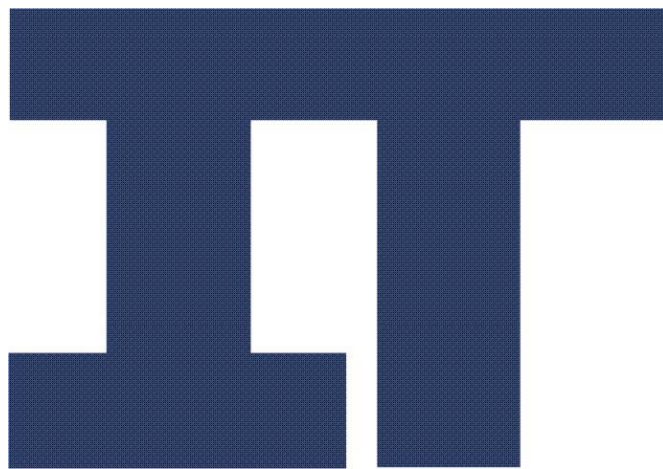




The Office of the
Vice President
for
Information Technology

Strategic Plan



UtahState
UNIVERSITY

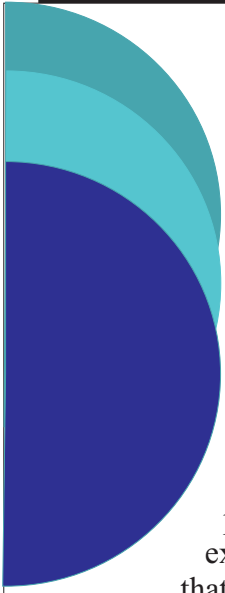


In the summer of 2005 Utah State University President Stan Albrecht created an Advisory Board for Information Technology. This Board met to lay the groundwork for a Strategic Plan that would define Information Technology for Utah State University's future. In developing and discussing the strategic plan, the Board considered three major questions for Information Technology at USU:

- Who are we?
- Where are we going?
- How do we get there?

The following document reviews the preliminary discussions of recommendations regarding actions that should be taken by Utah State University.

Strategic Planning



Viewing information technology from the end-user's perspective is the primary driver of this plan. This strategic plan sets a vision for the future of Utah State University's (USU) Information Technology (IT) and its impact on end-users. The mission statement outlines what is required to attain this vision. The values guide the process in a civil way. The environmental scan identifies present and future internal and external forces and client needs that will impact USU IT. Using this information, USU IT has responded with a strategic direction in the form of goals intended to empower, not inhibit, Office of Information Technology's (OIT) departments to serve the needs of students, faculty and staff. These goals will position USU IT as a relevant and effective organization in adding value to the educational experience at USU.

“...a strong, well articulated strategic plan for IT would be an essential step towards making those changes that would create the type of high quality and sustainable IT Services environment which a research university of this caliber must have.”

For clarification of the term “information technology” the following definitions are given pertaining to this plan:

- information technology denotes the general term used by the public and industry.
- Information Technology (IT) denotes information technology activities and processes at USU.
- Office of Information Technology (OIT) is responsible for all information technology activity within the University. This would include organization/implementation, establishing policy, procedures, and standards with input from all areas of IT.

IT, as identified in this plan, includes various functions - information technology infrastructure, telecommunications, systems, applications, databases, programming, mediated classrooms, computer labs, multimedia, instructional design, customer support and other functions within USU as identified in the Appendix (IT Functional Groupings).

An assessment of USU IT was completed by SunGard Collegis in August 2005. One of the recommendations of their report was “...that a strong, well articulated strategic plan for IT would be an essential step towards making those changes that would create the type of high quality and sustainable IT Services environment which a research university of this caliber must have.”

This strategic plan is developed through input from a broad campus-wide IT planning effort including faculty, staff, colleges, departments, and units.



Scope

This plan outlines the strategic direction for the organization/implementation, funding, governance, policy, procedures, standards, business plan, and use of all USU IT resources to improve teaching, learning, research and public service at Utah State University. This document provides the basis for operational plans that will establish the goals and objectives, responsible parties, organization, and timelines for projects, as well as the daily operation of all OIT departments. Individual operational departmental IT plans will be guided by this plan.

