

Nebraska Information Technology Commission  
and the  
Office of the Chief Information Officer

**DRAFT**  
**Agency Information Technology Plan**  
**2008 Form**

Due: September 15, 2008

**Notes about this form:**

1. **STATUTORY REQUIREMENT.** “On or before September 15 of each even-numbered year, all state agencies, boards, and commissions shall report to the Chief Information Officer, in a format determined by the [Nebraska Information Technology Commission], an information technology plan that includes an accounting of all technology assets, including planned acquisitions and upgrades.” (Laws 2008, LB 823, §6). This document -- prepared with input from state agencies and the Technical Panel -- is the approved format for agency information technology plans.
2. **GENERAL GUIDANCE ON COMPLETING THIS FORM.** This form provides a basic format for providing the information requested. Agencies can add clarifying comments or modify the tables provided as necessary to provide the information. The agency should assume the information provided is a public record. Do not include information which would compromise your information technology security. Please indicate in the document where information is not provided for security reasons.
3. **DEADLINE.** The Agency Information Technology Plan is due on September 15, 2008.
4. **SUBMITTING THE FORM.** The completed form should be submitted as an email attachment to the Office of the CIO at: [ocio.nitc@nebraska.gov](mailto:ocio.nitc@nebraska.gov)
5. **QUESTIONS.** Contact the Office of the CIO/NITC at (402) 471-7984 or [ocio.nitc@nebraska.gov](mailto:ocio.nitc@nebraska.gov)

**Agency**

<b>University of Nebraska</b>
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## **Preface**

This document is submitted by the University of Nebraska to the Nebraska Information Technology Commission (NITC) for review by the State Chief Information Officer and pertinent state budget analysts. The university welcomes these biennial NITC reviews and exchanges, using them as an opportunity for resource coordination and further State/ partnership development.

Readers should note that the majority of the information technology project expenditures throughout our system are accomplished with previously appropriated state funds and/or non-state funds, and few IT-specific projects require the initiation of requests for new state appropriations. This document's purpose is to alert reviewers to these few major IT expenditures for planning purposes. Additionally, each individual campus report is attached at the end of this summarized University of Nebraska report.

## **I. Introduction**

The University of Nebraska continues to consistently strive for excellence in the implementation of technology projects, networks and services. Emerging technologies create new strategic opportunities. The University of Nebraska prides itself as an early adopter of new trends and new opportunities that align with our strategic missions and priorities. The existence of constant change and renewal in the Information Technology (IT) arena requires continuous priority discussions and effective decision making by the IT and institutional leadership.

The university built and maintains an advanced technology environment that supports the University of Nebraska's academic, research, community outreach and business operations efficiently and reliably. The campus Information Technology (IT) organizations focus on ensuring that students, faculty and staff are provided with the necessary tools, classrooms and network infrastructures to support learning and working experiences. The members of our community work and study with the confidence that their data is secured, that no business transactions fail, and that every digital exchange is successful.

At the University of Nebraska, information is considered to be a strategic organizational asset and continuous investments must be planned for its care and management. The economic return on new investments has proven to be rather large in the IT arena. Work place efficiencies, empowerment of individuals (elimination of 'back office' computing environs), and the deployment of totally new instructional tools (classrooms and at-a-distance) are but a few examples of the reinventing of higher education.

From a university-wide systems perspective, there are six strategic areas that have been identified for continuing investment within the university system. They are outlined below and further defined in the following pages of this introduction:

- **Student Information Systems**
- **Enterprise Financial and Human Resource System - SAP**
- **University-wide IT and Networking Infrastructure**
- **Information Security**
- **Shared Services and Partnerships**
- **Project and Portfolio Management**

### **A. Student Information System**

As outlined in the previous FY2007-2009 and this Information Technology Plan, one of the top priority information technology projects for the university is the selection and implementation of a new Student Information System (SIS).

To summarize, the current SIS for the UNL, UNK, UNO campuses, and the Nebraska State College System (NSCS) is the Sungard SIS PLUS system. This system was designed and developed in the 1970s and was implemented at UNK and UNO in the 1980s and at UNL in the early 1990s. A separate version of this system is individually operated for each university campus and state college. The University of Nebraska Medical Center (UNMC) currently operates and maintains its own custom developed system.

In February of 2007, Sungard announced the termination of support for the SIS PLUS system effective December 31<sup>st</sup>, 2011. Since the student systems includes numerous areas requiring compliance at both the federal and state level, continuing to operate the SIS PLUS system without proper and adequate vendor support is not a realistic option. The university would be placing its operation at significant risk if we do not take action to replace this key piece of infrastructure. Since implementation of a new student information system for an institution as large and complex as the University of Nebraska will require at least two to three years, it is imperative that the selection and replacement of this environment begin as soon as possible to allow adequate time to implement and test a new system while the current system is still supported.

In the summer of 2006, President Milliken asked Robyn R. Render, VP for Information Resources and Chief Information Officer at the University of North Carolina – Central Administration to review and make recommendations for strategic decisions and actions related to replacing our Student Information System. Robyn completed her report in October 2006.

Also in 2006, as a part of the Capital Construction Budget request process, the university submitted a one time funding request for a new SIS as an Infrastructure Project. In August of 2006 the university and the State College System both submitted a formal request to the Nebraska Information Technology Commission (NITC) asking for additional funding to support our two Student Information System replacement projects.

Our project proposal was reviewed by the NITC in November of 2006 using a formal evaluation and ranking process. After that review, the NITC gave the University a “tier one” recommendation (Highly Recommended – a mission critical project for the agency and/or the state). The NITC then recommended to the Governor and the Legislature that our project be funded but also strongly recommended:

- That the University of Nebraska and the State College System collaborate on these projects in the areas of data element definitions, data warehouse design, data sharing, networking, hardware, and implementation.
- That the systems should be interoperable.
- That the University of Nebraska and the State College System work closely with the NITC technical panel and provide periodic project reports to the NITC.

In 2007, additional discussion was held with the Legislative Fiscal Office, the Department of Administrative Services and the Coordinating Commission for Post-Secondary Education regarding this critical project. On December 5<sup>th</sup>, the Governor met with President Milliken and Chancellor Carpenter to strongly suggest that we will have one SIS system upon completion and the State Colleges will be integrated into the university’s SAP system to meet their financial, payroll and human resource system needs.

In May of 2007, the university and NSCS created a steering committee and began a joint effort to replace the current legacy SIS systems. The committee hired a consultant, Collegiate Project Services, to assist us in this project. The Committee developed a Request For Proposal (RFP) for the system. The University of Nebraska and the Nebraska State Colleges followed an established process to identify and prioritize features, or requirements, that each campus would like to have in a new student system. First, teams of functional and technical leaders from all seven campuses met to identify the system features that will be required. Second, members of the faculty and staff logged onto a customized web survey to rate the features that apply to

them. The resulting data was tabulated to come up with a comprehensive and prioritized database of requirements that were included in the RFP.

Subsequently, we also carried out an assessment of the “readiness” of the Nebraska University System to work together and carry out the implementation of a new SIS. As part of this process, Collegiate Project Services assessed the strengths and weaknesses of the Nebraska system on sixteen factors known to predict success in an implementation of this sort.

The university and NSCS continue this partnership today. A number of tasks have been completed including vendor reviews, evaluation and selection. Both the University Board of Regents and the Nebraska State College System Board of Trustees approved the purchase of the Oracle Peoplesoft Campus Solutions system at their respective board meetings on September 5<sup>th</sup>, 2008. The project is scheduled to begin in the fall of 2008, with the first components ready for production in 2010. We will continue to work closely with NSCS to implement the new SIS system in the most efficient and effective manner possible.

## **B. Enterprise Financial and Human Resource System - SAP**

Over the past ten years, the university has successfully implemented, maintained and enhanced the SAP system. Three major upgrades have been completed that have added significant functionality and capability to the system. Business needs and requirements have driven the steady pace of these enhancements, significantly improving and streamlining business processes at the university.

During the past biennium, the university has added additional functionality to the university SAP system, including a new management information reporting system, enhanced employee self services, travel and trip management, additional event and workflow processing, and a new business portal which provides a common, single sign-on web front-end for all SAP applications, data access and business documentation.

Over the next year and into the coming biennium, a new Budget system will be implemented, providing improved budgeting processes and management information to the university community. Additionally, as directed by Nebraska Governor Heineman, University President Milliken and NSCS Chancellor Carpenter, a joint UN/NSCS project has also been initiated to utilize the university’s SAP system for the Nebraska State College System (NSCS). The university will provide overall operational and technical assistance and hosting services to the NSCS in implementing the SAP system. This project will begin September of 2008 and includes the implementation of the financial, procurement, human resources, and payroll components of SAP for NSCS. Go live for this project is planned for July 2009. The NSCS will also go live with the new Budget system concurrently with the university.

## **C. University-wide IT and Networking Infrastructure**

The university supports a variety of different technologies for its core IT infrastructure. This includes an enterprise server supporting the university financial and human resource systems, as well as the UNO and UNL student information systems. All the campuses use and support specific platform servers of various sizes. These include Unix and Windows servers, as well as some specialized servers running proprietary applications and systems. These campus servers

support email, file/print services, web/portal services, and a variety of education related applications such as the Blackboard learning/course content servers. All of the campuses are involved in some phase of implementing server virtualization projects primarily using the VMWare platform.

In addition to the core “shared” servers hosted by the IT organizations, there are also a variety of servers hosted and housed in individual departments. The university also has two high performance super computers known as “Prairie Fire” at UNL and “Firefly” at UNO PKI. These super servers support multiple research projects from across the university.

The core of the IT infrastructure is the network which is based on fiber technology that connects roughly every university building. The network speeds vary from 100/1000 megabits per second in each building to 10 gigabits per second in some of the research and backbone connections. The desktop and server devices are also connected at these speeds. Ethernet and Internet Protocol are the common network standards in use at the university. All of the campuses support some level of wireless access.

## **D. Information Security**

The university has focused on continuing the development and implementation of an information security program that focuses on policies, practices, and procedures designed to proactively minimize the risk to university information assets.

The university’s focus in information security is in the following areas:

- Raising computer security awareness across all four campuses.
- Improving security surrounding the transfer of confidential information and reducing university-wide and campus- level reliance on social security numbers.
- Improving our ability to identify and respond to information security risks and vulnerabilities.
- Continuing to build a university-wide identity management strategy.

Efforts to improve security include the following:

- Intrusion detection and prevention to monitor for and prevent external attacks.
- Secure remote access for end users connecting to systems from external locations.
- Application Security Firewall to significantly reduce the risk to web applications.
- Network security to restrict network traffic to ensure inappropriate network traffic is blocked.
- Data monitoring for confidential data leaving the university network and unprotected data on servers across the organization.
- Vulnerability identification on servers supported by UNCSN and the campuses for security weaknesses.
- Email Security to allow secure, encrypted email to be sent to 3rd parties outside the university.
- Mobile device security for laptops and any sensitive desktops are encrypted to protect from loss or theft.

## **E. Shared Services and Partnerships**

### **University campuses and UNCSN partnerships**

As resources continue to be constrained, the University of Nebraska campuses and UNCSN have built partnerships together in offering enhanced IT support and reducing costs where possible and feasible. Services are frequently hosted by one campus, and offered to other UN campuses. CSN hosts and provides support for many critical systems and applications for the university including financial, payroll, inventory, procurement, data warehouse, student information and academic systems for the university, NSCS and community colleges throughout the state. Services range from IT server support, to networking equipment hosting, to application knowledge sharing, support and consultation.

### **State and University partnerships**

#### Network Nebraska

The University of Nebraska and State of Nebraska have created a state-wide network that includes education, telehealth and state agency components. The current education network includes approximately 200 entities (K-20) with network connections of 40 or 100 mbps. The final phase of the "LB1208" upgrade to the network will occur in July of 2009. In addition to Internet services, the network includes Internet 2, distance education support (including scheduling), "quality of service", network management and 24 hour network monitoring. The telehealth network component of Network Nebraska, includes connections to over 100 hospitals and State Health Department offices. The Nebraska Office of the CIO is responsible for the support of all State agency network sites that also operate on this network.

#### Disaster Recovery

The University of Nebraska recognizes the importance of disaster recovery (DR) and business continuity planning (COOP) and has continued to build a strong partnership with the State of Nebraska Office of the CIO. This partnership has grown over the last three years, and now includes hosted disaster recovery systems at the university for the State, as well as hardware and systems at the State CIO facility for the university.

This disaster recovery partnership effort will continue to evolve in the coming years, with the recognition that a greater geographic distance separation is needed to truly minimize the impact of a potential local disaster event. Therefore, the University of Nebraska Medical Center IT facility, located outside of a 50 mile radius of Lincoln, will be used to provide remote recovery support in the event of a disaster. Dedicated fiber has been acquired and installed to provide high speed connectivity between Lincoln and Omaha, allowing disaster recovery equipment for both the State and UNCSN to be re-located at the UNMC facility. Conversely, Omaha campuses plan to locate critical disaster recovery equipment in Lincoln later in the biennium. This DR infrastructure will provide recovery services for many critical university systems and applications used by all university campuses, as well as critical systems at the State of Nebraska. Through this partnership, both the state and university have shared knowledge and processes, and have reduced the cost of this important business requirement. Additionally, we are reviewing options to provide improved bandwidth and network redundancy to UNK for disaster recovery.



## University and NSCS partnership

The university will be working closely with the state colleges over the next several years to provide SAP services to the NSCS using the university's SAP system. This partnership will minimize costs of these services to the state colleges, while offering a better system and business process fit for the NSCS.

