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The FY2005 – FY2007 initiatives presented in this information technology strategic planning document are the platforms and tools that can transform and enhance teaching, learning, research, and the administrative support of faculty, staff, and students at Northwestern University and provide new opportunities. The plan defines the strategic direction of Northwestern University Information Technology (NUIT) for this three-year period. The goals respond to the needs articulated by schools, academic departments, administrative units, and University central administration to:

- Improve the administrative systems of the University
- Enhance University-wide service and information accessibility
- Advance system, network, and information security, address compliance issues, and improve the reliability of systems
- Enrich the teaching and learning experience
- Enhance collaboration through technology
- Educate the University community about the effective uses of technology

In keeping with Northwestern University’s goal to be “a university of the highest order of excellence,” NUIT must successfully keep pace with current and emerging technological advancements and provide high quality and reliable services that change and improve the way the University community works, learns, teaches, and engages in research. NUIT is committed to providing the technological capabilities to advance the stature, influence, and competitiveness of Northwestern University through collaborative planning, partnership, teamwork, and effective use of resources.

NUIT will continue to expand its collaboration with student support groups, schools, and departments, develop partnerships to explore future technology directions, and ensure that campus technology requirements are addressed. Northwestern’s technology strategies and initiatives will remain focused on supporting and enhancing teaching and learning, research, and the administration of the University.
As the University's business needs continue to change and expand, it is imperative that the administrative systems remain flexible to meet growing demand. The following initiatives concentrate on integrating existing systems into the University's systems architecture, implementing new systems that serve current and future needs, providing increased accessibility to information, and being a catalyst for changing business processes.

**Replace the current University Financial System with a more flexible, Web-based system.**

To successfully meet Northwestern's current and future business needs, a new University-wide financial system is essential. The new Financial Management System will address expanding business requirements and compliance issues, integrate with other University systems, including planned research systems, and provide improved access to information to facilitate business analysis and decision-making. It will also be a catalyst to change business processes.

**Develop and implement research administrative systems for improved University research management.**

The implementation of short-, mid-, and long-term recommendations by the Office of Research Systems Committee addresses research compliance requirements and service improvement. Robust research administration systems must be deployed to ensure regulatory compliance, improved access to information by Principal Investigators and business administrators, and the potential integration with funding agencies.

**Identify and develop technology for accessing University-wide services and information.**

Access to University information and services through a secure, user-friendly, and intuitive Web interface is a critical component in the planned enterprise systems architecture. A solution for a single, secure point of entry to accessible enterprise systems and various institutional services based on portal technologies and Web-based tools for managing information will be identified and deployed. These Web services will allow for the creation of an integrated user interface for Northwestern users to a secure and abundant range of administrative systems and coordinated services, and allow distributed authorship to Web applications.
Develop an architecture that integrates various local and support administrative systems with existing and planned University enterprise systems.

It is becoming increasingly important for all University administrative systems to share information and facilitate straightforward, secure access to that information. An enterprise systems architecture will be designed that establishes a model for University enterprise, local, and support systems integration. This architecture will enable departmental applications to be allowed authorized and secure access to central data if needed.

Develop a financial model that anticipates necessary improvements and maintenance for University-wide systems.

Ongoing system support and maintenance for enterprise systems are critical to the success of the University's mission and operations. Because of the importance of these systems, a financial model is needed that anticipates functionality demands and system upgrades, and provides budget planning. This strategy will allow Northwestern University to ensure that new features and enhancements to systems are made in response to the current and future business needs of the University and maintain system reliability.

Replace and integrate the student loan system.

Northwestern's student loan system is a highly complex, inflexible, and customized version of vendor-unsupported software. To accommodate the University's new business requirements and to meet the growing expectations of students, a new student loan system is needed. This implementation will allow for stability and integration with other administrative systems and efficient processing of loans for the University.

Develop new self-service support models that empower Northwestern users to obtain assistance with a minimum level of human interaction.

As new administrative systems are deployed, a new self-service support model is needed to provide systems users with easy and immediate access to assistance when they have questions or need quick reviews of system functions. This model may include, for example, a consolidated Help Desk or Web-based assistance.
Develop models that improve real-time access to information.

As self-service models increase users’ abilities to access information and services from University enterprise systems, users will expect to immediately view changes in information and access services once accounts have been established. Recommendations will be developed to improve processes, allowing users expedient access to the information and services they require.

Create an internal consulting group to provide project management and technical expertise to schools and departments developing local applications.

Several technical projects developed in schools, departments, and administrative units have suffered from poor project management and a lack of technical experience. The result has been inadequate or vendor-driven implementations that may not meet their program needs and may not interface with current or future University enterprise systems. A business plan will be created for an internal consulting group that will assist schools and departmental staff of the University in developing and deploying internal applications and systems.

Review University policies and procedures to provide a balanced utilization of technical resources that promote best practices of administrative systems.