Mission

Information Technology provides quality, timely, secure, appropriate, innovative, and reliable information technology services to support the University's mission of learning, discovery, and engagement



Vision

Utah State University, as a state-wide multi-campus system, with the help of information technology will be internationally recognized for its exceptional learning opportunities and world-class research. Information Technology will take the lead in implementing the best technologies available so students, faculty, and staff in the USU System can be empowered to achieve the highest level of excellence in learning, discovery, and engagement while working in a safe, secure, and reliable technology environment. Information Technology will contribute to the expansion of educational access to a diverse community. We will enhance the quality of life for individuals and communities through information technology resources and capabilities.

Core Values

Information Technology at Utah State University is committed to providing environments of opportunity that value learning and discovery, individual development, leadership, diversity, and outreach and access.

1. We value the information technology needs and requirements of students, faculty, and staff at USU by providing timely and quality customer service.



2. We value employees who have the following traits:
 - open and honest in communications
 - have integrity and keep commitments
 - foster cooperation, trust, and teamwork
 - who provide leadership, initiative, and creativity
 - who have productive efforts and entrepreneurial behavior
 - shows a positive/”can do” attitude
3. We value collaborative and coordinated efforts for mutual solutions to needs and problems that incorporate best practices which save time and/or money.
4. We value and embrace the principle of central coordination and local participation.

Goals and Objectives

- I. Undergraduate and Graduate Education: Provide quality information technology experiences that develop the intellectual capacity, leadership ability, and civic awareness of all students.
 - 1.1 Recruitment and Retention.
 - a. Develop state of the art technical resources that attract students to USU.
 - 1.2 Student-Centered Learning Environment.
 - a. Ensure that every student has access to the technical resources needed to succeed.
 - b. Leverage information technology to enhance and expand interaction between faculty, staff, students, communities, institutions, and governments.
 - c. Provide innovative opportunities through information technology for students to expand their experience and education.
 - 1.3 Learning Infrastructure.
 - a. Expand and improve the use of appropriate information technology, both inside and outside the traditional classroom setting.
 - b. Ensure that students have access to technology enhanced state-of-the-art classroom, laboratory, and library facilities.
 - 1.4 Professional Development. Provide excellent professional development opportunities through mentorship, internships, and scholarships in information technology enabling our students to be highly successful in the marketplace.





1.5 Assessment. Provide innovative technology based tools and infrastructure to meet the assessment needs of each academic department.

II. Discovery: Provide the infrastructure, tools, and systems need to promote excellence in research, scholarship, and the creative and performing arts.

2.1 Collaboration. Provide information technology services which will facilitate collaborative and cooperative efforts among scholars with interests in common problems.

2.2 Program Development. Promote collaboration strategies to include information technology systems and services, i.e., high performance computing, to attract extramural funding and aggressively build university programs in proven and emerging areas.

2.3 Relevance. Encourage scholarship and partnerships in information technology through extramural funding initiatives to address pressing social, political, economic, and cultural issues.

2.4 Productivity. Develop strategies for

continuous increases in the quantity and quality of information technology people, services, and systems.

III. Engagement: Enhance involvement in outreach and collaborative partnerships with the communities we serve.

3.1 Technology. Utilize and enhance current technologies to expand information, education, and research opportunities for a global society.

3.2 Partnerships. Strengthen and build on partnerships, both within and outside USU, to meet the needs of individuals, organizations, business, industry, local and state government, as well as the global market.

IV. Economic and Social Impact: Improve economic opportunities by increasing the availability of well trained information technology personnel and their interaction with the citizens of Utah and the world.

4.1 Local Economic Development and Quality of Life. Promote economic development and quality of life for Utahns through the expansion of information technology services and



capabilities in promoting economic opportunity, and by expanding the scope of USU, including the Regional Campuses and the Innovation Campus.

4.2 Human Capital. Promote the development of information technology human capital to strengthen the labor pool of technologists for economic growth in Cache Valley and the State of Utah, and to strengthen the partnerships developed on national and international levels.

V. Access: Expand educational opportunities through information technology infrastructure, systems, and services.

5.1 Expand outreach efforts and statewide educational programs through information technology for traditional and non-traditional students.

Organization

Create an IT organization that will provide distributed information technology infrastructure, services, and support for USU.

- Document IT functions and services



provided throughout USU and compare staffing levels with peer institutions.

- Conduct an IT resource inventory (personnel, equipment, software, space, and funding).
- Strategically group IT functions.
- Coordinate IT operations and realign the IT organization (function, staffing, funding).
- Develop service-level agreements with the help of end-user organizations for all IT services.
- Establish a physical central location for the IT organization.
- Formulate and initiate a tactical transition.