## F. Project and Portfolio Management

The ability for the university to successfully deliver projects on time and within budget has been shown over time, even with constrained resources. With the goal of "doing the right things" in mind, UNCSN implemented ProSight (a Portfolio Management tool) and a set of project tracking processes in 2000 to collect information about what UNCSN was accomplishing with its resources. Eight years later, UNCSN wants to integrate "doing the right things" with "doing them right," through effective project management, combined with project selection, prioritization, and adoption practices. Additionally, UNO is in the early stages of using Daptiv, a portfolio and project management system.

University stakeholders require that IT continue to improve its ability to successfully and efficiently complete projects and provide necessary services to the university. UNCSN's need for continuous improvement is imperative when considering upcoming major projects in conjunction with anticipated budget constraints, and changes due to evolving technology.

Developing an effective Project Management Office (PMO) will help UNCSN support the university's goals and UNCSN's initiatives, specifically:

- University of Nebraska's Strategic Goal #6: The University of Nebraska will be cost effective and accountable to the citizens of the state, by:
  - Ensuring that we are doing the right projects, by better aligning efforts with the university's strategic goals
  - Executing work more effectively and efficiently
  - Maximizing our resources, both funding and human capital
- CSN's initiative #4: Promote strategic organizations by developing and supporting operational and strategic planning tools and processes, by
  - Developing a standardized project and portfolio management delivery process
  - Implementing a set of tools and standards for demand and resource allocations

The PMO will serve as the source of project management for all project activity for UNCSN. The Project Management Office will:

- Ensure that time, cost, scope and quality of projects meet stakeholder requirements;
- Make more informed decisions about project prioritization;
- More efficiently utilize current resources;
- Provide customers with a single point of entry for all project requests;
- Provide leadership with timely and accurate reporting to assist in decision making,
- Support the mission and strategic initiatives of the university.

# 1. Current Assets (system-wide combined estimates)

## 1.1 Applications

### 1.1.1 Off-the-Shelf Applications

Provide an estimated number of licenses for each of the following applications:

	Estimated Number of Users/Licenses	Version(s) (Optional)
<b>Productivity Suite</b>		
Microsoft Office	35,000	Campus License agreement
WordPerfect Office	250	
OpenOffice/StarOffice		
Other (Specify)		
<b>Internet Browser</b>		
Microsoft Internet Explorer	27,000	
Firefox/Mozilla	11,000	
Safari	2000	
Other (Specify)		
<b>Desktop Antivirus</b>		
Symantec/Norton		
McAfee	21,000	University license
Other	16,000	UNL – Sophos
<b>Email and Calendaring</b>		
Microsoft Outlook/Exchange	2000	
Lotus Notes	45,000	
Other (Specify)		
<b>Instant Messaging</b>		
Lotus	500	
Jabber		
Other (Specify)	75	UNMC – Communicator
<b>Database Management (DBMS)</b>		
IBM (DB2)	1	Enterprise production database
Oracle	50	Estimated server licenses
Microsoft SQL	Unlimited	Many database licenses
AS/400		
Other (Sybase)	3	
<b>Applications Development Tools</b>		
Microsoft Visual Studio	50	
IBM Rational Application Developer		
Micro Focus COBOL		
Other (Specify)	12	UNMC – Powerbuilder Web Development Tools

### 1.1.2 Other Off-the-Shelf Applications

List other significant off-the-shelf applications utilized by the agency:

Applications	Estimated Number of User/Licenses	Version(s) (Optional)
Symantec Ghost	900	
Red Dot Web Content Management System	10	
Papervision (Document Imaging)	n/a	
T2	n/a	
CS Gold	n/a	
EMAS	n/a	
FsaAtlas	n/a	
Real Player, Quicktime, MediaPlayer	25,000	
WebFocus (ad-hoc reporting)	550	
SPSS & SAS	70	

### Other Off the Shelf Software

Application	Platform	Development Tools	Support
SAP Enterprise Resource Planning system – University-wide	z/9 Enterprise server, Unix SP complex and Intel servers.	ABAP, Java, Report writer.	SAP vendor maintenance and in house IT support staff
Blackboard Course Management - University-wide	Intel/Linux based servers	Blackboard tool set	Blackboard vendor maintenance and in house IT support staff
SunGard SCT Student Information System (SIS) – UNL, UNO, UNK	z/9 Enterprise server for UNO and UNL, UNK on HP.	Cobol, CICS, Java	Sungard SCT vendor maintenance and in house IT support staff
Talisma - UNL student recruitment system	Unix		Vendor maintenance and in house IT support staff
Darwin - UNL student	Unix		Vendor maintenance and in house IT support

degree audit system			staff
Identity Management – UNO, UNL, UNCSN	Unix, Windows	Java	Sun vendor maintenance and in house IT support staff

### 1.1.3 Custom Applications

List custom applications used by the agency, including (a) the general purpose of the application; (b) the platform on which it is running; (c) application development tools used; and (d) how the application is supported.

NU-Look Data warehouse – University wide	Intel/Windows servers	.NET, Visual Basic	In-house IS staff
Budget system – University wide	z/9 Enterprise server	Cobol, CICS, DB2	In-house IS staff
WAM - UNL web-based student self-service system	Intel/Linux	Java	In-house IS staff
NuView – UNL Admissions management	Intel/Linux	Java	In-house IS staff
Image Retrieval System – UNL	Intel/Linux	Java	In-house IS staff
Course Assessment – UNL	Intel/Linux	Java	In-house IS staff
Ncard Transaction system – UNL	Intel/Windows	.NET, C	Shared Computing Services
Facilities Project Management – UNL	Intel/Windows	.NET	Shared Computing Services
Course Curriculum Management system - UNK	Intel/Windows	PHP	In-house IS staff
Telephone Billing System - UNMC	Unix AIX	Powerbuilder & Web Development tools	In-house IS staff
SIS for UNMC	Intel	Na	In-house IS staff
Campus Business Applications - UNMC	Unix AIX	Powerbuilder & Web Development tools	In-house IS staff
Center for Continuing Education Course Management System – UNMC	Unix AIX	Powerbuilder & Web Development tools	In-house IS staff
Research Administration Applications - UNMC	Unix AIX	Powerbuilder & Web Development tools	In-house IS staff

Tracking System – UNMC	Unix AIX	Powerbuilder & Web Development tools	In-house IS staff
Faculty Records and Academic Department Info System - UNMC	Unix AIX, Intel Windows	Powerbuilder & Web Development tools	In-house IS staff
CARE (Campus Records) Web Site - UNMC	Unix AIX, Intel Windows	Powerbuilder & Web Development tools	In-house IS staff
ESS (Employee Self Service) Web Site - UNMC	Unix AIX, Intel Windows	Powerbuilder & Web Development tools	In-house IS staff
RISC (Research Infrastructure Support and Compliance Web Site - UNMC	Unix AIX, Intel Windows	Powerbuilder & Web Development tools	In-house IS staff
E-BRUNO for Students – UNO	Red Hat Linux	PHP, C, Hllapi	In-house IS staff
E-BRUNO for Faculty – UNO	Red Hat Linux	PHP, C, Hllapi	In-house IS staff
Weboffice/myfolder – web based file storage system - UNO	Windows 2003	Windows Active Directory	In-house IS staff
Datamart – UNO	Red Hat Linux	Web Focus, MySQL	In-house IS staff
Short Term Loan System – UNO	Red Hat Linux	Postgres, PHP	In-house IS staff

## 1.2 Data

### 1.2.1 Databases

List the significant databases maintained by the agency and a brief description of each.

The university uses several database systems to support the various Off the Shelf and customized applications. These include:

Financial, HR, Payroll, Procurement, inventory databases	ERP – SAP – business and operational data and services – all campuses.
Budget database	Budget system data for planning and executing budgeting processes – all campuses.
Student admissions, registration, records, billing, financial Aid, course grades, class schedules, student accounts, and housing databases	SCT Sungard Student Information System data and in-house developed databases in support of student services – UNK, UNO and UNL.
Identity Management databases	Used for university affiliated person identity authentication and authorization services – all campuses and UNCSN.
Blackboard databases	Student course enrollments and organizations/documents, and data for student and faculty services. - -all campuses.

Data warehouse and Data Mart databases	Used for all operational and management informational services including institutional research and analysis – all campuses and UNCSN.
Document imaging and management databases	Used to manage operational and electronic imaging and document storage at UNL, UNO, UNK.
Short Term loan database	Short-term student loans from the Student Accounts office at UNO.
Telephone Billing database	Tracking work orders, billings, and other related data for the UNMC, UNO and UNL telephone systems.
Campus Business databases	Tracks work order, billings, and other data for Printing and Duplicating, Mail Services, Physical Plant, ITS, and Cell phone billing - UNMC.
Continuing Education Course Management System database	Manages courses and related activities for the UNMC Center for Continuing Education - UNMC.
Research Administration databases	Grants Administration Database - tracks pending / active grants and contracts. IRB - Tracks protocols for the Institution Review Board. IACUC – Tracks protocols for the Animal Care Committee - UNMC
Faculty Records & Academic Department Information System (ADIS) database	Provides data repository for consistent faculty credentialing, improved record storage and ability to manage actions such hiring, promotion and tenure status for each faculty member - UNMC.
Tracking System database	Provides data regarding cashiering stations, parking privileges, and key assignments for staff, students, and NMC employees - UNMC.
EMAS database	Prospective students – UNK
ID Cards database	Meal plans, declining balance accounts, access control - UNK.
Library database	Card catalog/Patron data – UNK
Public Safety database	Parking permits/parking tickets – UNK

### 1.2.2 Data Exchange

List the significant electronic data exchanges your agency has with other entities.

Description	Other Entity	Purpose	Is This exchange encrypted?
University-wide EDI vendors: BioRad Dell Computers Fisher Scientific Government Connections Life Tech Linweld Office Depot Sigma Chemical VWR Scientific Travel & Transport Southwest Air Lincoln Journal Star Qiagen		University-wide contracted vendors using ERP EDI integration	Yes
EFT		Financial Aid Loans	Yes
EDE		Express Federal Student Aid Application	Yes

		ISIR Institutional Student Information Record	
Federal Government		Direct Lending, Financial Aid data transfer, and other federal reporting requirements (such as data exchange with the Clearinghouse)	Yes
State of Nebraska		Reporting and financial data exchange requirements	Yes for those containing sensitive information
Department of Education		Data for various federal and state reporting requirements	Yes for those containing sensitive information
Student transcripts		To other universities sharing student transcripts	Yes
Student directory information		Data for internal publication.	Yes
ACT data		Test information used for student information needs.	Yes
NSSE		Student sample data feeds	Yes
AACRAO		Transcript Exchange with other universities (using the EDISmart software)	Yes
AMCAS		Feeds information regarding Medicine Applicants to UNMC Tracking System.	Yes
GRE		Feeds information regarding Graduate examinations into UNMC Tracking System	Yes
TOEFL		Feeds information regarding test scores into UNMC Tracking System	Yes
Student Loan Clearinghouse		Sends information regarding students from the UNMC Tracking System to	Yes

		the Student Loan Clearinghouse	
Inbound Interfaces		Data feeds from departments including Printing and Duplicating, Mail Services, Physical Plant, Center for Continuing Education, Information Technology Services, Cashiering, Parking, Telephone Billing, and Cell Phone Billing into SAP and the data warehouse.	Yes, for sensitive information transfers
Outbound interfaces		Out going data feeds to campus specific systems, data marts and external systems.	Yes, for sensitive information transfers
JSA Technologies		Web based deposits for Cbord ID card system - UNK	No
National Student Loan Program (NSLP)		Financial Aid loan services	Yes
U.S. Department of Education		Financial Aid processing	Yes
National Student Clearinghouse		Degree and enrollment verification	Yes
U.S. Immigration and Customs Enforcement (ICE)		Student and Exchange Visitor Program (SEVP)	Yes
Dragonfly Athletics		Athletic Management System	Yes
General Revenue Corporation		Collection of past due student tuition and fees	Yes
Credit World Services		Collection of past due student tuition and fees	Yes
CashNet		Student Accounts system	Yes
Internal Revenue Service		1098 tax reporting	Yes
Various Banks		Student refunding	Yes
Data for NSLDS, CPS, NSLP, VA		Feeds with various agencies for Financial Aid data - UNK	Yes



## 1.3 Hardware

### 1.3.1 General Description of Computing Environment

Provide a general description of the elements of the computing environment in the agency (mainframe, midrange, desktop computers, thin clients, etc.).

The University of Nebraska is very diverse in terms of overall hardware and supports many platform levels and a variety of different operating systems on these platforms.

#### UNMC

UNMC's computing environment is comprised of primarily Dell and IBM servers; personal computers include primarily Dell and MacIntosh and a variety of laptops. The Citrix client is beginning to be used in some public areas such as clusters and classrooms.

#### UNK

All employees have a desktop and/or laptop computer. The majority are Windows-based, with approximately 10% Mac's.

Microsoft System Center Configuration Manager, formerly called SMS, is used for Windows patch management, software distribution, and operating system updates.

Approximately 100 servers support a variety of applications and services for campus users, including file and print services, web services, email, firewalls, and departmental applications. A few servers have been consolidated using virtualization. Network storage is available for faculty and staff. Many printers are network-based and printing in student computer labs is managed by a Pharos system, with per page printing charges.

Over 800 desktop and laptop computers are available for student use in computer labs across campus. Computer labs support basic software applications, including Web browsers and Microsoft Office, as well as specialized software for specific programs or classes.

#### UNO

Our goal is information availability whenever and wherever (24x7 access, ubiquitous/pervasive, and in real-time where appropriate). Our choice will be via industry standards, higher education best practices and using products and solutions providing lower Total Cost of Ownership (TCO) and best services to the whole campus.