Increasingly, critical deadlines and customer expectations for usage of administrative systems are competing for technical support resources. These same resources are needed to do routine maintenance and unanticipated troubleshooting. NUIT will review University policies and procedures with its administrative systems partners to determine and deploy processes that promote a more balanced utilization of resources for better University management practices.
These initiatives focus on improving the technologies that support the delivery of services to provide new functionality and mobility to the Northwestern community.

Utilize the Northwestern data network to provide telephone services for improved delivery and enhanced feature availability.

Northwestern has been actively investigating and testing solutions to provide telephone services over the data network (VoIP or Voice over IP) for the University community in the future. As migration of voice and data services by telecommunications providers and networking vendors continues to evolve, VoIP technology will result in improving service delivery and providing enhanced features while increasing reliability. Partnering with Nortel, Cisco, and SBC, Northwestern University Information Technology is performing a systematic evaluation of the technology cost, and implications for the University community.

Expand accessibility to mobile technology solutions for the University community.

Northwestern University Information Technology will continue to work with vendors to seamlessly converge mobile telephone networks and the University wireless data network. Current efforts include ongoing improvements of easy and secure access to the University's network using hand-held devices such as personal digital assistants (PDAs). The expansion of mobile technology solutions will include the further deployment of wireless networks in University buildings and residence halls, increasing information accessibility to the University community anytime, anywhere.
Secure mission-critical University information and technology resources is crucial as accessibility to these resources for Northwestern University users increases. To protect its online resources, the University requires a comprehensive approach to securing these resources and addressing compliance. This includes strategies and mechanisms for preventing, detecting, and responding to security threats and attacks. Securing mission-critical University information and technology resources becomes crucial as accessibility of these resources for Northwestern users increases. There will be increased demands for continuous reliability as access to information is available anytime, anywhere.

Implement a University-wide plan for network and information security and compliance.

A new Information Security Office will coordinate a comprehensive University architecture and deployment plan for network and information security and compliance. Central to these plans are intrusion detection, validated network access and system login, network registration to notify users about potential technical concerns regarding their computers, enforced scanning of hosts for increased protection against viruses, relocation of servers holding sensitive information to a secure location, the enhancement of identity management software, and policy development that reflects the new environment and physical security of resources. In addition, growing compliance requirements will be reviewed and appropriate plans put in place.

Develop a model for improving system reliability and performance across the University as demands increase.

Users expect systems to be accessible 24x7, despite the necessity of maintenance and upgrades. This project will develop a model for advancing system reliability that will improve performance and quality of service across University-wide systems. Examples include:

- Developing a second server center on the Chicago campus, with real-time failover for central administrative systems, will allow secondary servers to be implemented should the primary servers fail, and create available space for other University school and departmental servers.
- Installing a permanent generator replacing a portable generator arrangement at the University Datacenter.
- Developing a plan to replace the HVAC systems at the University Datacenter.

In all infrastructure areas of information technology, the focus is to provide reliable, uninterrupted service to the Northwestern community.
Northwestern University faculty provide the institutional leadership for exploring and integrating innovative approaches to teaching and learning. Northwestern University Information Technology has actively partnered with faculty by building and sustaining the technology supporting these efforts, including hardware, software, networking, and consulting services. Rapid adoption by faculty of new technologies, increased demand from academic programs, and positive student feedback on enhanced learning experiences are indicators of the significant success of this partnership. The following initiatives advance these University efforts.

**Define digital media standards and deploy a University-wide online media distribution system.**

Digital media technology, which gives users the ability to create and deliver images, sound, video and text in digital formats, has become an important tool for instruction and research. To complement the wide range of digital media services available to the University community, Northwestern University Information Technology will continue to partner with the University Library to define digital media standards and policies, and deploy a high-quality, campus-wide media distribution system. This initiative also includes the development of an asset management system for teaching and research activities that will incorporate compliance (i.e. copyright law) and aid in the management of the media being distributed. These initiatives will expand the opportunities for faculty, staff, and students to enhance their online work.

**Add features and new services to the Course Management System to provide a more flexible and robust online learning environment for Northwestern faculty and students and improve the reliability of the supporting platform with additional staff resources and equipment.**

Academic programs have continued to incorporate the Web-based learning, discussion, and class administration tools of the Course Management System (CMS) into curricula. As faculty use and explore the system’s potential, it has become clear that both the system itself and the resources it makes available must be enhanced on a continuing basis. Northwestern University Information Technology, in partnership with the University Library, is working to increase the accessibility and use of digital collections and journals accessed through the CMS. In addition, work will include continued integration of CMS with the Student Enterprise System (SES) and other University enterprise systems. The reliability of the Course Management System has increased in importance as the number of faculty and students relying on it for learning has increased. It is necessary to provide redundant electronics and grow the staff to support this critical academic system.
Expand technology-enhanced classrooms and develop more flexible learning spaces for innovation in teaching and learning activities.

With the development of learner-centered instructional technology, faculty have identified the need for more flexible classroom models which have additional technology requirements. Flexible classroom models allow the room to be configured in a variety of ways to fit particular teaching and learning styles, along with group activities. In continuing partnership with the Provost Classroom Committee, Northwestern University Information Technology plans to expand basic technology services to all central classrooms of the University. Plans also encompass development of additional flexible learning spaces for instruction, in continuing partnership with the Searle Center for Teaching Excellence. These enhancements will allow faculty and students the opportunity to create an open, adaptive, and innovative learning community.

