



**FIVE-YEAR INFORMATION TECHNOLOGY STRATEGIC PLAN
FISCAL YEARS 2008-2012**

April 23, 2008

Arizona State University Five-Year Information Technology Strategic Plan (2008-2012)

Introduction

This document presents the Strategic Plans for Arizona State University's University Technology Office (UTO) for the period 2008–2012. The plans represent the strategic priorities necessary to guide UTO in its support of the University's growth in the coming years.

ASU has a vision to become the exemplar for the New American University, measured not by who we exclude, but rather by who we include; pursuing research and discovery that benefits the public good; and assuming major responsibility for the economic, social, and vitality and health and well-being of the community.

The mission of the University Technology Office is to provide technology leadership for the New American University through the Development, Support and Operation of innovative technology solutions and services that advance learning and discovery at Arizona State University.

UTO Operations is focused on *making today as good as yesterday*. The UTO Operations team works to ensure that ASU's technology services are continuously available and reliable. The Operations team also works to ensure those services are provided as efficiently as possible and that changes to the operational environment are properly managed.

UTO Development is focused on *making tomorrow better than today*. The UTO Development team is responsible for working with all of ASU's administrative units as well as students and faculty to continually improve the information technology environment at ASU in support of university priorities.

UTO Support is focused on *providing excellent customer service every day*. The UTO Support team works to create "raving fans" of ASU's technology services by providing in-person, online, and self-service aid to ASU's students, faculty, and staff. The UTO Support Team works closely with UTO Operations and Development to make ASU's technology environment understandable and an enhancement to productivity.

This five-year plan outlines the major technology initiatives that ASU expects to undertake in support of the University's plan for 2008-2012. These initiatives will help promote student success, ensure efficient administrative operation, improve the quality of the undergraduate and graduate educational experience, advance research and creative activity, and help ensure the privacy and security of the University community.

IT Strategic Planning Climate

The information technology environment is an increasingly important element of university life. Universities around the United States and around the world are struggling to meet the growing technology expectations of their faculty and students. Existing models for delivering IT services that once propelled universities to the leading edge are now falling further and further behind the services available in the global marketplace.

Escalating Expectations

Not so long ago, a seat in the common computing lab and an email address were all most students expected from their university's technology system. Over the past decade however, the technology environment has become an increasingly important element of students' university experience. Many prospective students' first impressions of the university now come from interacting with its website to learn more about the campus, investigate majors and courses of study, and manage the stages of the application process. Today's incoming students, familiar with computers and the Internet since birth, have grown up to expect a wide range of services and information to be available electronically any time of the day or night. Most students now bring several technology devices to campus and expect them to integrate easily into the university's cyber infrastructure and to be useful to them in their studies.

The faculty, too, have increasingly high expectations for their information services. More and more instructors now use a variety of digital material to supplement yesterday's textbooks and in-class lectures. Where once a whiteboard or overhead projector was sufficient to conduct class, many instructors now expect their classrooms to be equipped with computer projection equipment to allow them to present all kinds of media as part of day-to-day instruction. Faculties' research requirements are also increasingly digital. Researchers in many disciplines—not just science and engineering—now require ever increasing amounts of compute power, bandwidth, storage, and technological expertise to compete effectively for external funding.

Increasing Pace of Innovation

While the importance of technology to the university continues to grow, universities have lost the technology leadership they once enjoyed. The vertically integrated approach that led to the first widespread use of email, administrative automation, and computer networks has been eclipsed by the rapid industrialization of information technology in the commercial and consumer sectors. The result is that vertically integrated university IT organizations are now struggling just to continue to maintain basic services, leaving little resource, time, or energy for the deep application of rapidly emerging technologies to the core activities of the university.

The unprecedented acceleration in technological advancement that marks this century offers both opportunities and challenges. The stream of new technologies will continuously enable new and better ways of communicating, creating, and synthesizing knowledge. But at the same time, the mounting pace of technological advancement will apply increasingly competitive pressure as institutions are differentially able to adapt to the escalating pace of change.