Environmental Scan

The environmental scan identifies present and future internal and external forces and client needs that will impact USU IT. IT infrastructure includes physical facilities, telecommunications, backbone network, video and media productions, mediated classrooms, hardware, software, environmentally suitable machine room space, and professional staff. Core information technology services should be available to every campus entity, according to their specific needs. Specialized or advanced services must be available where

necessary to support unique departmental, college and University functions.

Internal

Strengths

The University has pockets of good information technology management. These groups demonstrate good work ethics and loyalty to each other and to USU. Employee retention rate is high.

The University has good infrastructure starting with a reliable, secure network, a new administrative system, a solid telephone system, a good Help Desk, and well-run student computer labs. Good information technology implementations occur in pockets. USU also has good connectivity through the Utah Education Network (UEN) and other network providers.

Pockets of classroom mediation and technology exist that enhance the effectiveness of teaching and learning.

There are pockets of good customer support. A willingness to listen exists and partnering occurs in some pockets.

IT is able to procure quality hardware and software at discounted prices.

The student-funded computer labs and information kiosks are well run and widely accessible.

Weaknesses

There is no strategic USU IT plan. There is a lack of IT policy in many areas, including: acceptable use, privacy, mediated classrooms, World Wide Web, e-commerce, security,

monitoring, network connectivity, wireless, and cell phones. Procedures and standards to support development of IT policy are lacking. There is no strong centrally available IT talent pool. In some areas there are deficiencies in technical training, depth of technical expertise, and cross-training. There are few upward mobility opportunities for most IT staff. The University's pay for quality IT personnel is not competitive. There are fragmented and redundant pockets of information technology systems and skills.



There is a lack of financial resources, and funding models are outdated. There is a need to reallocate existing IT resources for better alignment to USU's mission. There is a University digital divide of IT "haves" and "have-nots." There are areas of IT where significant financial and organizational challenges exist. There are some areas where customer service is deficient.

There is insufficient IT support for basic infrastructure and classrooms. There is no unified Service Desk (Help Desk) for all IT services. Some service processes are cumbersome or do not exist within the University. There is also a need for more central office space to unify IT in one area of the University.

There are insufficient service level agreements, inhibiting IT's ability to provide service.

There is unnecessary duplication of IT services which, coupled with a lack of trust, teamwork, and cooperation among technology

units, results in the erosion of existing limited resources.

External

Opportunities

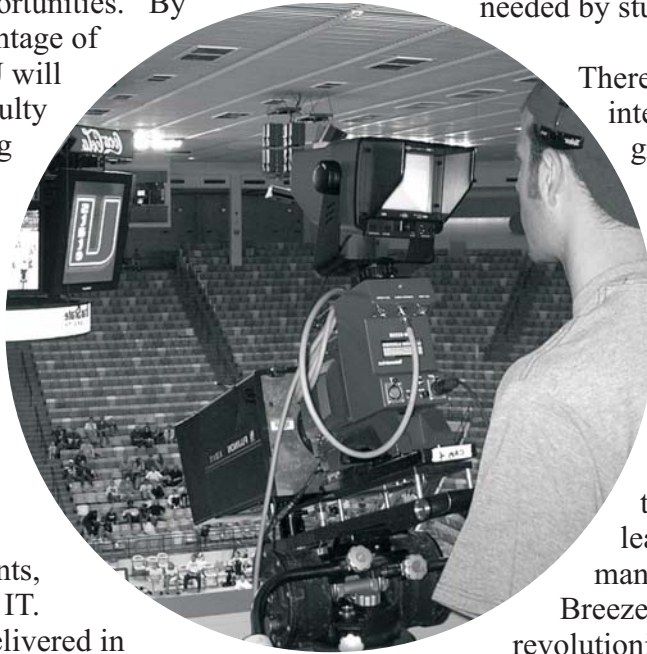
Future opportunities will develop and be made available to the extent that USU is ready to embrace changes in information technology. By correcting weaknesses and expanding strengths, the University can be positioned to be immersed in new opportunities. By being ready to take advantage of these opportunities, USU will better serve students, faculty and staff by incorporating adequate mobility, flexibility, increased communication and collaboration, and also conserve resources.

Customized and managed digital assets (including video-on-demand and on-demand learning objects) can be made available for students, faculty and staff through IT. Such resources can be delivered in new and creative ways; some examples are: unified communications involving mobile smart cell phones, podcasting, classroom management systems, voice-over-IP services, wireless connectivity, e-mail, instant messaging, and other collaboration tools.

There are great opportunities for research in the development of high-performance computing and connection to research networks.

There is the opportunity to assist in the information technology design of buildings, classrooms, kiosks, and computer labs.