This table is technical in nature and explains the technical architecture ITS will be following over the next two years.

	Legacy	Current	Future	Currently in Research
<b>Hardware/Servers</b>				

	Legacy	Current	Future	Currently in Research
Gigabit & multi-Gigabit network backbone		X	X	
Dynamic Disk Storage (SAN)				
Dell/Intel servers		X	X	
IBM RS 6000	Limited	Limited		
IBM S/390 Mainframe – Based		X	Limited	
Intel Based (PC)		X	X	
Wireless networking access		X	X	

Server Operating Systems				
Cisco router language IOS		X	X	
VMware		X	X	
IBM zOS		X	Limited	
Redhat Linux on Intel		X	X	
Microsoft 200x Server		X	X	

## UNL

Computing resources are highly distributed throughout the University of Nebraska-Lincoln. Most departments have a mix of Windows and Mac based personal computers, with a lesser number of UNIX based servers and workstations scattered around the campus. Centrally, general purpose research computing servers are provided by Information Services for anyone within UNL, while the Research Computing Facility provides access to state-of-the-art parallel processing servers for specialized research applications.

### Desktop Operating System(s)

Operating System	Approximate number of users/licenses
Windows (older versions)	5%
Windows NT	3%
Windows 2003	27%
Windows XP	40%
Linux	4%
Mac OS	18%
Other: various UNIX	3%
NOTE: percentages based on approximately 16,000 computers within UNL.	

## UNCSN

Most of the major business applications (SAP, SIS – UNL & UNO, Budget) run on an IBM Enterprise server. The SAP product is a three-tier application with the data/databases located on the Enterprise Server. SAP applications run on a midrange SP RS/6000 and the Client software runs on a desktop system.

## **Enterprise hardware platforms:**

### **IBM Business Class Enterprise Server (2096-S03 z/9)**

This server contains 24Gb of processor memory and a processor speed rating of 617 MIPS (million instructions per second, which is the older processor measurement value) and an MSU (million service units, which is a processor measurement value which was intended to replace MIPS) rating of 85 (3 general purpose engines at 28 MSU per engine). The processor supports a Parallel Sysplex divided into 4 z/OS image LPARs and 1 Internal Coupling Facility LPAR).

Several peripheral devices are attached to the z/9 Enterprise server including enterprise printers, disk, tape and communication devices. This enterprise infrastructure provides secure online access for University-Wide systems, and ensures data integrity and backs up all data. Backups are stored both on-site and off-site as required for contingency and business resumption planning.

This z/9 Enterprise server also includes support for IFL (Integrated Facility for Linux). In addition to University of Nebraska testing of 64 bit zLinux, a partnership was created with the University of Illinois to support a project with the National Center for Supercomputing Applications.

### **IBM Enterprise Storage System (2105 Direct Access Storage Device) – DASD**

The Enterprise Storage Disk System (ESS SHARK) contains 11 Terabytes of data, including production SAP and SIS for the university. Critical production data is mirrored(duplicated) to an offsite ESS Shark(NEMA) currently at the State of Nebraska's 501 Building. The NEMA disk system contains 4 Terabytes of critical production data for Disaster Recovery purposes.

### **IBM 3494 Automated Tape Library**

The IBM 3494 ATL houses ten 3590 high-speed tape drives and provides automatic mounting / dismounting of over 600 tape cartridges that are resident in the library. Each tape cartridge can hold up to 100 Gb of data for backup/restore operations. The tape mount operations are done in an average of seven seconds without any operator intervention. Additional tapes are stored in external racks adjacent to the ATL and can be loaded in when requested by system operations. Total data storage on tape cartridges maintained by UNCSN is 44 Terabytes. The entire 3590 tape inventory is about 3000 cartridges. The ATL determines which tapes to keep resident based on usage history.

### **IBM RS/6000 SP(Scalable Parallel)**

The RS/6000 SP complex supports the SAP application servers. It consists of eight processing nodes, mounted in a rack, and interconnected with a high-speed internal switch network. The nodes are identically configured and each has the following minimum characteristics: four 375 mhz processors with 8 Gb of memory, 72 Gb of disk space and gigabit Ethernet network connections. Five of the eight nodes are associated with the Production SAP Instance and have an additional 8 Gb of memory (for a total of 16 Gb) each.

In addition to the enterprise systems, the university also supports hundreds of other applications running Windows server and Reduced Instruction Set (RISC), UNIX platforms. Linux is also becoming a more prevalent operating system platform due to its cost and improved stability. A majority of the Intel servers are Dell systems.

These mid-range servers support:

- Email – Lotus Notes;
- Print, fax and file services;
- Security firewalls and virus protection services;

Course management – BlackBoard services;  
 Web and portal services;  
 Departmental applications;  
 Development, programming and testing services;  
 System and network monitoring services.

Nearly all university servers (all platforms) are connected to the university network infrastructure with either 100 mbps fast Ethernet or 1000 mbps gigabit ethernet.

### 1.3.2 Hardware Assets

Complete the following table. For “current” assets, enter the total number of each item currently owned/leased by the agency. For “planned” assets, enter an estimated number of each item at the end of the biennium on June 30, 2011.

	Current				Planned			
	Windows	Mac	Unix/Linux	Other	Windows	Mac	Linux	Other
Desktop Computers	33,000	1,200	250	30	34,500	2,000	500	
Laptop Computers	2,500	500	25		3,000	750	650	
Servers	550	5	250	10	750	5	450	

Provide a brief narrative describing the reason/rationale for any significant change in the number of planned hardware assets as compared to the number of current hardware assets. Also, provide a description of the agency’s hardware replacement cycle.

The general hardware replacement cycle for desktops, laptops and server based computers is dependent upon departmental budgets, however in general replacement is 3-6 years depending on the actual use of the device. Some heavy usage applications drive the need for more frequent replacement depending on the advances in technology. The improved functionality (time savings, etc) offsets the cost of the new equipment. Older equipment is usually rolled down to situations that require fewer resources. “Critical” applications are generally housed on equipment that is on a maintenance agreement. Some vendors only support 5 year maintenance window, while others support an extended maintenance period, however as the age of the equipment increases, the cost of the maintenance also increases. Eventually it becomes cheaper to replace the equipment with new. Additionally, we see a general trend toward the use of laptops and/or docking stations, rather than fixed desktop workstations.

The university will be installing a new Student Information System (SIS) over the next couple of years. The current SIS for UNL and UNO runs on the university enterprise z/9 server. The new SIS will run on Unix and Windows servers, thus a growth of these servers.

## 1.4 Network Environment

### 1.4.1 General Description

Provide a general description of the agency’s network environment. You may optionally include any related diagrams, etc. Also, describe any desktop management and/or LAN monitoring tools used by the agency.

The core of the university networks is built on a fiber infrastructure interconnecting almost all of the campus buildings. With multiple fibers going to each building, the network can be segregated based on the different needs inside the building. Some buildings may need plain internet/IP services while others may have a requirement for additional high bandwidth research. The network access in each building is based on a mixture of fiber (high performance), copper (typical desktop) and wireless (lower bandwidth but high mobility) media.

The typical network backbones are running at gigabit (1000 mbps) speeds, however there are some fast Ethernet backbone connections and in some of the high traffic/performance areas, there are 10 gigabit connections. Most desktops are connected at either 100 mbps or 1000 mbps depending on the requirements and support equipment available.

All of the campuses are interconnected with a minimum of multiple 100 mbps fast Ethernet connections. Some also have 1000 mbps wide area network connections. In the near future, the UNL, UNO and UNMC (and UNCA) locations will be tied together with a fiber ring that will provide additional network bandwidth between these locations. We will continue to explore additional bandwidth opportunities to the UNK campus, including fiber and/or other network topologies.

In addition to the main campuses, the university has several research centers across the state. Each research center is connected to the core university network with a 10 – 40 megabit wide area network connection. There are another 30 university sites (mostly County Extension Offices) also connected to the core network.

The UNL campus is also involved in an extremely high performance physics initiative involving a “supercollider” in Europe. This, in addition to other research activities, has created a need for multiple 10 gigabit network connections to the Great Plains Network (interconnects all the research universities in the Midwest) in Kansas City. This includes connections with Internet 2, Abilene, National Lambda Rail, as well as other national and international networks and institutions. Through this connection, all entities connected to Network Nebraska also have access to Internet 2.

**UNO** - Information Technology Services professionally manages many of the 'mission critical' computer systems on campus. These include centralized email servers, centralized file servers, campus inter- and intra-networks, including local and wide area networks, Internet and World-Wide-Web communications, application delivery systems, academic and research systems, instructional delivery systems including web-based mediums, and streaming media systems in support of the campus-wide academic mission.

The desktop management software being used is Altiris - <http://www.altiris.com/> .

The LAN monitoring tools used are:

- What's Up Gold <http://www.whatsupgold.com/>
- Tipping Point <http://www.tippingpoint.com/>
- Packateer <http://www.netequalizer.com/appe.htm>
- Foundstone <http://www.foundstone.com/us/index.asp>
- Netmri <http://www.netcordia.com/>

**UNMC** - UNMC manages the combined physical network for UNMC, The Nebraska Medical Center and UNMC Physicians. The combined network consists of 14,000+ network devices, with wide area network reaching 36 remote locations.

Most of UNMC's workstations are Intel-based systems running Microsoft Windows XP and limited Vista, with some Apple Macintosh computers running MacOS. In addition, UNMC supports approximately 140 Intel based file servers, most of which are running WIN2K operating system.

The University of Nebraska Medical Center data communications network is designed to meet the needs of the UNMC staff that require access to UNMC as well as university-wide systems and data.

The data network at the UNMC is based on local area network (LAN) and wide area network (WAN) technologies. The campus backbone is Gig Ethernet with a mix of 10 MB, 100 MB Ethernet and limited Gig Ethernet to the desktop and servers.

Remote access is via both client and clientless (web-based) VPN with two factor authentication to secured applications using a SecurID card.

UNMC employs comprehensive security measures including firewalls, traffic monitoring, intrusion prevention, internal and external scans and vulnerability assessments, and secured remote access to name a few. UNMC also has extensive security policies and procedures to comply with HIPAA, FERPA, GLBA, PCI and other regulatory requirements.

Wireless access is prevalent throughout the clinical enterprise and educational spaces.

**UNK** - The UNK campus network offers wired and wireless service throughout all campus buildings. The wiring standard is Systimax Premises Distribution System. The wireless network is a centrally managed Aruba solution offering 802.11a/b/g with 802.1x authentication and WPA2 security protocol.

A switched and routed network backbone provides gigabit Ethernet to most buildings. Multiple VLANs optimize network traffic and maintain network security. Approximately 7500 wired data jacks exist across campus. Over 850 wireless access points offer wireless service in every campus building.

Internet service is provided through the University of Nebraska. Connectivity to Lincoln is via two 100 Mbps circuits.

**UNL** - UNL's statewide computing network consists of over 16,000 computers connected to a highspeed backbone. The vast majority of computers are connected to this network through either dedicated 10Mb or 100Mb ethernet connections (dedicated means that the network capacity given to each computer is not shared by other computers).

**Networks – Server Operating System**

Indicate the network operating system(s) utilized:

Network Server Operating System	Number of server licenses
Novell Netware	1%
Windows NT	5%
Windows 2000	30%
Windows 2003	29%
Unix	10%
Linux	20%
Other: various TCP/IP Services	5%

NOTE: percentages based on approximately 800 servers within UNL.

**Network Nebraska** – The university is a major partner in the design, implementation and ongoing management of Network Nebraska. There are multiple focal points to this network. This includes the education network, telehealth network and the state agency network. The university campuses are involved in the both the education and telehealth networks, while the State Office of the CIO supports the state agency network.

The education network includes a backbone wide area network that interconnects Grand Island, Lincoln and Omaha. Any educational entity in the state is allowed to connect to this network at one of these three sites. After two phases of the project, there are currently over 200 sites connected at speeds ranging from 40 mbps to 1000 mbps. The 3<sup>rd</sup> and final phase of the LB1208 network upgrade includes the potential to add another 130+ sites to the network. These sites are mostly in southeast Nebraska, but also include Lincoln Public Schools, Omaha Public Schools, the panhandle schools and the schools in the Hastings area. Any of these sites choosing to join Network Nebraska will be added in July 2009.

There are several primary services provided by the Network Nebraska infrastructure. This includes Internet access, access to Internet 2, interactive video and streaming distance education technologies, video scheduling. Additional network services will be added in the future. Through the University and its support of Network Nebraska, we have reduced the price of Internet services from \$1,200.00 per meg 8 years ago to around \$38.00 per meg today. The education network has grown from using about 80 meg of Internet bandwidth to over 800 meg today.

The telehealth portion of Network Nebraska is known as the Nebraska State Telehealth Network (NSTN), which includes the University of Nebraska Medical Center. The network now interconnects over 100 telehealth sites including hospitals and State Health Department offices throughout Nebraska. The network is used for a variety of interactive video applications, including meetings, health consultations, and distance education. Teleradiology is a common application, as well as health alert notifications related to bioterrorism. This network is a private network only for telehealth and related uses. It does not permit access to the Internet, although there may be some requirements to connect to Internet 2.