The most successful institutions will be those that are able to reap continual advantage from the power of rapidly changing technologies while effectively managing the disruption these changes inevitably bring. To advance in the face of these impending pressures, ASU must develop new strategies for rapidly and continually integrating technology into every facet of its operational structure.

Achieving More with Less

Information technology organizations in institutions, both private and public, are struggling to shift their energy and expenditures from Context to Core. Context activities are those that an institution requires but which do not distinguish it from its competitors. Core activities are those which, when improved, provide an institution with differential advantage. For a university, Core activities are those that improve teaching and learning, enhance the growth and quality of research, and attract talented students and faculty.

A typical IT enterprise spends 80% of its resource to run the operation (context) and only 20% to

improve it (core). However, some leading edge IT enterprises have been able to shift these percentages dramatically, pushing more resource into advancement by using IT simplification to continually reduce the costs of operation. ASU believes IT simplification involves the repeated application of two concepts: the *Concept of One: Do it once. Do it right. Use it everywhere* and the *Concept of Zero: Don't do it at all. Let someone bigger do it.*¹

University IT is often characterized by difference that makes no distinction. Applying the Concept of One means identifying and eliminating such differences. The simplification that results from doing things one way and doing that one way well releases resources and energy that can be put toward advancing the institution.

Beyond the Concept of One is the Concept of Zero. ASU's technology alliance strategy is an expression of this idea. When a university technology service can be replaced by one provided commercially, by a firm operating at a scale hundreds to thousands of times greater than the university can ever attain, efficiency and progress result. Large-scale technology services afford greater security, reliability, speed of innovation, and come at ever-lower cost. ASU believes such alliances are critical to maintaining an information environment that continues to meet ever-rising student and faculty expectations.

Strategic Areas, Goals, and Action Plans

AREA #1: STUDENT SUCCESS

Arizona State University is committed to student success, and led by Provost, Dr. Elizabeth Capaldi, has embarked on a broad initiative to enhance graduation rates by helping students choose majors earlier and provide them with the resources they need to successfully complete those majors.

A key component of this initiative is the deployment of a Web based information system that makes it easier for entering students to choose a major based on their interests and career goals and helps them monitor their progress against the major's "critical track"—the specific set of curricular requirements for a major, arranged in sequence, that allows a student to know exactly what to take when. As their career progresses semester by semester, the system's enhanced academic planner allows students to compare their current transcript with the "critical tracks" for other majors, to help students understand more clearly what the impact of changing majors would be. Finally, by aggregating student progress in the critical tracks, the system can do more effective enrollment planning to ensure that the required courses students need to progress will be available in the semester that they need them.

Goal #1: Complete all aspects of the eAdvisor Initiative

- **Action Plan:** ASU has embarked on a multi-year development project to integrate all of its student information systems into a single Web based experience that helps students organize their academic life. eAdvisor integrates a wide variety of ASU systems, including:
 - the Degree Audit Requirement System
 - ASU Degree Search
 - the ASU Online Catalog
 - the On-track/Off-track Reporting System
 - the Academic Alert System
 - the Current and Prospective Student Web Experiences

The eAdvisor System provides tools for students to monitor their current progress, to understand

¹ The Concept of One was originally put forward by Hossein Eslambolchi, former CIO at AT&T. Dr. Eslambolchi also formulated a Concept of Zero but it differs from the one presented here. This Concept of Zero expresses ASU's strategy but the symmetry of expression was irresistible.

the impact of major changes, and gives them guidance on how to efficiently complete their degrees. It also provides tools for academic advisors and professors that give a better understanding of a student's strengths and weaknesses and provides early warning of impending academic difficulty.

Goal #2: Implement enrollment forecasting for critical tracking courses

- **Action Plan:** Based on the information gathered from critical tracking monitoring, it is possible to make more accurate forecasts of class capacities needed to ensure that courses critical to students' graduation are available when they need them. ASU is currently developing an enrollment forecasting system that integrates with the University-wide classroom scheduling system that uses this information to enhance course scheduling to ensure course availability.

