The University of Arizona
Information Technology Services
Annual Report
2008-09

Submitted to:
Provost Meredith Hay

September 1, 2009
The University of Arizona Information Technology Environment

The downturn of the state and national economy has created unprecedented funding challenges in FY09. These challenges had, and continue to have, both positive and negative impact. On one hand, there was considerable discussion about how to leverage technology in ways that would make up for shrinking resources, such as growing online courses. On the other hand, as demand for technology grew, state funding was diminishing for IT units as well.

These competing pressures have only served to increase the urgency to enhance the current information technology environment with seamless simplicity, robust and secure technology. The ability to provide advanced information technology remains a critical factor for the UA in achieving its teaching, research, and public service mission - to discover, educate, serve, and inspire. Expanded IT capability will provide the avenue to strengthen the University’s academic excellence, intellectual creativity, and spirit of community, even in these difficult economic times. To that end, it is even more important that, as a university, we continue adhering to the following basic objectives, which directly impact the mission of the University of Arizona:

- Eliminate as much redundancy as is possible and sensible
- Look for solutions, programs and partnerships that are cost effective
- Find ways of utilizing all university IT resources, including Arizona University System (AUS) resources, more efficiently and collaboratively
- Recognize security as a common element within everything we do

The single, highest priority facing the central IT unit at the moment is Mosaic. We made great progress last year in launching the major components, Human Resources, Financials, Student, and Business Intelligence. The working groups and teams spent the entire year steadily working through the necessary steps required in these endeavors. The results of which will be realized this next year as each system is implemented and becomes reality.

Progress has been made on other fronts as well. The IT Help Desk was expanded to 24x7 coverage. Two new site-licensing programs were instituted as centrally funded programs for campus, Microsoft and MatLab, freeing up dollars at the college and unit levels. Wireless coverage continues to grow as funding permits and the network core capacity was increased 10-fold.

We experienced increased use of our server and storage services. New arrangements have been made with several units to consolidate their servers into our service and environment. We expect this to continue as units evaluate areas to cut back due to budget pressures. To prepare ourselves for the anticipated increased demand, we are considering the launch of a planning exercise to build a 10-year vision for institutional data storage and management plan. Our customers would like to have optional solutions to choose from for storing data. Some need a high-end secure environment whereas others only need something basic. We currently only provide the high-end, high-dollar configuration. With a diverse set of options, at low to mid-range price, will likely provide incentive for more unit to consolidate to a central service. This may require a strategic investment of funds to build this type of plan.

We also stand ready to support the new Office of Instruction and Assessment. Expansion of our online course offerings is very strategic to the institution as we explore new ways to support our students and generate revenue.
### UA Strategic Information Technology Goals

Within the context of the UA Strategic Priorities and ABOR IT Strategic Areas

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Information Technology Strategic Area #1 – Student Learning and Success

Student learning and success are at the heart of the University of Arizona mission. Today's students have grown up with technology and bring very different expectations to their educational experience. Teaching emphasis has moved away from memorizing facts towards finding, evaluating, and using information. UA faculty and staff have a great opportunity to explore new modes of learning and to contribute to the development of how IT technologies can augment the learning experiences of our students. Several noteworthy accomplishments were made in moving the IT Strategic Goal #1: Improve student learning and success through technology related initiatives forward:

- Established 24 x 7 IT and Mobile Help Desk support for students, faculty and staff – providing extended levels of service for desktop support, network connections and general technology issues, resulting in more effective management by the student, faculty or staff member
- Continued to expand wireless internet service – increasing campus coverage to 75%
- Committed to Google for email and collaboration applications for students – accessible via mobile devices
- Supported D2L growth to 82,092 student seats and automated the course creation process using enterprise data

Information Technology Strategic Area #2 – Information Technology Infrastructure

The UA is an engine of discovery and advancement for society. Our IT infrastructure must support this vital role. We need to enhance the university-wide information technology infrastructure and make it more accessible, dependable, secure, flexible and scalable to meet the teaching, learning, research, and organizational needs of the University of Arizona and the community. Additionally, our computing and storage infrastructure must also keep pace with the demands for reliable, interoperable and scalable capacity.