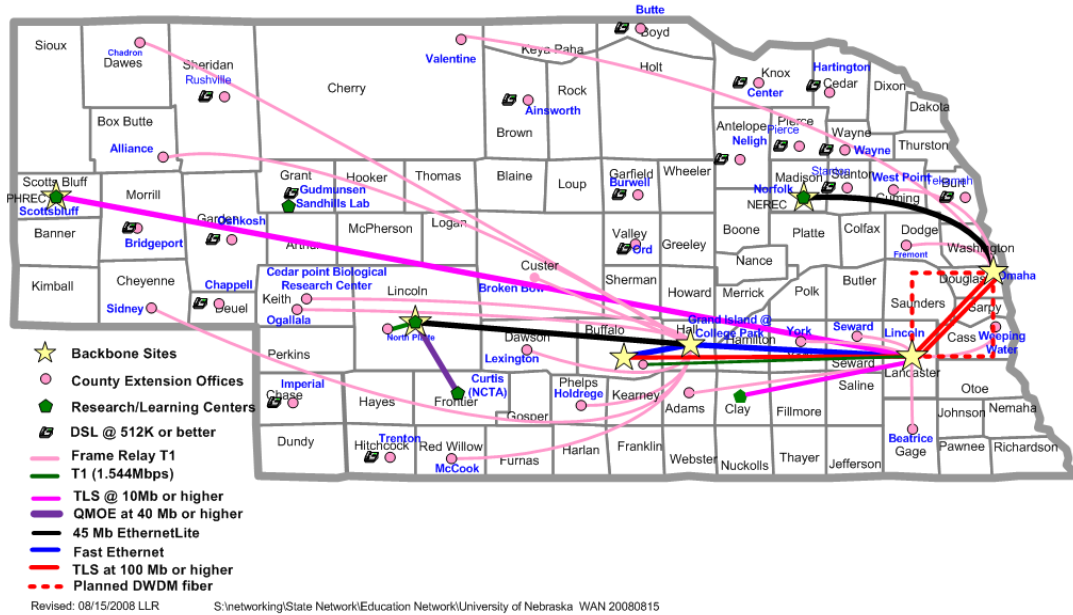
The univeristy (in partnership with the State of Nebraska) is leasing fiber network facilities between the Lincoln and Omaha Campuses. The fiber network will consist of two fibers from Nebraska Hall in Lincoln to the UNO campus and another two fibers between Nebraska Hall and the UNMC campus. In addition to these fiber connections, the university already owns fiber between the UNO and UNMC campuses. The fibers will take different paths between Omaha and Lincoln and provide a redundant fiber ring. If any piece of the fiber is cut, the network traffic should re-route in the other direction without any major interruptions.

This network will provide interconnectivity for UNO, UNMC, UNL and UNCA (and the State). The primary purpose of the fiber is to provide connections for disaster recovery equipment. UNCA (and the State) will move backup equipment to the Omaha sites. UNO and UNMC will move backup equipment to the Lincoln locations. In addition to the disaster recovery functions, this fiber will provide great network interconnections speeds for the university as well as Network Nebraska.

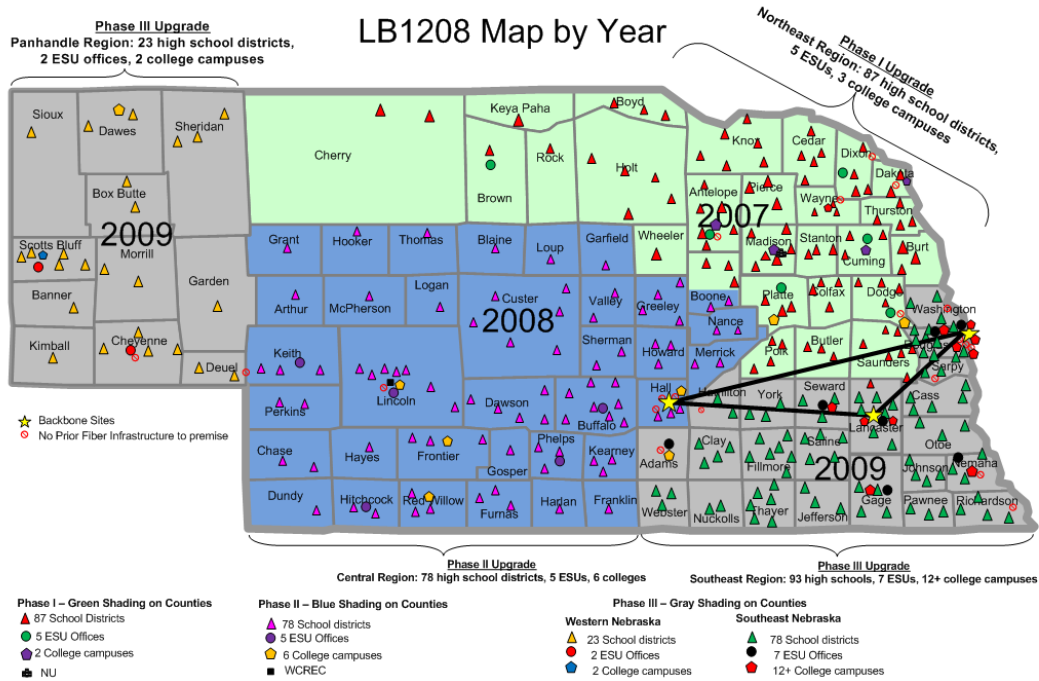
Although we do not have the facilities or funding right now, we will continue to pursue options for including high bandwidth network connections to the UNK campus. The current network facilities to UNK can be upgraded to 1000 mbps connections. The following three graphics illustrate the current University of Nebraska Wide Area Network, the Network Nebraska and the Nebraska State Telehealth network infrastructures throughout the state.

University of Nebraska Wider Area Network

# University of Nebraska WAN – August 2008



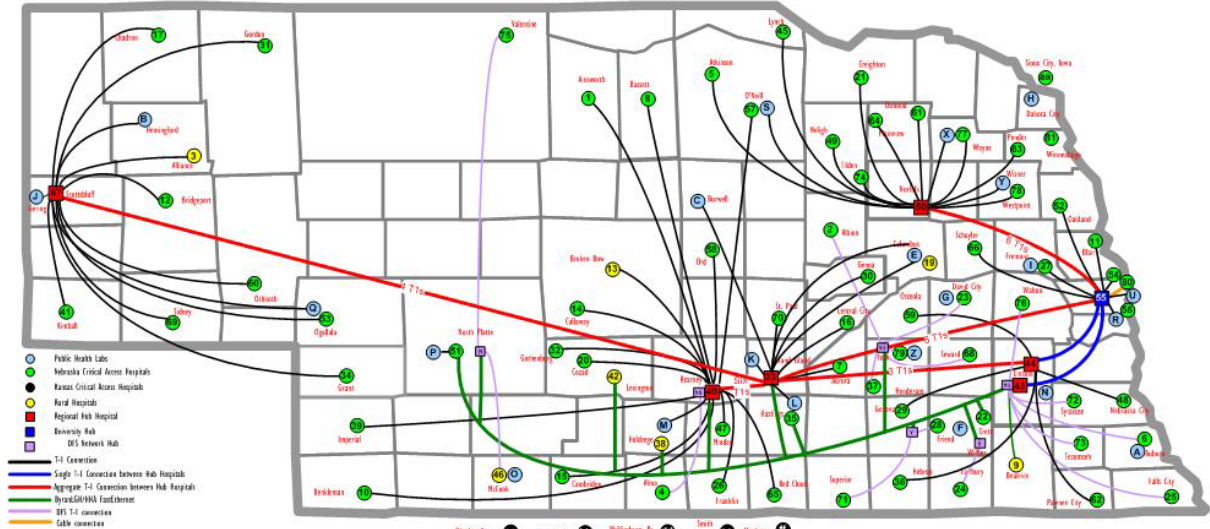
## Network Nebraska 2008





# Nebraska State Telehealth Network 2008

## Nebraska Telehealth Network



Nebraska Hospitals					
1. Almo	11. Blair	21. Creighton	31. Gordon	41. Kimball	51. O'Neill
2. Albion	12. Bendigo	22. Cretes	32. Gordon	42. Lexington	52. Ord
3. Alliance	13. Broken Bow	23. Daws City	33. Grand Island	43. Lincoln	53. Osceola
4. Alma	14. Callaway	24. Fairbury	34. Grant	44. Lincoln	54. Osceola
5. Atkinson	15. Cambridge	25. Falls City	35. Hastings	45. Lynch	55. Osceola
6. Auburn	16. Central City	26. Franklin	36. Hebron	46. McCook	56. Omaha
7. Aurora	17. Chadron	27. Fremont	37. Henderson	47. Minden	
8. Bassett	18. Columbus	28. Geneva	38. Beatrice	48. Nebraska City	
9. Benkelman	19. Council Bluffs		39. Beatrice	49. Neligh	
10. Blair	20. Corral		40. Kearney	50. Norfolk	
11. Bendigo	21. Creighton		41. Kimball	51. North Platte	
12. Broken Bow	22. Cretes		42. Lexington	52. North Platte	
13. Callaway	23. Daws City		43. Lincoln	53. North Platte	
14. Cambridge	24. Fairbury		44. Lincoln	54. North Platte	
15. Central City	25. Falls City		45. Lynch	55. North Platte	
16. Chadron	26. Franklin		46. McCook	56. North Platte	
17. Columbus	27. Fremont		47. Minden	57. North Platte	
18. Council Bluffs	28. Geneva		48. Nebraska City	58. North Platte	
19. Corral			49. Neligh	59. North Platte	
20. Creighton			50. Norfolk	60. North Platte	
21. Cretes			51. North Platte	61. North Platte	
22. Daws City			52. North Platte	62. North Platte	
23. Fairbury			53. North Platte	63. North Platte	
24. Falls City			54. North Platte	64. North Platte	
25. Franklin			55. North Platte	65. North Platte	
26. Fremont			56. North Platte	66. North Platte	
27. Geneva			57. North Platte	67. North Platte	
28. Lincoln			58. North Platte	68. North Platte	
29. Omaha			59. North Platte	69. North Platte	
30. Omaha			60. North Platte	70. North Platte	
31. Omaha			61. North Platte	71. North Platte	
32. Omaha			62. North Platte	72. North Platte	
33. Omaha			63. North Platte	73. North Platte	
34. Omaha			64. North Platte	74. North Platte	
35. Omaha			65. North Platte	75. North Platte	
36. Omaha			66. North Platte	76. North Platte	
37. Omaha			67. North Platte	77. North Platte	
38. Omaha			68. North Platte	78. North Platte	
39. Omaha			69. North Platte	79. North Platte	
40. Omaha			70. North Platte	80. North Platte	
41. Omaha			71. North Platte	81. North Platte	
42. Omaha			72. North Platte	82. North Platte	
43. Omaha			73. North Platte	83. North Platte	
44. Omaha			74. North Platte	84. North Platte	
45. Omaha			75. North Platte	85. North Platte	
46. Omaha			76. North Platte	86. North Platte	
47. Omaha			77. North Platte	87. North Platte	
48. Omaha			78. North Platte	88. North Platte	
49. Omaha			79. North Platte	89. North Platte	
50. Omaha			80. North Platte	90. North Platte	

Nebraska Public Health Depts.	
A. Auburn	Southeast District Health Dept.
B. Blair	Panhandle Public Health Dept.
C. Burwell	Loup Basin Public Health Dept.
D. Columbus	Public Health Solutions
E. Crete	Butler County Health Dept.
F. David City	Dakota County Health Dept.
G. Fremont	Three Rivers Health Dept.
H. Grand Island	Scotts Bluff County Health Dept.
I. Hastings	Central District Health Dept.
J. Kearney	South Heartland District Health Dept.
K. Lincoln	Two Rivers Public Health Dept.
L. McCook	Lincoln-Lancaster County Health Dept.
M. Neligh	Red Willow County Health Dept.
N. North Platte	West Central District Health Dept.
O. Omaha	Sandhills District Health Dept.
P. Ogalala	Douglas County Health Dept.
Q. Ogallala	North Central District Health Dept.
R. Ord	Sarpy/Cass Dept. of Health and Wellness
S. Osceola	Elk Horn Logan Valley Public Health Dept.
T. Pawnee	Four Corners Health Dept.
U. Plattsmouth	
V. York	

### 1.4.2 Network Devices

Complete the following table. For "current" devices, enter the total number of each item currently owned/leased by the agency. For "planned" devices, enter an estimated number of each item at the end of the biennium on June 30, 2011.

	Current	Planned
Firewalls (Hardware)	42	56
Wireless Access Points	1,627	2,209
Video Cameras (USB)*	59	70
IP Phones**	345	590
POP Servers	5	5
Web Servers	90	100
Windows 2003	34***	
Red Hat Linus	35****	
Application Delivery (e.g. Citrix, Terminal Services servers)	1 – citrix	1 – citrix
(Specify)	2 – proxy	4 - proxy

Remote Desktop Connection (UNO)	80	
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\*UNO has many video cameras across the campus to enhance security and will continue to add in the appropriate places.

\*\* UNO ITS is currently testing the use of VOIP. The UNO Telecommunications department has set up VOIP for the Chili Greens location.

\*\*\* UNO This only includes ITS-owned & operated systems and 18 of the 34 are running on VMWare

\*\*\*\* UNO This only includes ITS-owned & operated systems and 29 of the 35 are running on VMWare

Provide a brief narrative describing the reason/rationale for any significant change in the number of planned devices as compared to the number of current devices.

The university will continue to improve and expand network access via wireless technologies by continuing to add “access points” around the campuses. This includes some support for changing technologies that may require additional access points to support the same area.

Expansion of IP phones will continue as we expand the Voice over IP services offered at each campus. Network improvements as well as building additions/improvements will help drive some of these new numbers.

UNO - With the physical expansion of the UNO campus to the south (Pacific and Center streets) the expansion of all IT services will be impacted and we are involved in the planning of this growth. On average there has been a 10% expansion of web servers, but with our use of VMWare this growth may change.

UNK – The University of Nebraska at Kearney offers wireless service in all buildings. As two new residence halls are completed and an addition to the Bruner Hall of Science is constructed, the number of wireless access points will increase by approximately 50 in the next two years.