AREA #2: IT INFRASTRUCTURE

ASU seeks to create a flat, secure landscape that provides a consistently excellent technology experience no matter where in the world the user is. In a way, such an information environment can be the embodiment of the *One University in Many Places* that lies at the heart of the New American University vision. ASU strives to keep its IT infrastructure at the leading edge and ensure a highly available, low-latency, highly productive experience for all members of the ASU community.

Goal #1: Build a metro area network to link all ASU sites in the Phoenix metropolitan area with the ability to easily scale up to increasingly higher speeds

- **Action Plan:** ASU has partnered with Qwest Communications to implement a "GeoMax" metro-area ring in the Phoenix Metropolitan area. Connectivity to the ring will be provided to all major campuses and most outlying ASU locations. The first phase of the project connects the major nodes on the ring at an incremental cost of \$200,000. This phase is targeted for completion by September 2008. In the project's second phase ASU will transition all of its current connectivity needs to the ring. This phase is currently targeted for September 2009.

Goal #2: Align with a Networking services partner whose core competency is providing industry-leading networking technology

- **Action Plan:** ASU believes the best way for it to ensure that its network keeps pace with university demand is to partner with an industry leader that provides networking at a scale far larger than the University can ever attain on its own. The selected partner will ensure that network technology continues to provide ASU's community with the reliable connectivity it requires. ASU will work with its partner to converge voice and data into a single network and continue to expand and enhance wireless connectivity to that network. As new wireless technologies become available, ASU, through its partner, will be in the best position to utilize these new technologies to expand the reach of the ASU network.

ASU has piloted this partner based network arrangement at several of its facilities. Through a relationship with Qwest Communications that began in September 2005, all voice and data communications at the ASU Downtown Phoenix Campus and SkySong are supplied on a single converged network managed by Qwest. ASU is currently studying how to apply the lessons learned from this successful pilot to the other major components of the University's communications network. ASU expects to begin this transition in FY 2009.

Goal #3: Expand and enhance the High Performance Computing network across the entire enterprise to ensure access to HPC facilities from every ASU location

- **Action Plan:** ASU believes that access to high performance computing will be an increasingly important utility for researchers in a broad variety of disciplines. ASU's strategy of converging its high performance computing investments centrally has successfully met most of the needs of ASU's research community while effectively consolidating the investment in hardware and expertise to produce maximal benefit. In order for this strategy to provide benefit across the University, it is essential that researchers throughout the community have high speed access to ASU high performance computing resources as well as a high speed gateway to high performance computing capabilities "in the cloud" through Internet2 and National Lambda Rail.

Goal #4: Consolidate computer & storage systems in a few physical locations dispersed within the Phoenix Metro area to ensure secure and continuous operation of the University's information systems

- **Action Plan:** ASU is currently developing a plan to determine how best to reallocate its various hardware systems to realize improved system uptimes. ASU is also evaluating how best to upgrade these locations to ensure sufficient HVAC, UPS, Cooling, and Access Security. Network connectivity within the consolidated data centers will be behind firewalls, and data and storage will be separated. Connectivity between the consolidated data centers will be achieved via the University backbone infrastructure with a completion target of 2010.

Goal #5: Continue to consolidate data and storage to improve reliability, security, and cost

- **Action Plan:** In 2007, as an application of the Concept of One, ASU began two related projects; the first to consolidate servers within a single secure virtualized environment, the second to consolidate storage. This project relieves departments and colleges of the administrative burden involved with the management of servers and storage. Consolidating these resources is an example of the application of the Concept of One. By creating a single yet redundant environment, computing cycles and storage can be provided much more efficiently with greater security and reliability.

The centrally managed system provides for high availability, disk-to-disk backup, improved performance, and scalability. ASU is currently transitioning both centrally managed and departmental servers and storage to the consolidated environment. ASU expects to grow this environment and continue its consolidation efforts with a near completion target of FY 2010.

Once ASU has effectively consolidated 95% of its storage and server requirements, ASU will move from the Concept of One to the Concept of Zero by seeking a strategic partner to manage its consolidated services as part of a larger scale operation. ASU believes that virtualized server and storage farms operating at scales thousands of times larger than the University can achieve will emerge in the next five years. ASU expects such farms will provide computing and storage at the best cost/benefit ratio. ASU anticipates that the transition to an externally hosted service could begin as soon as FY 2012.