Two strategic goals are set related to this Strategic Area of IT:

- Information Technology Strategic Goal #2: The communications infrastructure must be robust, reliable, standardized, consistent, state-of-the-art, and operating with continuous improvement and stable funding.
- Information Technology Strategic Goal #3: The university-wide IT infrastructure must become more accessible, dependable, secure, flexible and scalable with services and tools that are integrated and state-of-the-art to meet the teaching, learning, research, and organizational needs of the University and the surrounding community.

Many noteworthy initiatives moved this area of IT forward this year:

- Stabilized the current budget by transitioning to an FTE-based funding model in July 2008
- Upgraded network core to 10-gigabyte and IPv6
- Continued to expand wireless internet service – increasing campus coverage to 75%
- Continued growth and investment in scalable, centralized server hosting and administration
- Implemented a centrally funded site license for Microsoft products providing for standardization and allowing dollars to be freed up in the colleges and units
- Implemented new monitoring tool (Science Logic EM7) for network and server devices
- Provided CatNet domain and UA wireless services to the Phoenix BioMedical Campus (PBC)
- Eliminated the eReserves system – integrated electronic academic reserve materials into D2L, implemented single sign-on, and created a D2L library widget for ease of use
- Implemented WebEx for instant messaging, video conferencing and interactive editing
- Installed classroom capture and video conferencing systems in several colleges

Area #3 - Administrative Effectiveness

There is an ever-increasing need for accurate, integrated information not limited by existing functional boundaries. Our ability to address this need is restricted by systems that are aged and technologically out of date. Our administrative systems are surrounded by extensions, augmentations, and supplemental distributed systems maintained by individual departments and other operating units. There is no controversy at all over the need to replace our entire suite of administrative systems. With certain administrative systems in need of attention and growing dependencies, the institution has identified a strategy for modernizing the UA's administrative systems.
In February 2008, the UA CIO introduced the "Enterprise Systems Replacement Proposal" which outlines the roadmap for the replacement of the UA's administrative systems. The roadmap includes targeted solutions, resource requirements, high-level implementation timeline and projected budget. The strategic goal that will be achieved by this replacement effort while simultaneously keeping legacy systems functional is **IT Strategic Goal #4: Business operations must be supported with tools and applications that are flexible, responsive, permit real-time web access, facilitate self-help, and ensure information integrity. The applications must be interoperable, modern and poised for future changes.** The achievements toward this goal include:

- **Gained ABOR approval for the Mosaic Project Plan in April, 2008 and launched in May, 2008**
- **Implemented the Student Recruiting module, a hosted solution from Hobson’s EMT Connect on May 4, 2009**
- **Supported mandatory enhancements to legacy systems, incorporating sustainability and reengineering into the roadmap**
- **Incorporated new development projects into roadmap such as eCustoms, Promotion and Tenure and BuyWays**

### Area #4 – Information Technology Security

The University of Arizona is engaged in designing and implementing a comprehensive security program to protect sensitive information, reduce risk, and define roles and responsibilities. This vision will require sustained, broad-based effort for a number of years. Communication and collaboration among the Information Security Office, University IT Services and the university community will serve as its foundation. The conversation will establish the values and principles, set the risk tolerances and help define the environment that the security program supports and protects. Evolution and integration of security services and policies into University services and information architecture will serve to reduce the likelihood of security incidents and to increase the university community’s participation in securely managing and disseminating information. Two major strategic goals are targeted:

- **Information Technology Strategic Goal #5: The University’s information assets and technology environment must be increasingly and effectively secured in a consistent standardized manner without limiting our academic and research freedoms.**
- **Information Technology Strategic Goal #6: Members of the university community must become increasingly aware of their responsibilities, and accept accountability for minimizing the university’s exposure to the ongoing threats.**