## 2. Staff and Training

### 2.1 Staff and Related Support Personnel

Identify staffing necessary to maintain your current IT environment, including contractor and OCIO staff supporting your agency specific environment.

IT staff in campus and system IT offices	Approximate FTE
Agency IT Staff	365.5
Contractors	Periodic use
OCIO Staff	1

### 2.2 IT Related Training

Summarize the agency's efforts to address training needs relating to information technology, including training for IT staff and users.

### **Information Technology Training**

The growth of technology innovation and usage on our campuses during the past 10 years has had significant implications for information technology training staff. Levels of computer competency vary considerably from campus to campus, department to department, and individual to individual. Common information technology training challenges facing our campus IT departments include:

- Developing and offering a variety of training programs that meet the diverse technology needs of students, staff, and faculty.
- Providing on demand and just-in-time training to increase productivity levels, understanding of software applications, knowledge of the Internet, web and multimedia design skills.
- Keeping current and up-to-date with the multitude of new courseware.
- Aligning training programs to the needs and work of departments, campus communities and end users.
- Providing high quality, cost-effective information technology training.

### **UNO**

Summarize the agency's efforts to address training needs relating to information technology, including training for IT staff and users.

Yearly performance reviews require ITS employees in conjunction with their manager work on personal development plans that includes training requirements. Employees receive \$250 a year to supplement their personnel development plans. This money is used to contribute toward attending conferences, join national technical organizations, and subscribe to technology journals, or purchase books or tools that support new skill development. Training activities include:

- All staff has attended local and national conferences and belongs to national technology associations.
- ITS API staff utilizes a course development model that includes presenting new technology training courses to ITS staff prior to offering them to the campus. This process provides the ITS instructor with the opportunity to practice and ITS staff with the opportunity to learn about new technology.
- ITS ADIS staff attended 10 days of Sun Identity Management training.
- Each year ITS participates in NU tech day, a system-wide one day workshop for technology professionals.
- In the last year, the focus of training has been on project management. The newly developed ITS office of project management has developed and implemented extensive training for senior staff, project management champions and the staff at large.

Technology training for the campus community consists of formal presentations about upgrades of campus supported software such as Microsoft 2007, new applications such as the UNO ePortfolio system used for faculty and staff annual performance appraisals or the campus webpage template, and new instructional technologies such as clickers. Additionally, ITS staff provides small group and individual training upon request.

### **UNMC**

UNMC Information Technology Services provides professional development opportunities for staff in the form of local, regional and national conferences. Each year ITS staff participate in local conferences such as Infotec. Regional and national conferences include trends and technologies in voice

communications, Lotus Notes, web technologies, distance education, telemedicine, security and networking, data center management, and video conferencing. ITS leaders also attend conferences such as Educause, Educomm, Chronicle of Higher Education and Gartner Group that focus on technology trends/issues for academic health science centers.

ITS provides training opportunities for users through on-site ITS training opportunities on the Microsoft suite, Lotus Notes, and PC basics. There are also CD tutorials that can be checked out for independent learning.

## **UNK**

Training needs for ITS staff are addressed on an as-needed basis and are limited by budget constraints. End-user training on a variety of topics is offered by the ITS Training Manager. Training is available for groups and for individuals.

## **UNCSN**

An important objective of UNCSN is to become a more process oriented, customer focused organization. Our plan is to cultivate a service-oriented culture, emphasize customer service, and bridge the communication gap between users and our organization. The Customer Support Team seeks to build relationships with our customers, identify customer categories, and capture usage and customer satisfaction data. The Team also supports the delivery of training, documentation, communications, and helpdesk services for all university-wide applications and UNCA activities.

Specific training goals are to:

- Build relationships with customers that ensure the provision of information technology solutions.
- Establish shared work approaches to provide increased productivity.
- Deliver and expand the audience for UNCSN products and services.
- Realize value by assisting customers in implementing products and services.
- Assist in identifying and reducing redundancy of our products.
- Advertise and improve efficiency and customer service.
- Promote the effective use of recommended products and services.
- Identify who is our customer.
- Identify and categorize our products and relate those components to customers.
- Capture application usage information.
- Determine ways to measure customer satisfaction with products and services.

UNCSN has developed multiple computer-based training modules for university-wide administrative systems (SAP, Employee Self-Service, mynlookup, and Lotus Notes). Various technology and delivery methods include computer-based training modules, numerous quick clips, and short video versions containing common user systems tips to provide easy access to all end users. Recently, UNCSN added the ability for an employee to access online training tutorials directly from the SAP system. Employees have the ability to work in SAP and have the training tutorial open in a separate window as an additional reference tool. The synchronization of an open application and an online training tutorial is an effective resource for employees who may require additional help to do their jobs efficiently.

Client surveys indicated a need for more computer-based training to allow cost and time savings for campus staff. Online learning has proved to be an effective means of training employees to do specific tasks correctly because it is an on-demand demonstration of the actual task. Employees learn at their desk and at their own pace instead of waiting on a scheduled in-person class.

SAPPHIRE (SAP Learning and User Guide Online) was developed by the University of Nebraska and is a tool designed to support training with our SAP system. SAPPHIRE is a personnel support system

dedicated to providing university employees the information they need on a just-in-time basis. Information can be anything that assists an end user with completing his or her job, including business forms, transaction scripts, news articles, and computer based training.

Nulook Help is the online help system for nulook data warehouse containing views of financial, student and budget information. Nulook Help is the central repository for documentation, data dictionary, security administrator lookup, news, training registration, FAQ's, downloads, and other information related to Nulook.

IT staff training at UNCSN includes a variety of methods used to increase staff knowledge and expertise levels. In addition to staying active in national product "user groups" (Educause, SAP, etc.), staff attend specific product classes on an as needed basis (SQL, JAVA, MS .NET, Active Directory, etc). Employees also have the opportunity to become vendor certified for improved expertise. This is particularly true for the Microsoft, Cisco and Lotus Notes environments.

In the interest of cost efficiency, UNCSN has brought vendor experts in to teach classes on a university-wide basis. This allows a greater number of staff to be trained on topics that are common across the university. UNCSN continually needs to provide training for our staff. Most notable areas are:

- Advanced Networking
- Security
- Advanced ABAP and Web technologies for SAP
- JAVA and MS .NET technologies for Data warehousing and Identity Management
- ORACLE (with the advent of the new Student Information System)

### 3. Survey (combined University response)

	Yes	No	In Progress	Not Applicable
<b>3.1 Security</b> - Please answer the following questions regarding your agency's efforts to maintain a secure information technology environment. [The questions refer to the Nebraska Information Technology Commission's Security Policies. These policies are available at <a href="http://nitc.ne.gov/standards/">http://nitc.ne.gov/standards/</a> ]				
Has your agency implemented the NITC's Security Policies?	X	X (UNK)		X (UNMC & UNO)
Has your agency implemented other security policies?	X			
If your answer to the previous question is YES, please list the other security policies. List: University Policies established by University CIO Office UNK: <a href="http://www.unk.edu/offices/its/policies/index.php?id=857">http://www.unk.edu/offices/its/policies/index.php?id=857</a> UNMC: HIPAA, SANS, PCI and other health care regulatory security policies and procedures UNO: <ul style="list-style-type: none"> <li>• University of Nebraska <a href="#">Executive Memorandum No. 16</a></li> <li>• <a href="#">Data Inventory Project</a> related to Nebraska State Law LB876[1]</li> <li>• Data and Privacy policy</li> <li>• PCI Policies (in progress)</li> </ul>	X X  X X X		X X X	
<b>3.2 Disaster Recovery and Business Continuity</b> - For purposes of this				

document, the term "Disaster Recovery Plan" refers to preparations for restoring information technology systems following a major disruption.				
Does your agency have a disaster recovery plan?	X		X (UNMC)	
If your answer to the previous question is YES, have you tested your disaster recovery plan?	X	X (UNK)	X (UNMC)	
If your answer to the previous question is YES, have you revised your disaster recovery plan based on the results of your test?	X			
Does your agency perform regular back-ups of important agency data?	X			
If your answer to the previous questions is YES, does your agency maintain off-site storage of back-up data?	X			
<b>3.3 Accessibility / Assistive Technology</b>				
Does your agency include the Nebraska Technology Access Clause in contracts for information technology purchases? (See Neb. Rev. Stat. § 73-205. The Technology Access Clause is posted at <a href="http://nitc.ne.gov/standards/">http://nitc.ne.gov/standards/</a> ) <b>* The university uses the following statement when creating purchase order's: "The seller agrees to comply with LB352, Nebraska Technology Access Standards to ensure that the needs of Nebraskans with disabilities are met through reasonable accommodation of the information technology products and services of the state."</b>	X*			
Does your agency have procedures in place to identify the information technology related requirements of users with disabilities?	X			
Does your agency provide training opportunities for management, procurement, and technical personnel on how to meet the accessibility needs of users with disabilities?	X			
Has your agency evaluated its website(s) to ensure accessibility to all persons with disabilities?  If yes, what tools were used to evaluate accessibility? x__ <a href="http://www.w3.org/WAI/ER/existingtools.html">http://www.w3.org/WAI/ER/existingtools.html</a> x__ <a href="http://www.vischeck.com/">http://www.vischeck.com/</a> x__ <a href="http://www.henterjoyce.com/fs_downloads/jaws_form.asp">http://www.henterjoyce.com/fs_downloads/jaws_form.asp</a> x__ Other (please specify: Manual audit <a href="http://www.contentquality.com/">http://www.contentquality.com/</a> <a href="http://colorfilter.wickline.org/">http://colorfilter.wickline.org/</a> <a href="http://validator.w3.org/">http://validator.w3.org/</a> <a href="http://jigsaw.w3.org/css-validator/">http://jigsaw.w3.org/css-validator/</a> <i>Bobby and Watchfire for portions of the web site</i>	X*        X			
<b>* If departments and colleges use the UNO template designed, they are updated and supported by the ITS department.</b>				
<b>3.4 Geographic Information System (GIS)</b>				
Does your agency have plans, over the next biennium, for the development and/or acquisition of GIS/geospatial data or web-based systems to display or make accessible this type of data that is estimated to cost more than \$25,000?	X (UNO)			
<i>If your answer to the previous question is YES, please provide a brief description:</i>				
<ul style="list-style-type: none"> <li>The Cartography &amp; GIS Laboratory has been recognized as an ESRI certified training facility.</li> </ul>				

<ul style="list-style-type: none"> <li>• The Remote Sensing and GIS Applications Laboratory (RSAL) is a sophisticated computational facility, which facilitates instruction and research. Research projects involve remote sensing, geographic information systems (GIS) technology, environmental modeling, terrestrial monitoring, artificial intelligence, software and algorithm development, virtual reality simulations, and scientific visualization.</li> <li>• UNO certificate in GIScience. The curriculum stresses spatial theory, oral and written communication, computer experience, problem-solving skills, and GIS industry experience.</li> <li>• The University of Nebraska at Omaha is host to the Global Land Ice Measurements from Space (GLIMS) Regional Center (RC) for Southwest Asia, which includes the Hindu Kush and western Himalaya mountains of Afghanistan and Pakistan. (<a href="http://avalon.unomaha.edu/glims/">http://avalon.unomaha.edu/glims/</a>) The International GLIMS project is a global consortium of universities and research institutes, coordinated by the University of Arizona, whose purpose is to assess and monitor the Earth's glaciers from space for better resource management and planning.</li> <li>• The University of Nebraska Foundation recently funded center for Public Health Informatics (CPHI). This center will provide access to a think tank of UNO/UNMC IT, GIS and Public Health researchers and experts. This group will provide assistance on how IT and GIS capabilities can be used to integrate, visualize, analyze, and disseminate public health information and further research.</li> <li>•</li> </ul>				
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#### 4.1 Projects Currently Active

List current IT projects, including a description of the project, the current project status, projected completion date and costs.

Project Title	Current Status (status; completion date)	FY2008-09 Costs	Total Project Cost
<b>General University wide Projects</b>			
<b>University Networking Upgrades</b> Upgrade Lincoln Core routers Add Firewall at State/Varner	In-progress; Dec 2008  In-progress; June 2009  In-progress; Dec 2008	50,000    50,000	300,000 2,000,000 125,000
<b>Security Projects</b> Detection / Prevention System Implementation	Planned; Dec 2008	NA	
<b>PMO Development</b> Develop and staff a Project Management Office (establishing methodology, standards and tools) for CSN.	In-progress; Dec 2008	217,000	25,000

<b>University of Nebraska Identity Management – phase 1</b>	In-progress; Dec 2008	115,000	250,000
<b>Disaster Recovery Project</b> Disaster Recovery Fiber Ring	In-progress; Nov 2008	50,000	NA
<b>University Wide IT Infrastructure initiatives -</b>  <b>Research Fiber Networks</b> - Upgrading all facilities and networks including connections to Internet 2 and the National Lambda Rail research communities is in progress. The University of Nebraska's future in high end research is dependent on the availability of this high speed fiber access.  <b>Campus Digital Network Upgrades</b> – Upgrade of campus digital networks to support greater research and academic initiatives  <b>Security</b> – Continued upgrade of campus security. Includes firewalls, wireless protection, staffing to support increased awareness.  <b>General Purpose Classrooms</b> – Upgrade campus classrooms with computer and projection equipment	In-Progress	\$ 821,400  Est \$350,000  Est \$440,000  Est \$300,000	Approx \$5,400,000 over five years
<b>SAP Projects</b>			
SAP Budget System Implementation – Budget Control System - Phase 1	In-progress; July 2009	\$15,000 (CSN portion)	
NSCS State Colleges – SAP Implementation Planning	In-progress; Sept 2008	\$10,000 (CSN portion)	
<b>Student System Projects</b>			
<b>Planning and vendor selection of New Student Information System</b> – Continue selection process of a new Student Information System during FY07-08 for the replacement of the university student information systems.	In-progress; Sept 2008	NA	

#### 4.2 Projects Planned to be Started in FY2008-2009

List IT projects that are planned to start before the end of the current fiscal year which were not listed in the previous section.