AREA #3: ADMINISTRATIVE EFFECTIVENESS

All of ASU's campuses share administrative systems that support the operations of the University. Three of the four major administrative systems—the Student Information System and the Human Resources Management System—were successfully replaced as a result of the OASIS Project, a two-year, \$20 million technology deployment. This project also included major enhancements to the Data Warehouse, which consolidates information from many university databases in a form that is accessible for faculty and staff to use with a variety of reporting and analysis tools. The sole remaining legacy system is ASU's Financial Information System (Advantage), which facilitates management of University finances and financial records. There are a variety of other minor administrative systems that support various University business processes; all are operated centrally.

The OASIS Project has helped ASU reverse the effect of decades of underinvestment in its administrative technology infrastructure (see independent reviewer's report at <http://tinyurl.com/235x5g>). ASU intends to continue its progress over the next five years in order to continue to increase the University's overall efficiency.

In addition to investments in its administrative systems, ASU is investing to improve the customer service it extends to students, faculty, and staff. Working with a strategic partner, ASU is moving toward a data driven strategy for continuous process improvement.

Goal #1: Ensure ongoing viability of financial transaction processing and improve the quality of financial intelligence

- **Action Plan #1:** The Moran Report on IT Collaboration (<http://tinyurl.com/3yv5tq>) from June 2007, commissioned by ABOR to review information technology at each of the Regent's Universities, found that all three universities will need a replacement financial system within the next five years. ASU's existing system, Advantage, is its last remaining mainframe application, and transitioning to a new system will eliminate the need for a mainframe (an application of the Concept of One). Replacing Advantage will require an intensive development project to translate ASU's general ledger and other financial records into a new system and will require adaptation of ASU's Data Warehouse. ASU expects this project can be completed within 12-18 months. ASU expects to initiate this project no sooner than FY 2010. ASU has not yet chosen a technology provider.

Goal #2: Increase the efficiency of the proposal development, pre-award, and post-award management sponsored research activity

- **Action Plan:** The Moran Report identified opportunities for improvement in the Universities' sponsored research management processes and systems. Management of sponsored research is mainly a manual process at all three campuses today, and undocumented workflows account for unidentified cost and resource problems.

Based on preliminary findings of an ASU university-working group made up of faculty and administrators, ASU believes that its best option may be to replace its existing system. This group has identified a range of tools and best practices that could be employed to improve the research management systems at ASU. ASU expects to issue a Request for Proposals for a research system replacement in May 2008 and subject to system selection and project approval expects to begin system implementation in FY 2009. ASU anticipates this project can be completed within 12 months.

Goal #3: Maintain the currency of the enterprise resource planning system

- **Action Plan:** In order to maintain the currency of its new human resources and student information systems as well as begin to take advantage of the flexibility of emerging Web based services architecture, ASU anticipates upgrading its PeopleSoft system from version 8.9 to version 9.1. ASU expects the 9.1 upgrade to be available in FY 2010 and believes it can complete that upgrade within a single fiscal year.

Goal #4: Reduce the cost of new technology deployment and provide tools to increase process performance and collaboration

- **Action Plan:** ASU currently has a variety of strategies deployed throughout the enterprise for the management and maintenance of distributed desktops and laptops. ASU believes significant advantage can be obtained through the application of the Concept of One to this area. Beginning FY 2009 ASU will begin studying available deployment technologies and techniques for seamless turnover of desktop and local application delivery. Based on the results of this study, ASU expects to invest in a coordinated set of new streaming and virtualization technologies with the goal of reducing the time for staff and faculty members to get information and collaborate.

Goal #5: Continue to improve customer service to increase the productivity of faculty, students, and staff

- **Action Plan #1:** Beginning in FY 2008, ASU developed a partnership with PerceptIS to extend and expand its existing support model. PerceptIS provides ASU with a 24x7x365 call center that manages support requests submitted by phone, email, and online chat. This arrangement allows ASU to better leverage the expertise of its employees through PerceptIS' proven customer support model. ASU has successfully used this new model to provide not only technical support but also began providing front line human resources support beginning in January 2008.

