Information Technology Services Division Annual Report FY 13

Executive Summary

During academic year 12-13, 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.

INFRASTRUCTURE:

ITSD continues to implement its comprehensive multi-year plan to develop a state-of-the-art communications infrastructure. New Ethernet switches with faster uplink speeds and new single-mode fiber optic cable have improved UMass Boston's ability to run high-speed services over the network. Wireless network expansion continued with 30 additional access points and expanded coverage. Funding approval was given this year to begin the design of the new data center. ITSD has done pilot testing for Voice over IP service. 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 General Academic Building I. Information security has been enhanced with the implementation of Identity Finder to locate sensitive data on campus machines. ITSD migrated 4000 faculty and staff email accounts to Office 365, providing improved storage and collaboration capabilities for the campus.

LEARNING AND TEACHING:

ITSD has continued to upgrade and enhance classrooms and labs to improve both the teaching environment and the student experience. ITSD also began managing the computers located in the library and upgraded them with new software applications. The Virtual Computer Lab (VCL) went "live," this year, allowing students to access University computing resources from any internet connection. ITSD continued to support the upgrade of the Learning Management System as well as the use of Web 2.0 tools such as wikis and blogs. ITSD expanded support for the capture and dissemination of content using iTunesU and Camtasia Screencast to stream content. CIT, Library and Ed Tech collaborated to host the 7th annual conference to promote and share ideas on teaching methods. In close collaboration with the library, ITSD rolled out a new "Teaching with iPads" program. ITSD worked with UITS and other campuses to negotiate a site license for MatLab plus 15 toolboxes to be used by faculty and graduate students who are undertaking research activities. ITSD also implemented an online training program--"Atomic Learning"--for the UMass Boston community.

RESEARCH:

ITSD has begun developing consultative support for research activities, including applications development and high performance computing. ITSD has hired a graduate assistant to work on research

support and is recruiting for another full-time support position. ITSD has rebuilt two existing HPCC clusters and installed a new GPU-based HPCC cluster. ITSD in collaboration with Graduate Studies has invested in a limited license of NVIVO – a qualitative analysis tool available to faculty doing research, research institutes and centers and doctoral students. ITSD has installed wireless connectivity between the campus and Thompson's Island to support research and installed monitoring capabilities for research freezers. The division has been an active participant in the design and implementation of the UMass system-wide shared compute cluster at the MGHPCC.

BUSINESS PROCESSES AND OUTREACH:

ITSD supported the implementation of BuyWays procurement application and the expansion of document imaging for Undergraduate Admissions and Financial Aid archives. ITSD revamped the University's web presence with a new home page style and additional template designs for University departments, and the redesigned web site won the Center for Digital Education Honorable Mention Award for Best of the Web. 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 completed the Phase I migration of the R25 to 25Live event and classroom management system, moving it from Shrewsbury to the vendor SaaS environment as well as implementing the R25 Pricing Module allowing real time pricing and quotation creation for event management. ITSD completed the implementation of the new Emergency Notification System (RAVE) and AlertUS, and commenced work with the ATI emergency speaker system. ITSD completed the integration of the HEAT ticketing system with the Facilities work order management system. ITSD commenced planning for the Google Inside mapping project with Facilities and assisted in the contract negotiations with Procurement. ITSD created a web-enabled social UBook application for use with Emergency Preparedness activities. ITSD created a pilot student portal for transfer students. ITSD's Video Production Center continued to provide digital support and streaming coverage for major campus events.

INTERNAL PROCESSES:

ITSD participated in the MISO survey again this year, a national benchmark for IT organizations. Respondents' overall satisfaction with IT services ranged from 89% (staff) and 89% (students) and 79 % (faculty). For faculty, instructional support, email services and securing the network from viruses were services that the community was most satisfied with. For students Wiser Self-Service, email services and the helpdesk were services that they were most satisfied with. Change management business processes were investigated and documented, and the system was implemented in a limited pilot in FY13

See Appendices as noted for further information.

Appendix 1: IT Long Range Plan FY13-FY16

Appendix 2: ITSD Professional Development, Presentations and Publications FY 13

Appendix 3: Selected ITSD Metrics FY 13

ITSD Strategic Goals and Accomplishments AY 12-13

For AY 12-13, 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 70 University events, including Fall Convocation, IDEAS Boston, Chancellor's Community Breakfast, Paul Pierce Lecture and Commencement*
- *Provided over 360 hours of videoconferencing support, room systems and Skype calls*
- *Produced over 125 video files for YouTube or Bright Cove posting for Chancellor's Office, Office of Government Relations and Public Affairs, University Advancement, Provost's Office, Athletics, OLLI Program, McCormack Graduate School, Office of Special Events and others*
- *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 with CIT, CAPS and Healey*
- *Completed the integration of facilities and customer service ticketing system*