Extend functionality of NUTV to include educational and information channels.

The highly successful NUTV initiative to bring entertainment television to undergraduate residence halls over the campus network was recognized by ACUTA (Association for Communications Technology Professionals in Higher Education) in their 2003 Institutional Excellence in Communications Technology program. Northwestern University Information Technology, in partnership with Student Affairs and the University Library, is piloting a new co-curricular channel (NUCH1) dedicated to University-related and sponsored activities. Within the scope of this strategic plan, NUTV's functionality will be expanded to enable the distribution of educational programming to the University community and the exploration of opportunities to provide and share Northwestern content with other universities, business partners, and alumni. The expansion of these services will bring important information to students' attention, increase their learning opportunities and strengthen their sense of community.
Teaching, learning, and research by predisposition favor collaboration and community building. The integration and proliferation of online collaboration tools such as videoconferencing, data sharing, and streaming media continue to advance the academic mission of the University. These same technologies are offering many powerful possibilities for improving online communication, workflow, and service delivery for the administrative areas of the University. The following initiatives will allow the University to enhance services through expanded online collaboration tools.

**Develop new collaboration and communication systems for improved information sharing.**

As documents become more available in electronic form, the need to manage collaboration efforts and information sharing becomes increasingly important. To enhance, increase, and improve communication between various University departments, committees, and work groups, Northwestern University Information Technology will explore how technologies such as groupware (software that facilitates online, interactive group communication), document management, and workflow tools may address these needs. Tools such as instant messaging and the use of online journals (BLOGs) will be examined as well to see how they may support collaboration and communication within the University.

**Develop a Knowledge Management toolset that will provide common ways to access online data for analysis and decision-making.**

As the University's electronic assets continue to expand, the need to organize and deliver current information to the University community will also continue to increase. The development of a University Knowledge Management toolset will assist in organizing and managing electronic assets, facilitate business process automation, and improve the quality of decision-making and analysis. Technologies that advance innovative University initiatives include document and management tools, data and information warehousing applications, workflow tools, information search and retrieval tools, business process automation solutions, and project collaboration tools.

**Implement a Web Content Management System across the University network.**

Northwestern University Information Technology, in partnership with University Relations, launched a project in 2003 to select and pilot an online Web Content Management System with the intent to deploy it across the University. The Content Management System standardizes Web page design and allows assigned end users throughout the University to update Web content making it possible to deliver and maintain up-to-date information more effectively.
An important strategic planning goal is educating the University community about technology-enhanced tools and systems to encourage the use of these resources in their learning, teaching, research, or administrative endeavors. The following initiatives outline innovative and effective ways of delivering information to the University community about technology and how it is enhancing Northwestern’s educational and administrative goals and objectives. Improved communications will result in opportunities for sharing information within the Information Technology organization and with those we serve.

Improve communications with customers to enhance their understanding of NUIT provided information technology product and services, as well as other information technology initiatives and issues.

Major information technology initiatives require immediate and ongoing communications with partners and customers, whether in the form of print publications, informational Web sites, online documentation, special events, or other methods. Continued emphasis on creating new and improved methods of communicating will enhance the community’s understanding of Northwestern University Information Technology’s products and services as well as help to raise awareness throughout the University community about critical issues such as security threats and proper implementation of technology on their desktops. In addition, communicating changes and advances in technology, compliance requirements and laws which affect higher education will assist our community as they plan the current and future direction of the University.

Deploy new technology training options for Northwestern University staff.

Increased deployment of complex systems and new technologies will require new skills for University “knowledge workers.” New training options, including partnerships, will be explored to assure staff are well prepared to use these systems effectively and continue to maintain their skills as the University’s systems and services evolve.
Our Mission
We are a service arm of Northwestern University dedicated to advancing its reputation, influence and competitiveness. Through the effective deployment of information technology, we support teaching, research, and the administration of the University. We are committed to innovate and improve the quality of services in a fiscally responsible manner. We collaborate efforts with other institutions and business enterprises on opportunities of mutual benefit in support of our goals. We commit to anticipate and respond to our clients’ needs. We partner with them to find and determine the appropriate solutions. In return, we ask our clients to develop the skills necessary to use and support information technology and commit their resources along with ours. We respect our employees and value their contributions. We provide them with opportunities for professional growth, job satisfaction and leadership. In return, we ask employees to support the organization’s goals, be team players with their colleagues throughout the University and be dedicated to satisfying the needs and expectations of our clients.

Our Goals
Advance Northwestern University by:
- Partnership with Academic and Administrative Units
- Technical Innovation and Service Excellence
- Reliable and Secure Systems
- Commitment to Professional Development
- Cost-Effective Use of Resources
- Strategic External Partnerships

Our Principles
- Teamwork and Mutual Respect
- Honesty and Integrity
- Dedication and Commitment