**Achievements in this critical area included:**

- **Established a network of Information Security Liaisons for communications and coordination**
- **Completed the Personal Information Sweep for all of campus**
- **Eliminated the use of SSN’s as a primary student identifier for currently enrolled students**
- **Implemented the Payment Card Industry compliance program**
- **Implemented a standardized, industry-based identity management environment that will allow more seamless interaction between accepted communities**
- **Acquired a web application security scanning tool as part of a Tri-University effort**

### Area #5 - Academic Technology

The University of Arizona must continue to refine and develop instructional technologies and resources to provide instructors and students with a first class infrastructure for teaching and learning. As advancing technologies provide new opportunities for scholarship, the university must proactively and strategically pursue and develop these instructional tools with active input from students, faculty and staff to meet their evolving needs. The primary goal in this area is **Goal #7: Provide an environment that encourages the use of technology to facilitate and enhance learning.**

- **Achievements in this area were primarily in the training and tutorial resources provided to campus as well as the increased opportunities for faculty and students to experience and evaluate new technologies as described in Area #1 – Student Learning and Success**
Area #6 - Research Computing

As a Research University, it is critical to the mission of the UA that we maintain a competitive position among our peers. Research today has an increased emphasis on interdisciplinary research and on research collaborations with industry. Our reliance on high performance computing and the need for sophisticated visualization, simulation and modeling software has far surpassed our expectations. An additional component that we must be attentive to is reporting and auditing requirements as they increase in this area. Research computing is strategically important for the UA, is critical to the success of faculty research programs, and is an important factor in faculty recruitment and retention. The primary goal in this area is: **IT Strategic Goal #8: In support of research, the UA should provide broad support for basic collaboration technologies, continue its commitment to high performance computing and computation, and begin implementing more advanced technologies.** We achieved success in several ways this year:

- Completed the final phase of the UA Supercomputer Replacement Project including two major high performance computing systems – the June, 2008 rankings by TOP500 and Green500 set the University of Arizona’s Research Computing as the 237th most powerful computer in the world and the 50th greenest in the world in electrical usage
- Developed a shared high performance computing system model for the research community that allocates a higher priority to the partner research groups in proportion to the funding that they provide and provides funding for continued upgrades to the computing resources
- Formed the Research Computing Governance Structure
- Committed to the Kuali Coeus partnership as part of Mosaic
- Participated in iPlant and advanced Project Bamboo
- Supported the Phoenix Lander (Mars) Project through network and storage projects

Area #7 – Information Technology Strategic Alliances

Strategic Alliances are critical, particularly in tight budget time. We must nurture collaborative environments in 3 particular areas:

- Improving and formalizing communications and partnerships between central and distributed information technology areas.
- Collaborating with our sister institutions to create new and more efficient strategies for information technology, using every opportunity to partner and consolidate acquisition and provisioning of services.
- Partner with strategic vendors that bring value-added, more efficient delivery of service than we can provide ourselves.

We have 1 specific goal related to this IT Strategic Area: **Goal #9: Ensure that appropriate information technology collaborations are being utilized in the support of the mission of The University of Arizona: to improve life for the people of Arizona and beyond through education, research, creative expression and community engagement.** We have made remarkable achievements in these areas this year by:

- Enhanced the IT Governance, standards and process collaboration on campus through the IT Transformation Process, DITC Executive Steering Committee, AZFuse and partnerships between UITS and units to deliver specific projects
- Improving technological collaborations with ASU and NAU in several areas including Mosaic, Information Security, AZUN, Phoenix Bio Medical Campus, High Performance Computing and Arizona Tri-University Identity Federation
- Explored strategic partnerships vendors such as Microsoft, Apple, Cox, Qwest, EM7 and PAETEC regarding their capabilities to provide connectivity to remote locations