Over the next five years, ASU expects to continue to grow this support model with its data driven continuous process improvement mechanism to a variety of other customer support organizations within ASU.

AREA #4: IT SECURITY

A university is a place where faculty and students come together to learn and share ideas in a free and open environment. This tradition of openness and access can sometimes seem at odds with the need to create an electronic information system that protects privacy and intellectual property and prevents the unauthorized or illicit use of university resources.

However, the need to secure intellectual property and personal data and protect high availability systems from downtime incurred from security breaches is a fiduciary duty of the university and requires that continual attention to information security be a strong part of the university's culture. In so doing, we must make sure to analyze the value of the resources ASU is trying to secure before committing to a course where the cost of security grossly outweighs the benefit the University receives as a result.

In FY 2008, ASU hired its first Information Security Officer (ISO), Mr. Scott Banks. Prior to joining ASU, Mr. Banks was Senior Practice Lead at NCR, Inc., where he created information security and privacy policies, standards, and procedures for multiple Fortune 500 organizations. Over the next five years, Scott will work with the University Technology Office, the University Technology Council, and the University Network Connected Equipment Liaisons to further define ASU's official information security policy and deploy the set of standards and practices necessary to implement that policy. The ISO is responsible for incident investigation, security auditing, and enforcement of all security policies and procedures.

Goal #1: Maintain a strong risk management program through a continuous cycle of assessing and mitigating potential risks

- **Action Plan:** In FY 2009, ASU will initiate a three-year Data Protection Initiative. To begin with, all ASU data will be classified according to the level of risk its unauthorized access represents to the University. Based on the results of this data classification audit, a tiered set of data protection mechanisms will be employed to provide the level of protection appropriate to the risk associated with the exposure of any given data set. The initiative will include the installation of data and application level security firewalls and other safeguards.

Goal #2: Enhance ASU's comprehensive security awareness and training program

- **Action Plan:** Information security is a team sport. Because any machine connected to a network can be a point of attack, it is essential that the members of the University community be aware of privacy and security risks and know what steps to take to protect themselves and each other. Beginning in FY 2008, ASU has begun to enhance its security awareness training to increase the level of awareness of the ASU community and to provide this training on a more continual basis. A centerpiece of ASU's new approach will be a new year-round awareness campaign led by the Information Security Office.

Goal # 3: Ensure alignment of information security programs to ASU initiatives and the University's mission, and appropriate laws, regulations and compliance

- **Action Plan:** Beginning FY 2008 ASU has begun the development of a comprehensive information security architecture. This comprehensive design includes specification of network level, system level, and application level processes and procedures necessary to ensure information security, privacy protection, as well as efficient operation. This initiative will improve the overall network and application and system processes and procedures and will enhance the overall user experience. A benefit of this integrated architectural approach will be a deeper integration of the various services presented to ASU users and a more personalized presentation of those services.

AREA #5: ACADEMIC TECHNOLOGY

Academic technology helps ASU faculty and instructional staff maximize their effectiveness through the use of technology. ASU's University Technology Office provides resources, technical assistance, and equipment to help faculty, staff, and students with the job of teaching and learning. These support services include:

- Various elements of the ASU Learning Platform
- Classroom technology systems
- Digital library infrastructure
- Common computing resources
- Distance education support
- Mobile Learning Tools

Goal #1: Increased support for mobile personal computing

- **Action Plan:** As more and more of ASU's students bring cell phones, notebook computers and personal digital assistants to school, the computing landscape has begun to change. Increasingly, instead of common computing labs, students expect to be able to use their personal technology as important tools in their education. Over time, we anticipate this will mean a shift in how ASU addresses Academic Technology, specifically the emphasis we place on deploying common computers versus investments made to support 1:1 devices, such as Web based application deployment, higher speed wireless networks, and mobile device application deployment. Over the next five years, ASU expects see the balance of support shift away from common computing toward this more mobile support.