There is an opportunity to improve the performance, perception, and value of IT to the University.



There are opportunities to attain one-time grants and gifts to develop special IT projects. There are opportunities to adopt a formal “best practice” central service desk approach using the Information Technology Infrastructure Library (ITIL) management framework to provide guidelines to increase the reliability and quality of service.

There is an opportunity to expand the application and use of wireless services, improving mobile access to information needed by students and others.

There is an opportunity to integrate collaboration and groupware systems, including e-mail, calendaring, and file sharing, to provide better University-wide communication, collaboration, and scheduling.

There is an opportunity to expand and integrate learning objects and course management systems such as Breeze, WebCT, etc., which will revolutionize the way faculty members teach and how students learn.

There is an opportunity to provide a University Testing Center.

Threats

Threats are challenges that could significantly weaken the ability of IT to satisfy existing needs and inhibit capitalizing on future opportunities. This plan is designed to help meet and/or avoid the threats identified.

Threats include:

- Budget cuts and the continued lack of finances.
- Non-competitive pay scales and lack of resources, making it difficult to recruit highly qualified technical people.
- Projected retirement of forty percent of the IT work force in the next four to five

years.

- Loss of faculty, research grants, and student enrollment/retention due to insufficient IT services.
- Rapid evolution of technology as well as government mandates and associated costs.
- The duplication of information technology resources on campus.
- Security breaches resulting in financial loss and damage to USU's reputation.
- Users' skills, creating expectations exceeding IT's ability to fund state-of-the-art services.
- Student and faculty needs exceeding the current financial and IT infrastructure.
- Proliferation of mobile and wireless devices straining the IT budget.



Needs Assessment

Building on past studies, organizational and individual needs assessment is an ongoing process. Early assessments focused heavily on technology and infrastructure improvements. A philosophy of viewing information technology from the end-user's perspective is the primary driver of this IT plan. This "from the outside, looking in" approach brings focus to the needs of students (prospective and existing), faculty, staff, and IT professionals. This does not eliminate the need for a focus on specific infrastructure improvements and institutional needs, but does clarify the reasons why investments and improvements should be made and new services should be developed.

Consistently, end-users have indicated that they perceive networks as extensions of their computer. They desire a seamless integration of IT resources.

Student Needs

When asked, students are ready, willing, and anxious to describe their information technology needs. Inexperienced students need and expect help in improving their

information technology skills; even technologically savvy students need training for specific applications. These training opportunities must be easy to access and readily available. They desire:

- The ability to perform all required administrative functions electronically. They do not want to stand in lines or deal with paper forms.
- Easy access to their academic status, including grades, throughout the semester.
- All of their information and service to be available 24 hours a day, 7 days a week.
- Their information to be tailored to their own individual needs.
- Their information and services to be available from home, on campuses, or when traveling, as they are highly mobile.
- The ability to easily sign up for services (e-mail, student lab access, WebCT, etc.). Services and applications must be intuitively useful.
- To reduce the number of user names and passwords that are needed to access required services.
- To easily find what they are looking for on USU's Web pages.
- Access to syllabi and course materials online, such as textbooks, lecture material, videos, etc.
- Computer or network help to be easily accessed and available around-the-clock.
- More on-line courses.
- More on-line access to research and reference resources.
- State-of-the-art mediated classrooms and multimedia services support.
- More students are entering school with laptops and other mobile devices in hand. They want to know where and how to connect (wired and wireless). There is an increasing expectation that wireless connectivity will be available everywhere.

Faculty Needs

Faculty members share many of the same needs as students. They also express additional needs:

- Core voice, video, and data services to be ubiquitously available.

- To focus on teaching and research. They want technology to support, not hinder, their goals.
- Assistance in developing electronic resources to support their academic strategies. They want to retain control of whether or not technology is applied to courses.
- Administrative systems and electronic tools to be easy to use and to provide more information.
- To incorporate more video resources and streaming into their courseware.
- Reliable, full-feature, affordable information technology services.
- Because they are collaborating more and moving more information, instructors and researchers sometimes need more bandwidth than is available.

Staff Needs

Staff members share similar needs with students and faculty. Staff members also indicate that they need:

- More and easier access to institutional databases. Many centrally provided administrative functions are shadowed to provide local control and access to information.
- Better “development” software and tools.
- To trust electronic services to the extent that they feel comfortable in reducing or eliminating common, paper-based administrative processes.
- Integrated calendaring and scheduling services that span departments and units.
- Software solutions to assist research administrators with federal compliance issues.
- Electronic access to administrative services, including Human Resources and benefits information.