(currently budgeted):

Project Title	Current Status (status; completion date)	FY2008-09 Costs	Total Project Cost



<b>New SIS Implementation</b>	2010	<b>NA</b>	<b>NA</b>
<b>Computer Center Fire Suppression Replacement (UNCSN)</b>	Spring 2009	\$70,000	
<b>Computing Center HVAC Upgrade (UNCSN)</b>	Spring 2009	\$170,000	
<b>Disaster Recovery: CBU Acquisition (UNCSN)</b>	Winter 2009	\$130,000	
<b>SAP Application Server/Storage Upgrade (UNCSN)</b>	Spring 2009	\$325,000	
<b>Identity Management – Phase 2 (UNCSN)</b>		\$130,000	
<b>Collaboration Tools Implementation (UNCSN)</b>	Fall 2008	\$100,000	
<b>Network Architecture Plan development (UNCSN)</b>	Sept 2008	\$31,000	
<b>Network Monitoring &amp; Management Tool Implementation (UNCSN)</b>	Spring 2009	\$100,000 (CSN portion)	
<b>System Configuration Management (UNCSN)</b>	Spring 2009	\$117,000	
<b>Technical Change Management (UNCSN)</b>	Spring 2009	\$61,000	
<b>Web content management system – to include Web 2.0 technology (IANR)</b>	Fall 2008	NA	
<b>SAN – Vmware ESX architecture (IANR)</b>	Fall 2008	NA	

#### 4.3 Projects Planned for the FY2009-2011 Biennium

List IT project planned for the next biennium. (Note: If funding for a project has been requested and an IT Project Proposal entered in the Nebraska Budget Request and Reporting System, you only need to list the project title and note that it is included in the agency budget request.)

Campus and university IT in the next biennium are likely to be heavily influenced by the implementation of the new student information system across the university system. Such systems are the core academic business processes of a campus and tend to affect the overall direction and technical architecture of the institution. In September of 2008, the university and NSCS selected Oracle Peoplesoft Campus Solutions as the new SIS. The Oracle database and underlying tools and technology will become core to the IT operations of the campuses for development of SIS interfaces to other campus systems as well as for future application development.

In addition, the unprecedented campus physical expansion and renovations planned in the next two years similarly mandate re-thinking overall campus infrastructure on a new scale. For example, this may include campus network re-design with consideration of a fiber ring from the Dodge Campus to the Center Campus to assure appropriate business continuity at UNO. Another factor contributing to network infrastructure design is ongoing convergence of voice, video and data applications on the IP-based network as well as ubiquitous wireless access that includes a variety of mobile devices.

In response to environmental sustainability, limited capital resources and staffing limitations, both campus and system office IT are in the process of re-inventing the campus data centers. Server virtualization is achieving significant savings in electrical costs, server hardware expenses, and system administration costs. Elimination of major system printing through an output management system and electronic system distribution of output allows the elimination of larger system printers, their associated electrical and maintenance costs as well as paper and other supplies. These steps allow the data centers to be managed exclusively by the systems administration staff with minimal or no computer operators. Further work in the “greening” of the data center will continue to produce similar benefits in the next two years.

Regulatory mandates as well as best practice diligence triggers continued attention to data security and privacy concerns. While much has been done to address these issues, it is ongoing and dynamic in ways that will continue to make it a priority into the foreseeable future. One of the attendant issues is identity

management. The university has purchased the Sun Identity Management system, which will continue to be implemented and refined over the next two years. Continuity Planning will be further enhanced by the virtualization of alternative site operations.

The Academic Partnership for Instruction (API), a division of UNO ITS continues to provide strategic and operational support to distance education and to dedicate efforts in integrating emerging technologies with innovative pedagogy, assessment and instructional design for individual faculty and campus organizations including the Center for Faculty Development, Teaching Circles, the University Committee for the Advancement of Teaching, the Faculty Senate Educational and Resources and Services Committee, and the Distance Education Advisory Committee.

The increasing viability of Software as a Service and the potential for aspects of infrastructure as a service will play a role in future IT acquisitions. Project management and elements of business continuity are currently done in this way and the ongoing evaluation of the success of this approach will continue during the next biennium.

#### **4.4 Long-Term Plans (Beyond the FY2009-2011 Biennium)**

Describe any long-term plans for projects to be started after the FY2009-2011 biennium.

It is difficult to identify, with any specificity, the projects that will be contemplated beyond the FY 2009 – 2011 biennium. As we stated in previous planning documents, we are witnessing very exciting times, in large part driven by unprecedented technological progress in a wide range of areas.

In thinking about the future of technology in higher education two basic questions come to mind:

- What are the forces that are changing higher education?
- What are the implications for technology and technology management?

#### **External Forces for Change**

A broad range of factors, including changes to the economy, demographics, the public policy environment and consumer behavior will impact us in the future. Higher education is so embedded in the fabric of our society that any broad change in the factors can produce a significant resultant impact on our institution.

The following are some of the issues that we believe will possibly reshape higher education.

- **Globalization** – The interconnectedness of the global economy is having many far-reaching impacts on higher education.
- **Demographics** – There are three aspects of demographic change that will greatly impact higher education. First, shifts in US population are causing regional markets to differ dramatically in their demand for higher education. A second aspect of demographic change is the growing diversity of the population. The third demographic force is the aging of the workforce. As the boomers leave the workforce in the US, there is a projected shortfall of skilled workers that will need to be addressed.
- **Consumerism** – Technology is enabling significant changes in consumer behavior. Ubiquitous connectivity and mobility is becoming a realized promise. It has in effect empowered consumers to define what services or information they want and how they want to consume it. How will this affect our technology needs in the next few years?
- **Economics** – Higher education stands on shaky economic ground. Public scrutiny and price sensitivity will eventually curtail our ability to grow tuition. Declines in government support for higher education appear to be structural, not cyclical changes. Direct and indirect support for

sponsored research is likely to decline in the face of increased federal budget deficits. As competition for research dollars increase, its concentration in the hands of relatively few institutions will grow. Many institutions are taking on significant levels of debt to remain competitive. Large investments are being made in bricks and mortar for student activities and support or research labs. Will there be sufficient revenue growth to service this debt? The costs of operating an institution continue to rise every year. Energy, construction and health care costs continue to rise for the whole economy. Higher education is particularly vulnerable to all of these costs.

## Technology and Technology Management

In light of the above the University of Nebraska must be ready respond to both the opportunities and the threats we face and develop technology related projects that address them.

- **Technology sourcing** – To capture more efficiency in technology operations, we need to rethink how we obtain technology services. In the future we need to turn to a what might be called a three layer sourcing model. Utility or commodity IT services should be obtained from the commercial sector. A middle layer of services perhaps more unique to our institution should be obtained from consortiums of trusted partners (e.g., regional or mission specific peer groups). A third layer are those differentiated or unique services that should be operated by the campus IT organization.
- **Process sourcing** – Technology now makes it possible to think about business processes using the same three tiered service model described for IT services. Process leaders need to go through a similar rethinking of which processes or parts of processes really need to be unique to a campus and which can be logically sourced to the commercial sector or consortiums of trusted partners.
- **People sourcing** – Our IT organizations also have opportunities to share human resources as well. Technology now makes it possible for campuses to virtually merge all or part of their IT staffs. We can now explore how to band together to create enhanced staff capabilities. This action need not be visible to users.
- **Organizational Models** – Information technology management is becoming increasingly decentralized. It is becoming harder for central IT organizations to impact the effective use of technology by faculty and staff with their current structures and skill sets. To really drive change through the effective use of technology, institutions will need new models of IT management that embraces a combination of centralized and decentralized IT staffs.
- **Architecture** – We need to implement a technology architecture that is open and interoperable. We need to prepare for greater cross-institutional collaboration. We need to be ready for a not too distant future in which free agent students and faculty become the keepers of their own data that they “dock” at our institutions for the time they are affiliated with us. Service oriented architecture is a start towards this vision.

## 4.5 Other Issues

This is a general comment section where the agency can identify issues not captured in another section of the plan. This provides an opportunity to address issues which may, or may not, impact an agency IT budget; such things as known risks, trends, or issues for which there is not currently enough information to be included in the other sections. This section can also be used to summarize the agency's strategies and future direction for the use of information technology within the agency.

Agency Narrative:

**Agency** University of Nebraska Medical Center

Agency IT Contact	Yvette Holly
Email Address	<a href="mailto:Yholly@unmc.edu">Yholly@unmc.edu</a>
Phone	402-559-7253

## 1. Current Assets

### 1.1 Applications

#### 1.1.1 Off-the-Shelf Applications

Provide an estimated number of licenses for each of the following applications:

	Estimated Number of Users/Licenses	Version(s) (Optional)
<b>Productivity Suite</b>		
Microsoft Office	4777	
WordPerfect Office	50	
OpenOffice/StarOffice		
Other (Specify)		
<b>Internet Browser</b>		
Microsoft Internet Explorer	4777	
Firefox/Mozilla	4000	
Safari	450	
Other (Specify)		
<b>Desktop Antivirus</b>		
Symantec/Norton		
McAfee	5275	
Other (Specify)		
<b>Email and Calendaring</b>		
Microsoft Outlook/Exchange	0	
Lotus Notes	5621 fac/staff 3638 students	
Other (Specify)		
<b>Instant Messaging</b>		
Lotus	~75	
Jabber		
Other (Specify)	~75	Communicator for UNMC/TNMC Incident Command
<b>Database Management (DBMS)</b>		
IBM	0	
Oracle	0	
Microsoft SQL	50	servers

AS/400	0	
Other (specify)		
<b>Applications Development Tools</b>		
Microsoft Visual Studio	15	
IBM Rational Application Developer	0	
Micro Focus COBOL	0	
Other (Specify)	12	PowerBuilder Web Development tools

### 1.1.2 Other Off-the-Shelf Applications

List other significant off-the-shelf applications utilized by the agency:

Application	Estimated Number of Users/Licenses	Version(s) (Optional)
Red Dot Web Content Management System	10	.
Blackboard Course Management System	3100 student license	8.0

### 1.1.3 Custom Applications

List custom applications used by the agency, including (a) the general purpose of the application; (b) the platform on which it is running; (c) application development tools used; and (d) how the application is supported.

<p><b>Applications:</b> UNMC/UNO Telephone Billing System UNMC Campus Business Applications UNMC Center for Continuing Education Course Management System UNMC Research Administration Applications UNMC Tracking System</p> <p><b>Platform:</b> Client/Server using Sybase Database running on IBM hardware using AIX</p> <p><b>Development Tools:</b> PowerBuilder &amp; Web Development Tools</p> <p><b>How Supported:</b> UNMC ITS Application Services</p> <p><b>Applications:</b> UNMC CARE (Campus Records) Web Site UNMC ESS (Employee Self Service) Web Site UNMC RISC (Research Infrastructure Support and Compliance) Web Site UNMC Faculty Records &amp; Academic Department Information System (ADIS)</p> <p><b>Platform:</b> Client/Server using Sybase Database running on IBM hardware using AIX; the web component is iis and runs on intel based servers with various versions of Windows server software</p> <p><b>Development Tools:</b> PowerBuilder &amp; Web Development Tools</p> <p><b>How Supported:</b> UNMC ITS Application Services</p>
---

## 1.2 Data

### 1.2.1 Databases

List the significant databases maintained by the agency and a brief description of each.

UNMC/UNO Telephone Billing Database	Tracks work orders, billings, and phone related data for the UNMC and UNO telephone systems.
UNMC Campus Business Databases	Tracks work orders, billings, and other data for Printing and Duplicating, Mail Services, Physical Plant, ITS, and Cell Phone Billing.
UNMC Center for Continuing Education Course Management System	Manages courses and related activities for the UNMC Center for Continuing Education
UNMC Research Administration Databases	Grants Administration Database - tracks pending / active grants and contracts. IRB - Tracks protocols for the Institution Review Board. IACUC – Tracks protocols for the Animal Care Committee
UNMC Faculty Records & Academic Department Information System (ADIS)	Provides data repository for consistent faculty credentialing, improved record storage and ability to manage actions such hiring, promotion and tenure status for each faculty member.
UNMC Tracking System	Provides data regarding cashiering stations, parking privileges, and key assignments for staff, students, and NMC employees.

**1.2.2 Data Exchange**

List the significant electronic data exchanges your agency has with other entities.

Title/Description:	AMCAS
Other Entity:	American Medical College Application Services
Purpose:	feeds information regarding Medicine Applicants to UNMC Tracking System.
Is this exchange encrypted?	yes

Title/Description:	GRE
Other Entity:	Graduate Record Examination
Purpose:	feeds information regarding Graduate examinations into UNMC Tracking System.
Is this exchange encrypted?	yes

Title/Description:	TOEFL
Other Entity:	Test of English as a Foreign Language
Purpose:	feeds information regarding test scores into UNMC Tracking System.
Is this exchange encrypted?	Yes

Title/Description:	Student Loan Clearinghouse
Other Entity:	Student Loan Clearinghouse
Purpose:	sends information regarding students from the UNMC Tracking System to the Student Loan Clearinghouse.
Is this exchange encrypted?	yes

**1.3 Hardware**

### 1.3.1 General Description of Computing Environment

Provide a general description of the elements of the computing environment in the agency (mainframe, midrange, desktop computers, thin clients, etc.).