Goal #2: Ubiquitous classroom mediation

- **Action Plan:** ASU is in the middle of a \$2.5 million dollar project to extend basic classroom mediation to more than 100 more university classrooms. The long-term goal of this effort is to ensure that nearly all university classrooms are equipped with at least:
 - A multimedia projector and screen
 - A stereo speaker system
 - A basic instruction station
 - A media capture capability including a microphone and camera

Goal #3: Continue to advance IDEAL to extend ASU's Academic Technology Platform to P-20

- **Action Plan:** IDEAL (Integrated Data to Enhance Arizona's Learning) began as a partnership between the Arizona Department of Education and the Applied Learning Technology Institute at Arizona State University. Initiated in 2006, IDEAL has already become a statewide information resource, including:
 - A statewide, eLearning environment, with secure login access to online resources and services.
 - Standards-based curriculum resources, lesson plans, streaming video library, formative assessment test engine and quizzes, School Improvement tools and much more.
 - A learning management system that allows Arizona's educators to create collaborative planning areas.

IDEAL now serves as a single point of access for Arizona's professional development and instructional resources. As the IDEAL project continues over the next five years, ASU expects to

expand the range of services available within the environment and dramatically expand the number of registered users. New IDEAL features will include the following:

- An improved registration process and easier portal navigation
- A unified search engine for educational content aligned to grade levels, subject areas, and Arizona state standards
- Access to Google applications and iTunesU, a space devoted exclusively to education, where it's easy and safe to search for thousands of approved audio and video educational resources.

AREA #6: RESEARCH COMPUTING

The role and importance of information technology in support of research is growing rapidly at ASU and throughout the research community at large. From its roots in the service of research in engineering and the sciences, IT's importance has grown in other areas as well, either as a fundamental research tool or as a mechanism to communicate results and foster collaboration between the members of a research community.

Primary support for technology use by researchers at ASU falls to the local technical support units in the colleges and departments. For intensive technology users, this local support is sometimes supplemented by technical support funded directly by the research program itself. University support is typically confined to matching funds in support of the initial equipment procurement grant.

Driven by the needs of its research communities, ASU has invested in high performance computing, networking and high capacity storage to better support technology intensive research. The University Technology Office and the Fulton High Performance Computing Initiative (HPCI), funded by the Fulton endowment and in partnership with Dell computing, has delivered enhanced, new centralized storage and computational capabilities for researchers in a variety of disciplines.

Goal: To expand the central provisioning of "cycles, bytes, bandwidth and expertise," in support of sponsored research throughout the ASU community

- **Action Plan:** In support of this model, ASU's expects to:
 - Continue consolidation of HPC system management where practical and offer system management services where it is not
 - Continue to provide researchers with scalable access to computing cycles and storage bytes
 - Extend the high-speed research network to provide access to high speed bandwidth from anywhere at the University
 - Expand the staff of professionals who can provide a full range of high performance computing consulting and programming services.

AREA #7: STRATEGIC TECHNOLOGY ALLIANCES

Ally is not just another word for vendor. Strategic Alliance defines a new relationship between ASU and its most important technology suppliers, one that recognizes the needs and objectives of both parties. ASU needs a working relationship with private providers whose Core business is to deliver reliable, high-quality, cost effective technology services that track the state-of-the-art. In order for such a relationship to be attractive to a commercial partner, the business opportunity must be:

- Central to the firm's Core business strategy
- Of sufficient magnitude to be strategically important
- Of sufficient duration to warrant the capital investments needed to initiate, convert, or upgrade the technologies necessary to continue delivering and improving the service

The benefits of Strategic Alliance to ASU are threefold:

- **First**, ASU gains the ability to focus. Strategic Alliance allows ASU to manage its technology Context at a higher level, requiring less direct involvement by ASU personnel and leaving more time, talent and resources for the Core mission.
- **Second**, the longer-term nature of the alliance relationship allows ASU to benefit from technology investments made by private enterprise. Longer term agreements allow private firms to take greater risk on behalf of ASU because the relationship recognizes the need for a longer time horizon to allow firms to recoup value, thus allowing ASU to more effectively monetize its future.
- **Third**, by working closely with a set of trusted allies, ASU is able to benefit from the competitive position of their allies, allowing ASU's technology platform to progress at the rate of technical evolution.

