of eTextbooks and apps to enhance teaching
- ITSD will encourage the use of technology by enhancing the IT Liaison program, hosting the Ed tech Conference and by introducing new tools such as Voicethread – to be used by Modern Language; and a campus wide service -- Atomic Learning – as an online training system
- ITSD will continue to replace computers and furniture to enhance computer labs
- ITSD will continue to add and update technology classrooms
- ITSD will implement new systems to improve desktop support and software distribution.
- ITSD will implement CollegeNET 25Live with full web integration
- ITSD will roll out an improved service management system.
- ITSD will continue campus project level oversight and assistance for the PeopleSoft Finance upgrade and expansions to HCM and SA modules in tandem with UITS.

Infrastructure

- In conjunction with Vantage consultants, ITSD has developed an enterprise architecture plan. IN FY 13, ITSD will begin implementation of this plan, including hiring an IT project

manager for infrastructure projects and replacing key infrastructure components including the distribution layer of the network and the design of a new data center.

- ITSD will hire a new network engineer and fill the vacancy in the CIS directorship.
- ITSD will upgrade the Enterprise database SQL Server.
- ITSD will work with the Shrewsbury data center on disaster recovery planning.
- ITSD will develop a production environment for the Virtual Computing Lab
- ITSD will develop technical specifications and standards for General Academic Building I
- ITSD will continue to expand and enhance wireless access throughout the campus.
- ITSD will continue to collaborate with the UMass system in the development and implementation of the Information Security Plan as well as in the design and implementation of a comprehensive network design for the system.