Description: UNMC's computing environment is comprised of primarily Dell and IBM servers; personal computers include primarily Dell and Macintosh and a variety of laptops. The citrix client is beginning to be used in some public areas such as clusters and classrooms.

### 1.3.2 Hardware Assets

Complete the following table. For "current" assets, enter the total number of each item currently owned/leased by the agency. For "planned" assets, enter an estimated number of each item at the end of the biennium on June 30, 2011.

	Current				Planned			
	Windows	Mac	Linux	Other	Windows	Mac	Linux	Other
Desktop Computers	4777	470	37	15	-100	50	0	0
Laptop Computers	950	200			150			
Servers	140	3			0			

Provide a brief narrative describing the reason/rationale for any significant change in the number of planned hardware assets as compared to the number of current hardware assets. Also, provide a description of the agency's hardware replacement cycle.

Narrative: ITS sees a trend in users moving towards the use of laptops and/or docking stations, rather than fixed desktop workstations.

## 1.4 Network Environment

### 1.4.1 General Description

Provide a general description of the agency's network environment. You may optionally include any related diagrams, etc. Also, describe any desktop management and/or LAN monitoring tools used by the agency.



UNMC manages the combined physical network for UNMC, The Nebraska Medical Center and UNMC Physicians. The combined network consists of 14,000+ network devices, with wide area network reaching 36 remote locations.

Most of UNMC's workstations are Intel-based systems running Microsoft Windows XP and limited Vista, with some Apple Macintosh computers running MacOS. In addition, UNMC supports approximately 140 Intel based file servers, most of which are running WIN2K operating system.

The University of Nebraska Medical Center data communications network is designed to meet the needs of the UNMC staff that require access to UNMC as well as University-wide systems and data.

The data network at the UNMC is based on local area network (LAN) and wide area network (WAN) technologies. The campus backbone is Gig Ethernet with a mix of 10 MB, 100 MB Ethernet and limited Gig Ethernet to the desktop and servers.

Remote access is via both client and clientless (web-based) VPN with two factor authentication to secured applications using a SecurID card.

UNMC employs comprehensive security measures including firewalls, traffic monitoring, intrusion prevention, internal and external scans and vulnerability assessments, and secured remote access to name a few. UNMC also has extensive security policies and procedures to comply with HIPAA, FERPA, GLBA, PCI and other regulatory requirements.

Wireless access is prevalent throughout the clinical enterprise and educational spaces.

**1.4.2 Network Devices**

Complete the following table. For "current" devices, enter the total number of each item currently owned/leased by the agency. For "planned" devices, enter an estimated number of each item at the end of the biennium on June 30, 2011.

	<b>Current</b>	<b>Planned</b>
Firewalls (Hardware)	3	0
Wireless Access Points	193	100
Video Cameras (USB)	54	5
IP Phones	200	250
POP Servers	3	0
Web Servers	40	
Application Delivery (e.g. Citrix, Terminal Services servers) (Specify)	1 citrix	1

Provide a brief narrative describing the reason/rationale for any significant change in the number of planned devices as compared to the number of current devices.

Narrative:

Use of IP telephony will see an increase as the UNMC continues its physical expansion.

**2. Staff and Training**

**2.1 Staff and Related Support Personnel**

Identify staffing necessary to maintain your current IT environment, including contractor and OCIO staff supporting your agency specific environment.

	Approximate FTE
Agency IT Staff	38 state funded
Contractors	0
OCIO Staff	0

## 2.2 IT Related Training

Summarize the agency's efforts to address training needs relating to information technology, including training for IT staff and users.

Description:

<p>UNMC Information Technology Services provides professional development opportunities for staff in the form of local, regional and national conferences. Each year ITS staff participate in local conferences such as Infotec. Regional and national conferences include trends and technologies in voice communications, Lotus Notes, web technologies, distance education, telemedicine, security and networking, data center management, and video conferencing. ITS leaders also attend conferences such as Educause, Educomm, Chronicle of Higher Education and Gartner Group that focus on technology trends/issues for academic health science centers.</p> <p>ITS provides training opportunities for users through on-site ITS training opportunities on the Microsoft suite, Lotus Notes, and PC basics. There are also CD tutorials that can be checked out for independent learning.</p>
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## 3. Survey

	Yes	No	In Progress	Not Applicable
<p><b>3.1 Security</b> - Please answer the following questions regarding your agency's efforts to maintain a secure information technology environment. [The questions refer to the Nebraska Information Technology Commission's Security Policies. These policies are available at <a href="http://nitc.ne.gov/standards/">http://nitc.ne.gov/standards/</a>]</p>				
Has your agency implemented the NITC's Security Policies?				X
Has your agency implemented other security policies?	X			
If your answer to the previous question is YES, please list the other security policies.				
<p>List: HIPAA, SANS, PCI and other health care regulatory security policies and procedures</p>				
<p><b>3.2 Disaster Recovery and Business Continuity</b> - For purposes of this document, the term "Disaster Recovery Plan" refers to preparations for restoring information technology systems following a major disruption.</p>				
Does your agency have a disaster recovery plan?	X		X	
If your answer to the previous question is YES, have you tested your disaster recovery plan?	X		X	
If your answer to the previous question is YES, have you revised your			X	

	Yes	No	In Progress	Not Applicable
disaster recovery plan based on the results of your test?				
Does your agency perform regular back-ups of important agency data?	X			
If your answer to the previous questions is YES, does your agency maintain off-site storage of back-up data?		X		
<b>3.3 Accessibility / Assistive Technology</b>				
Does your agency include the Nebraska Technology Access Clause in contracts for information technology purchases? (See Neb. Rev. Stat. § 73-205. The Technology Access Clause is posted at <a href="http://nitc.ne.gov/standards/">http://nitc.ne.gov/standards/</a> )	X			
Does your agency have procedures in place to identify the information technology related requirements of users with disabilities?	X			
Does your agency provide training opportunities for management, procurement, and technical personnel on how to meet the accessibility needs of users with disabilities?	X			
Has your agency evaluated its website(s) to ensure accessibility to all persons with disabilities?	X			
If yes, what tools were used to evaluate accessibility? ___ <a href="http://www.w3.org/WAI/ER/existingtools.html">http://www.w3.org/WAI/ER/existingtools.html</a> ___ <a href="http://www.vischeck.com/">http://www.vischeck.com/</a> ___ <a href="http://www.henterjoyce.com/fs_downloads/jaws_form.asp">http://www.henterjoyce.com/fs_downloads/jaws_form.asp</a> _x_ Other (please specify <u>manual audits</u> )				
<b>3.4 Geographic Information System (GIS)</b>				
Does your agency have plans, over the next biennium, for the development and/or acquisition of GIS/geospatial data or geospatial data applications or services that is estimated to cost more than \$25,000?		X		
If your answer to the previous question is YES, please provide a brief description and/or reference where that description is provided in Section 4 below:				

**Agency** University of Nebraska at Kearney

Agency IT Contact	Deb Schroeder
Email Address	<a href="mailto:schroederd@unk.edu">schroederd@unk.edu</a>
Phone	308-865-8950

## 1. Current Assets

### 1.1 Applications

#### 1.1.1 Off-the-Shelf Applications

Provide an estimated number of licenses for each of the following applications:

	Estimated Number of Users/Licenses	Version(s) (Optional)
<b>Productivity Suite</b>		
Microsoft Office	1600	
WordPerfect Office		
OpenOffice/StarOffice		
Other (Specify)		
<b>Internet Browser</b>		
Microsoft Internet Explorer	1600	
Firefox/Mozilla	1000	
Safari	300	
Other (Specify)		
<b>Desktop Antivirus</b>		
Symantec/Norton		
McAfee	2500	
Other		
<b>Email and Calendaring</b>		
Microsoft Outlook/Exchange		
Lotus Notes	750	
Other (Specify)		
<b>Instant Messaging</b>		
Lotus		
Jabber		
Other (Specify)		
<b>Database Management (DBMS)</b>		
IBM		
Oracle	30	
Microsoft SQL	Unlimited	
AS/400		
Other (Specify)		
<b>Applications Development Tools</b>		

Microsoft Visual Studio		
IBM Rational Application Developer		
Micro Focus COBOL		
Other (Specify)		

### 1.1.2 Other Off-the-Shelf Applications

List other significant off-the-shelf applications utilized by the agency:

Application	Estimated Number of Users/Licenses	Version(s) (Optional)
SPSS	70	
Symantec Ghost	900	
Sungard SIS Plus	n/a	
Papervision (Document Imaging)	n/a	
T2	n/a	
CS Gold	n/a	
EMAS	n/a	
fsaAtlas	n/a	

### 1.1.3 Custom Applications

List custom applications used by the agency, including (a) the general purpose of the application; (b) the platform on which it is running; (c) application development tools used; and (d) how the application is supported.

Application: Course Curriculum Management system  
Platform: Windows  
Development Tools: PHP  
How Supported: in-house

## 1.2 Data

### 1.2.1 Databases

List the significant databases maintained by the agency and a brief description of each.

Database: Blackboard  
Brief Description: Student course enrollments and organizations/documents

Database: Document Imaging  
Brief Description: Financial Aid documents/Financial & HR documents

Database: EMAS  
Brief Description: Prospective Students

Database: ID Cards  
Brief Description: Meal plans, declining balance accounts, access control

Database: Library  
Brief Description: Card catalog/Patron data

Database: Public Safety  
Brief Description: Parking permits/parking tickets

Database: Student  
 Brief Description: Admissions, Financial Aid, Student Accounts, Student Records, Housing

### 1.2.2 Data Exchange

List the significant electronic data exchanges your agency has with other entities.

Title/Description: Data for NSLDS, CPS, NSLP, VA  
 Other Entity: Various agencies  
 Purpose: Financial Aid  
 Is this exchange encrypted?: yes

Title/Description: Student transcripts  
 Other Entity: Other universities  
 Purpose: Transcript submission  
 Is this exchange encrypted?: yes

Title/Description: ACT scores  
 Other Entity: ACT  
 Purpose: Transfer of ACT test scores/other information  
 Is this exchange encrypted?: yes

Title/Description: Student data for data warehouse  
 Other Entity: UNCSN  
 Purpose: Populate data warehouse  
 Is this exchange encrypted?: no

Title/Description: SAP transaction files  
 Other Entity: UNCSN  
 Purpose: Exchange data between UNCSN and UNK from/to SAP  
 Is this exchange encrypted?: no

Title/Description: StudentLink (for ID cards)  
 Other Entity: JSA Technologies  
 Purpose: Deposit funds in ID card-associated declining balance account  
 Is this exchange encrypted?: no

## 1.3 Hardware

### 1.3.1 General Description of Computing Environment

Provide a general description of the elements of the computing environment in the agency (mainframe, midrange, desktop computers, thin clients, etc.).

Description:

*All employees have a desktop and/or laptop computer. The majority are Windows-based, with approximately 10% Mac's.*

*Microsoft System Center Configuration Manager, formerly called SMS, is used for Windows patch management, software distribution, and operating system updates.*

Approximately 100 servers support a variety of applications and services for campus users, including file and print services, web services, email, firewalls, and departmental applications. A few servers have been consolidated using virtualization. Network storage is available for faculty and staff. Many printers are network-based and printing in student computer labs is managed by a Pharos system, with per page printing charges.

Over 800 desktop and laptop computers are available for student use in computer labs across campus. Computer labs support basic software applications, including Web browsers and Microsoft Office, as well as specialized software for specific programs or classes.

### 1.3.2 Hardware Assets

Complete the following table. For “current” assets, enter the total number of each item currently owned/leased by the agency. For “planned” assets, enter an estimated number of each item at the end of the biennium on June 30, 2011.

	Current				Planned			
	Windows	Mac	Linux	Other	Windows	Mac	Linux	Other
Desktop Computers	1440	160			1440	160		
Laptop Computers	150	25			150	25		
Servers	100	10			100	10		

Provide a brief narrative describing the reason/rationale for any significant change in the number of planned hardware assets as compared to the number of current hardware assets. Also, provide a description of the agency’s hardware replacement cycle.

Narrative:

*No significant change is planned in hardware assets.*

*Hardware replacement cycle is dependent on departmental budgets. Some hardware is replaced on a three-year cycle and some equipment is replaced on a four to six year cycle.*

## 1.4 Network Environment

### 1.4.1 General Description

Provide a general description of the agency’s network environment. You may optionally include any related diagrams, etc. Also, describe any desktop management and/or LAN monitoring tools used by the agency.

Description:

*The UNK campus network offers wired and wireless service throughout all campus buildings. The wiring standard is Systimax Premises Distribution System. The wireless network is a centrally managed Aruba solution offering 802.11a/b/g with 802.1x authentication and WPA2 security protocol.*

*A switched and routed network backbone provides gigabit Ethernet to most buildings. Multiple VLANs optimize network traffic and maintain network security. Approximately 7500 wired data jacks exist across campus. Over 850 wireless access points offer wireless service in every campus building.*

Internet service is provided through the University of Nebraska. Connectivity to Lincoln is via two 100 Mbps circuits.

For security purposes, additional details are not provided in this report.

### 1.4.2 Network Devices

Complete the following table. For “current” devices, enter the total number of each item currently owned/leased by the agency. For “planned” devices, enter an estimated number of each item at the end of the biennium on June 30, 2011.

	Current	Planned
Firewalls (Hardware)	4	
Wireless Access Points	850	900
Video Cameras (USB)		
IP Phones		
POP Servers	2	2
Web Servers	30	30
Application Delivery (e.g. Citrix, Terminal Services servers) (Specify)		

Provide a brief narrative describing the reason/rationale for any significant change in the number of planned devices as compared to the number of current devices.