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

- *Designed the UCRR, ISC and GAB1 projects with robust and extremely reliable technology infrastructure*
- *Installed communications to support Bayside expo bus stop and parking needs*
- *Installed cables (90) and raceways for relocation of entire department to eighth floor Healey Library.*
- *Installed technology infrastructure into new basketball gym.*
- *Telecom*
  - *Migrated all users from Blackberry handhelds to standard iPhone platform.*
  - *Deployed 16 VOIP phones around campus for pilot user testing and feedback.*
  - *Conducted Voice over IP test trials and network readiness*
- *Network*
  - *Installed and terminated new single mode fiber optic riser cable in all buildings to accommodate new and enhanced data network speed/bandwidth for future campus needs*
  - *Began campus network readiness assessment for future deployment of voice over IP (VOIP) phone system.*

- *Resolved longstanding R25/Citrix connectivity issue that plagued the Boston campus for many years (net group discovered bad IPS signature in line with campus internet connection).*
- *Installed and upgraded new Ethernet edge switches in Campus center, Administration building, Service and Supply building, Athletic Center and Healey Library*
- *Worked with the University President's office technology group to redesign the campus internet connection for more secure and reliable connection.*
- *Added 30+ wireless access points*
  - *Security*
    - *Recruited a new Security Officer*
    - *Participated in UMass Security Council*
    - *Began implementation of Identity Finder software to assist with management of sensitive information*
    - *Purchased, configured and deployed a 10GB firewall to provide additional functionality to UMB's wireless network*
    - *Added memory capacity to perimeter firewalls*
    - *Installed security hardware (IPS) in front of campus phone system PBX to secure voice traffic.*
  - *Video Production*
    - *Created 7 new TEC 1 conference rooms*
    - *Created over 700 slides for the University's digital signage system*
  - *Data Center/Systems/Operations*
    - *100 percent power reliability and uptime for the campus data center for the entire year.*
    - *Obtained funding approval and initiated planning to relocate the campus data center*
    - *Installed 6 additional departmental servers into the campus data center collocation space*
    - *Implemented Virtual Computing Lab*

3. Improve planning. (Supporting UG 1, 2, 3)

- *Completed a full day planning retreat for all ITSD managers*
- *Revised ITSD's strategic plan out to 2016 (see Appendix 1)*
- *Participated with the library in the MISO Survey*
- *Designed and pilot tested a change management system for ITSD*
- *Worked with Healey Library to hire a consultant to survey on faculty needs*

4. Improve organizational development. (Supporting UG 1, 2, 3)
- *Planned for reorganization of the Communications and Infrastructure area to improve efficiency and functionality*
- *Implemented a change management process for IT projects*
- *Completed the design of the IT project intake process*
- *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 Appendix 2)*

5. Support teaching and learning. (Supporting UG1, 2, 3and 5)

- *Migrated faculty to new LMS—Blackboard Learn 9*
- *Worked with the UMass system to negotiate a site license for MatLab with 15 toolboxes*
- *Upgraded Instructional/Research Software – Adobe Creative Suite 6.0; Acrobat X; SPSS 20; NVIVO 10.*
- *Supported classroom content capture with iTunesU and Camtasia Screencast (more than 1900 lectures viewed)*
- *Supported 1800 wikis and over 1200 blogs*
- *Upgraded library computers with new software applications such as SPSS, Adobe Creative Suite, Office 2010*
- *Upgraded Mac Lab A with 27" iMacs which allow the faculty to teach media related courses*
- *Upgraded computers in the red lab, added wider monitors and replaced aging chairs and tables*
- *Implemented a Virtual Computer Lab that allowed access to campus applications from any computer*
- *Spent over 1100 hours installing new AV equipment or repairing existing equipment*
- *Sponsored 7th Annual Educational Technology Conference*
- *Sponsored four Faculty Showcases: Flipped Classrooms, Using Blackboard with Groups, iPads in the Classroom and eBooks*
- *Implemented iPads in the Classroom initiative in collaboration with the Library with a dozen faculty participants*
- *Created more than 100 video files for classroom capture*
- *Provided 1490 hours of classroom capture service*
- *Implemented online training via Atomic Learning*

6. Support research. (Supporting UG 2)

- *Hired a graduate assistant to support research activities*
- *Purchased additional NVIVO licenses to support qualitative research*
- *Installed wireless connectivity between the campus and Thompsons island to support research*
- *Installed monitoring capabilities for some -80 degree research freezers*
- *Added storage to the HPC systems to meet university needs*
- *Rebuilt/reconfigured two existing compute clusters*
- *Installed and configured new GPU based compute cluster*
- *Trained users on local HPC resources*
- *Rolled out HPC wiki covering local resources*
- *Participated in the planning for the UMass shared compute cluster at the MGHPCC*
- *Deployed a VPN for research access from off-campus*