IT Professional Needs

While IT professionals are also staff members, they have more specific needs which are identified in this strategic plan. They need:

- Better communication among their peers.
- Professional development and specialized

training opportunities.

- Access to centrally provided services and utilities, and the ability to control local systems and accounts.
- Assistance in improving network and systems security.
- Help in interpreting and understanding IT policies and regulations.
- Cross-training and backup support.

Institutional Needs

In addition to the above needs, Institutional needs include basic IT infrastructure and electronic services.

- There is a need for a formative evaluation, performance metrics, and ongoing assessment of existing processes and business practices to guide the development of information technology.
- There is a need to preserve the integrity of institutional data and prevent and/or reduce the creation of redundant "shadow" systems across campus.
- There is a need to prioritize which information technology services and functions (including instructional design) will be the most successful for improving operational efficiency and attracting and retaining students, faculty, and staff.
- Demand for environmentally appropriate machine space is consistently growing. Administrative, academic and research computing is constrained by space availability. There is a need for a long-term solution to the demand for machine room space.
- There is a continual need to replace aging and obsolete infrastructure and technology.
- There is a need for centralized authentication and authorization for role-based access to electronic services.



Tasks

Financial

The purpose of these financial tasks is to define, fund, and implement this plan.

- Complete an assessment of functions and

allocate resources to meet the information technology needs of the University. Analyze the total cost of operation (TCO) of each function, how it is currently funded, and how it should be funded in the future.

- Compare costs with peer institutions and *Educause* Core Data.
- Create a funding model to provide financial stability for all areas of IT.
- Fund a standards-based set of core services and support for University IT.
- Fund a physical central location for the IT infrastructure and organization.
- Generate gifts, grants and contracts to fund one-time IT projects.
- Develop an IT marketing plan.

Organization

Create an IT organization that will provide distributed information technology infrastructure, services, and support for USU.

- Document IT functions and services provided throughout USU and compare staffing levels with peer institutions.
- Conduct an IT resource inventory (personnel, equipment, software, space, and funding).
- Strategically group IT functions.
- Coordinate IT operations and realign the IT organization (function, staffing, funding).
- Develop service-level agreements with the help of end-user organizations for all IT services.
- Establish a physical central location for the IT organization.
- Formulate and initiate a tactical transition.

Policy, Procedures, and Standards

Integrated policy, procedures, and standards are key components of a successful IT strategy. IT policies must include sustainable funding strategies at all levels. Policies must provide clear identification of roles, responsibilities, and procedures. The process of establishing policy, procedures, and standards will require the involvement and approval of constituencies directly affected by these policies, procedures, and standards.

Strategy and policy development processes will be iterative and end-user focused. Strategies and policies will be developed, tested, implemented, and improved. The measure of quality will be the extent to which technology supports or hinders accomplishment of the University's mission. The result will be the implementation of communications, transactions, and information technologies to accomplish specific goals derived from the assessed needs of individuals and organizations.

Examples of policies to be created might include Security, Appropriate Use, and Classroom Technology.



Conclusion

A sound information technology infrastructure is essential to a healthy academic organization and its ability to fulfill its core missions of teaching, research, and service. Maintaining this infrastructure poses interesting organizational and operational challenges. The infrastructure is largely invisible when it is working; it has a high degree of complexity below the surface; and it must continually keep pace with new technologies. The end goal is to meet these challenges. IT must be funded and organized as a system which enables an environment that allows USU's faculty, staff, and students to effectively create, share, and communicate information to accomplish the University's mission.



Appendix

This appendix identifies functional groupings of USU IT. To simplify the terminology and provide a clear picture, the figure below follows a “transportation system” analogy with “highways,” “vehicles,” “cargo,” “drivers,” etc.

The center of the diagram, created by the overlap of all IT areas, represents existing and future IT services provided to the customer, or driver. Such services are the drivers of information technology. These services typically have individual components spread throughout IT. As an example, consider an online course management service, like WebCT, a driver. That service has information technology components that fall into specific areas on the diagram: WebCT instructional design and associated multimedia as cargo, hosted on WebCT software, databases, and servers as vehicles, transported over various pieces of the network infrastructure highway.

The Service Desk (commonly known as the Help Desk) spans all areas and represents a potential single-point-of-contact to deliver enhanced customer service with the ability to call on any and all IT functional areas in support of services and customers as required.

The greater circle represents operational areas of the Office of the Vice-President for Information Technology.