Through new relationships with industry leaders like Google, Apple, Dell, Canon, CedarCrestone, CISCO, Oracle, and Qwest, ASU has accelerated its technological progress and made new, leading edge services available to its community more quickly and less expensively than previously possible.

During the next five years, ASU expects to continue to expand its current partnerships and create new alliances where benefit is apparent for both parties. ASU will seek to align with its strategic partners and develop relationships with core providers of technologies where both parties recognize the same objective and needs. This will allow ASU to manage its technology context at a higher level, requiring less direct involvement by ASU personnel and resulting in a more cost effective result while maintaining a state-of-the-art technology environment.

Goal: To identify opportunities to replace the direct provisioning of information services with externally provided services operating at larger scales.

- **Action Plan #1:** ASU currently obtains a variety of services from technology allies, including converged network services, rich media distribution capability, Web delivered productivity applications, student email and calendaring, and externally hosted administrative applications, among others. Over the next five years, ASU expects to continue to expand its relationships with its current allies and to profit from their superior rates of technological innovation and their massive economies of scale.
- **Action Plan #2:** ASU expects to investigate and develop new partnerships and relationships with other strategic technology providers as it seeks to steer its internal investments away from the direct provisioning of information technology services and toward the deep application of information technology to the core activities of teaching and research.

Link to Arizona State University's Five-Year Strategic Plan

In the University's Five-Year Strategic Plan (<http://tinyurl.com/34fxtc>), ASU identified six strategic issues that would guide the Universities growth in the period 2008-2012:

1. How to improve the quality of the undergraduate and graduate educational experience
2. How to provide access to education for a growing student population given limited financial resources
3. How to recruit and retain faculty and staff in highly competitive national and local markets during a period of diminishing resources to education for a growing student population given limited financial resources.
4. How to enhance and improve social embeddedness
5. How to serve as the only comprehensive provider of graduate and undergraduate education in a large metropolitan area while maintaining a nationally competitive research capacity and contributing to economic diversity in the Valley
6. How to ensure the necessary facilities and capacity to accommodate growth

The Strategic Areas outlined in ASU's Strategic Technology Plan are linked to these objectives in the following ways.

- ASU's technology initiatives in support of Student Success (*Area #1*) are designed to improve the quality of the educational experience (**Strategic Issue #1**) and be an efficient way to enhance the success of ASU's growing student population (**Strategic Issue #2**).
- The planned enhancements to ASU's IT Infrastructure (*Area #2*) will help create an environment that is attractive to faculty and staff (**Strategic Issue #3**) and are part of ensuring the necessary facilities and capacity to accommodate growth (**Strategic Issue #6**).
- ASU's plans to enhance Administrative Effectiveness (*Area #3*) will enhance the efficient operation of the University, helping to support growth and effectively manage limited resources (**Strategic Issues #2 and #3**).

ASU's efforts to expand its use of effective Academic Technology (*Area #5*) and expand its support for Research Computing (*Area #6*) are important components of creating an environment that is attractive to faculty (**Strategic Issue #3**), improves the quality of teaching and learning (**Strategic Area #1**) and helps advance ASU's research agenda (**Strategic Issue #5**).

Conclusion

Rapid, unpredictable technological innovation is the hallmark of our age; therefore, we can be sure that any five-year technology projection is subject to change. While the initiatives outlined above represent ASU's best projection of the principal technology directions it will pursue in the coming years, it is almost certain that some as yet unforeseen and disruptive technology will emerge during that period that will cause our plans to change.

The implementation of this strategic plan will be by several means: 1) the University Technology Office will work with the ASU Executive Committee and the ASU Office of Budget and Planning to integrate this plan with the University's strategic plan and University budgets; 2) UTO will work with the Executive Committee, the Office of the Provost, and the members of the Faculty Technology Advisory Committee to promote and review IT projects and priorities; and 3) UTO will continuously monitor and assess ASU's various technology initiatives to ensure ongoing alignment with University objectives.

Related Plans and References

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