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

- *Migrated 4000 faculty and staff email accounts to Office 365, improving storage and collaboration capabilities*
- *Completed migration to a new Emergency Notification System—RAVE and AlertUS*

- *Migrated R25, space and event management system from Shrewsbury to SAS environment @ CollegeNet*
- *Completed the integration of IT / CSC HEAT ticketing system with Facilities TMA work order system, resulting in cross functional transparency for work management*
- *Completed Phase II of document imaging project for Undergraduate Admissions and Financial Aid archives*
- *Continued to support document imaging for Registrar's Office and Graduate Admissions*
- *Completed Phase II of AFR (Digital Measure) and commencing phase III*
- *Working with A & F coordinated expansions to HR BI and finance dashboards (Summit Reporting projects)*
- *Completed the deployment of ecommerce manager*
- *Completed the limited pilot for transfer students portal system (Campus EAI)*
- *Completed the Title III Transfer Portal grant for Academic Advising*
- *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*

Strengths and Weaknesses

ITSD continues to implement its comprehensive plan for the replacement and enhancement of the University's technology infrastructure. New Ethernet switches and new single-mode fiber optic cable have been installed this year. Delays in approval and lack of funding have made this slower than ITSD would like. Funding for the new data center was approved in FY 13, and ITSD hopes to move this project forward in order to meet the timeline of the new utility corridor that will house the fiber optic network. There is increasing pressure from the president's office to implement security initiatives, but a lack of staff with security expertise is a serious inhibitor of these projects. ITSD has requested additional resources to help address this gap.

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. While we are still not at the level we need to be in providing support for researchers, ITSD has made improvements in this area in FY 13 with the help of a new director of research computing and a graduate assistant. Two existing HPCC clusters have been rebuilt and a GPU cluster added. ITSD has been an active participant in the design and implementation of the MGHPCC. ITSD has requested additional research support resources for FY 14.

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 14

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 expand the web portal for students to make information more easily available and allow greater personalization of information and support for students.

Academic Programs and Research

- ITSD will build its research support capacity with the hire of an additional staff member in that department.
- ITSD will facilitate researchers' use of the MGHPCC facilities.
- ITSD will improve storage offerings and backup solutions for research needs
- ITSD will expand the software applications available for researchers' use.

Teaching, Learning, Working Environment

- ITSD will continue to enhance Blackboard Learn with additional integrations and training as well as the implementation of a Tier 1 support system with Embanet.
- 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 expand use of the Virtual Computing Lab with additional software.
- ITSD will expand the iPads in the classroom initiative to more faculty.

- ITSD will encourage the use of technology by enhancing the IT Liaison program, hosting the Ed tech Conference and by introducing new tools.
- ITSD will implement new systems to improve desktop support and software distribution.
- ITSD will implement CollegeNET 25Live with full University web site integration
- ITSD will roll out an improved ITIL service management system for IT and the CSC
- ITSD will continue to expand the document imaging project, completing Undergraduate Admissions and moving forward into Enrollment Management and other departments
- ITSD will continue campus project level oversight and assistance for upgrades and expansions to the PeopleSoft Finance, HCM, SA (Wiser), IDM (Identity Management), and BI (Summit Reporting) applications and modules in tandem with UITS
- ITSD will assist departments with software selection, upgrades, new modules (Health Services, Athletics, Enrollment Management, Provosts Office…)
- ITSD will explore options to replace the manual survey scanning system with an online solution.
- ITSD will build a new University mobile website in FY14
- ITSD will implement Google Inside for selected campus based buildings for way finding
- ITSD will implement additional web site tools for monitoring, capacity planning, and performance enhancements
- ITSD will upgrade computers and furniture in labs and the library as well as upgrading classroom technology to offer students the latest in computing technology
- ITSD will complete the upgrade of campus computers from Win XP to Win 7

Infrastructure

- ITSD will complete the recruitment and hire of new infrastructure support positions.
- ITSD will complete the installation of new network switches.
- ITSD will begin replacement of the existing phone system with implementation of Voice over IP.
- ITSD will purchase and implement a new contact center system.
- ITSD will upgrade the enterprise SQL database infrastructure.
- ITSD will work closely with UMBA on the design of the new data center.
- ITSD will complete the build-out of the wireless network, including 802.x for students.
- ITSD will upgrade the virtual environment and expand virtualization efforts.
- 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.