Narrative:

*The University of Nebraska at Kearney offers wireless service in all buildings. As two new residence halls are completed and an addition to the Bruner Hall of Science is constructed, the number of wireless access points will increase by approximately 50 in the next two years.*

## 2. Staff and Training

### 2.1 Staff and Related Support Personnel

Identify staffing necessary to maintain your current IT environment, including contractor and OCIO staff supporting your agency specific environment.

	Approximate FTE
Agency IT Staff	28
Contractors	
OCIO Staff	

### 2.2 IT Related Training

Summarize the agency’s efforts to address training needs relating to information technology, including training for IT staff and users.

Description:

*Training needs for ITS staff are addressed on an as-needed basis and are limited by budget constraints.*



End-user training on a variety of topics is offered by the ITS Training Manager. Training is available for groups and for individuals.

### 3. Survey

	Yes	No	In Progress	Not Applicable
<b>3.1 Security</b> - Please answer the following questions regarding your agency's efforts to maintain a secure information technology environment. [The questions refer to the Nebraska Information Technology Commission's Security Policies. These policies are available at <a href="http://nitc.ne.gov/standards/">http://nitc.ne.gov/standards/</a> ]				
Has your agency implemented the NITC's Security Policies?		X		
Has your agency implemented other security policies?	X			
If your answer to the previous question is YES, please list the other security policies. List: See <i>Information Security Policies</i> at <a href="http://www.unk.edu/offices/its/policies/index.php?id=857">http://www.unk.edu/offices/its/policies/index.php?id=857</a>				
<b>3.2 Disaster Recovery and Business Continuity</b> - For purposes of this document, the term "Disaster Recovery Plan" refers to preparations for restoring information technology systems following a major disruption.				
Does your agency have a disaster recovery plan?	X			
If your answer to the previous question is YES, have you tested your disaster recovery plan?		X		
If your answer to the previous question is YES, have you revised your disaster recovery plan based on the results of your test?				
Does your agency perform regular back-ups of important agency data?	X			
If your answer to the previous questions is YES, does your agency maintain off-site storage of back-up data?	X			
<b>3.3 Accessibility / Assistive Technology</b>				
Does your agency include the Nebraska Technology Access Clause in contracts for information technology purchases? (See Neb. Rev. Stat. § 73-205. The Technology Access Clause is posted at <a href="http://nitc.ne.gov/standards/">http://nitc.ne.gov/standards/</a> )	X			
Does your agency have procedures in place to identify the information technology related requirements of users with disabilities?	X			
Does your agency provide training opportunities for management, procurement, and technical personnel on how to meet the accessibility needs of users with disabilities?		X		
Has your agency evaluated its website(s) to ensure accessibility to all persons with disabilities?  If yes, what tools were used to evaluate accessibility? ___ <a href="http://www.w3.org/WAI/ER/existingtools.html">http://www.w3.org/WAI/ER/existingtools.html</a> ___ <a href="http://www.vischeck.com/">http://www.vischeck.com/</a> ___ <a href="http://www.henterjoyce.com/fs_downloads/jaws_form.asp">http://www.henterjoyce.com/fs_downloads/jaws_form.asp</a> _x_ Other (please specify) <i>Bobby and Watchfire for portions of the web site</i>	X			
<b>3.4 Geographic Information System (GIS)</b>				
Does your agency have plans, over the next biennium, for the development and/or acquisition of GIS/geospatial data or web-based		X		

	Yes	No	In Progress	Not Applicable
systems to display or make accessible this type of data that is estimated to cost more than \$25,000?				
If your answer to the previous question is YES, please provide a brief description:				

**Agency** **University of Nebraska-Omaha**

**Primary Agency IT Contact**

(List the person responsible for IT in the agency.)

Name	John Fiene
Title	Associate Vice Chancellor for Technology
Phone	402-554-3670
Email	jfiene@unomaha.edu

**Information Technology Services (ITS) Contact List**

<b>Title</b>	<b>Name</b>	<b>Email Address</b>
Director of Academic Computing	Lanyce Keel	<a href="mailto:lkeel@unomaha.edu">lkeel@unomaha.edu</a>
Director of Administrative Services	Bret Blackman	<a href="mailto:bblackma@unomaha.edu">bblackma@unomaha.edu</a>
Director of Information Technology Infrastructure	Steve Lendt	<a href="mailto:slendt@unomaha.edu">slendt@unomaha.edu</a>
Director of IT Project Management	Joyce Crockett	<a href="mailto:jcrocket@unomaha.edu">jcrocket@unomaha.edu</a>
Assistant Director of Academic Computing	Jay Killion	<a href="mailto:jaykillion@unomaha.edu">jaykillion@unomaha.edu</a>
Business Manager	Alice Villone	<a href="mailto:avillone@unomaha.edu">avillone@unomaha.edu</a>
Manager of Academic Partnership in Instruction and Distance Education	Shelley Schafer	<a href="mailto:sschafer@mail.unomaha.edu">sschafer@mail.unomaha.edu</a>
Manager of Customer Services	Matt Galardi	<a href="mailto:mgalardi@unomaha.edu">mgalardi@unomaha.edu</a>

# Information Technology Services Mission, Vision and Values

## Mission

Information Technology Services (ITS) provides technology leadership by bringing the knowledge assets of the world to the campus via high-speed computer networks. ITS facilitates the innovative use of technology for instruction, research, and outreach via user-centered services and by stimulating a culture of academic discovery that contributes to the world-wide academic community.

## Vision

ITS develops effective partnerships with the colleges, administrative units, student organizations, and central administration to provide needed collaboration for building technology infrastructure, and providing complementary services. These partnerships address both the principles of economies of scale *and* personalized services through the coordination of centralized and distributed IT professionals at UNO. Although our goal is innovation, work is done simultaneously at four levels to build the necessary infrastructure as a foundation. Today's innovation becomes tomorrow's integration.

The application of technology is simultaneously performed at four levels:

- Automation:** creating efficient methods of handling routine tasks that allow greater effort to be focused on the UNO academic mission.
- Integration:** re-engineering to effectively combine shared functions into streamlined processes that fulfill multiple purposes and reduce redundant efforts.
- Communication:** enhancing collaboration by diminishing the effect of geographical distances for both synchronous and asynchronous dialog: one to one, in groups, and to the world.
- Innovation:** simplifying technology to achieve what was previously not possible.

## Values

ITS shares the values of the office of Academic and Student Affairs and holds the following values:

- Measuring success through the achievements of students, faculty, and staff.
- Creating flexible partnerships with campus units to achieve the appropriate balance of complimentary centralized and de-centralized functions and services.
- Extending the principles of shared governance and shared accomplishments.
- Enhancing the welfare, talents, and futures of ITS employees and expanding professional development.
- Encouraging involvement in professional IT associations in education and industry consistent with staff development plans.
- Promoting good stewardship through efficient utilization of resources.
- Exercising good judgment through effective applications of technology.

- Facilitating meaningful partnerships in our community to enhance learning through the appropriate use of technology.
- Leading proactively in the use of technology to solve problems.
- Encouraging the use of technology as a communication tool.
- Fostering the use of technology in support of lifelong learning.
- Embracing diversity as an effective model of the university's working environment.
- Aligning ITS policies, procedures, and behaviors with the highest professional ideals of ethics and legality.
- Protecting the privacy and integrity of the information resources of the academic community

## **1. Current Assets (Sections 1.1 through 1.4)**

### **Overview of the UNO Campus and Technology Services**

UNO is a comprehensive public university located on 89 acres in the heart of Nebraska's biggest city with more than 400 faculty offering 95 baccalaureate degrees, 66 advanced degrees including 6 doctoral programs. UNO is the NU system's metropolitan university, which means it provides a multitude of activities and service learning opportunities in a wide variety of settings that are designed to meet the needs of the UNO students and the community.

The value of UNO investment in information technology is substantial and must be considered critical to the daily operations of the organization. Technology is thoroughly integrated into every function of the university and it is critically important to accomplish the university mission. The most valuable assets are the knowledge and social capital that are developed in our information technology professionals and users of information technology that allow the university to work together to perform our mission.

UNO Information Technology Services (ITS) is responsible for providing technology leadership by facilitating the UNO community's access to network resources that enhance academic excellence and administrative effectiveness. ITS strives to achieve effective partnerships with the colleges, administrative units, and student organizations. These partnerships simultaneously address the principle of economies of scale and personalized services to students, faculty, staff, and community.

### **Campus Customers/Partners**

*Statistics in this section copied from the [UNO 2007 Fact Book](#) published by UNO Institutional Research*

14,156 Undergrad & Grad Students	235 Graduate Assistants
487 Full-time Faculty	393 Part-time Faculty
799 Full-time staff	46 Part-time staff

### **Information Technology Infrastructure**

WAN connections - Internet, Internet II, Network Nebraska UNMC, Level 3	33,000 Email Accounts (Lotus Notes)
116 Wireless Access Points / 18 Buildings	7,700 Network Outlets
3,000 Tests Scanned annually	1,650 Blackboard Courses Per Semester
20,000 Sets of Evaluations Processed Annually	36,300 Blackboard Accounts
34 Windows Production Servers, 35 Linux Production Servers & 200 servers indirect	34,500 myFolder on-line Internet storage accounts
	16 Print Release stations

### **Administrative Information Services**

70,000 Active Pages - Website Development/ Support	15,000 Students Every Semester Using E-BRUNO (Electronic Better Registration University of Nebraska at Omaha)
150,000+ Page Views Each Week on Main UNO Web Page	30,000 Daily Transactions using E-BRUNO Students
250,000 NU ID's (adding more each day)	5000+ Courses Annually Graded Using E-BRUNO/Faculty
30,000 Active Identities	125+ SIS Updates Applied Yearly
30+ Web Template Users	1500+ Ad Hoc WebFocus Reports & 270 Production Reports
1 Datamart	30+ End User WebFocus Support
1,000,000+ Lines of COBOL Code Supported	1 Mainframe Student Information System (SIS) Supported

<b>Client Services</b>	
4 Distance Education Synchronous Video Facilities	4,600 PC/Mac Workstations; 100 UNIX/Linux Workstations on Campus
90 Discipline Specific Labs/Computer Classroom indirect support	42 Kiosk Stations
9 Open Labs w/525 Workstations	Support for Over 40 Software Products ( <a href="http://www.unomaha.edu/its/software.php">http://www.unomaha.edu/its/software.php</a> )
Hi-Tech Rooms on Campus:  <div style="margin-left: 40px;">           Auditoriums: 16            Conference: 21            Labs: 80            Lecture: 183  <hr style="width: 100px; margin-left: 0;"/> <b>Total 300</b> </div>	3 Partnerships for 6 Community Labs
20,000 Helpdesk Calls/Walk-ins (Yearly)	

<b>Academic Partnership for Instruction</b>	
<b>Distance Education</b>	<b>Training, Instructional Design, Multimedia and Web Support</b>
10 DE Programs Supported	107 Training courses taught annually
164 DE Courses supported annually	800+ attendees at training sessions annually
20 New DE Courses supported annually	15 faculty received instructional design consulting
3,800 DE Student Enrollments annually	15 Multimediapresentations/projects/documentation
11,700+ DE Student Credit Hours annually	13 Websites created and/or consulted

<b>Site Licenses</b>	
<b>McAfee:</b> Anti- Virus and Anti-Spyware for Campus and Home (Students, Faculty and Staff)	<b>Statistical and Mathematical Campus Use:</b> <ol style="list-style-type: none"> <li>1. Maple</li> <li>2. Minitab</li> <li>3. SAS</li> <li>4. SPSS</li> </ol>
<b>Microsoft:</b> Office, Desktop Operating system and Servers (Campus Use and Faculty/Staff Home)	<b>AutoCAD:</b> University of Nebraska
<b>Macintosh:</b> OS10	<b>Not Site License - Special prices for campus use:</b> <ul style="list-style-type: none"> <li>• Adobe Reseller Campus use</li> </ul>

## Significant ITS Custom Applications

Students, faculty and staff use customized technology daily to meet their needs. ITS continuously collaborates with our clients to provide the optimum technology support that integrates software and support services. The following list are the significant custom applications developed by UNO ITS that includes “middleware” to integrate commercial systems with existing ones and web based systems to support critical University requirements.

### **myUNO (Blackboard 8.0)/SIS**

The myUNO (Blackboard) course management system was upgraded to version 8.0 the spring of 2008. This version enhanced the level of integration with UNO’s SIS system and improved system performance and stability.

### **Weboffice/myFolder**

UNO has created an integrated and enhanced campus-wide file storage system with a unique web enabled method of access. By integrating campus standard products such as Microsoft Server, web browser support and SSL web encryption as well as custom integration software, the UNO campus now has a departmental document storage system called weboffice that is available to any UNO department, and an individual document storage system called myFolder that is available to all UNO faculty, staff and students. The real value of these integrated systems is easy access to documents from any Internet connected computer.

### **Identity Management**

Campus wide web based systems and forms supported by ITS use a shared account name and password called the UNO NetID. Custom identity management services include NetID provisioning/de-provisioning, LDAP population, password resets and creation of University wide unique identifiers (NU ID). Identity Management processes are being migrated to Sun Microsystems’s Identity Management Suite.

### **Sungard SCT - Student Information System (SISPLUS)**

UNO’s Student Information System (SIS) supports the core academic business needs of UNO students. SIS includes Admissions, Records and Registration, Billing and Financial Aid modules. UNO has created custom enhancements to the base SIS system to meet campus specific policies.

### **E-BRUNO for Students**

E-BRUNO for Students is UNO's web-based enrollment services system. With E-BRUNO for Students, students can use their NU ID and PIN to log in and obtain grades, current class schedules, register for classes, pay tuition via credit card, accept financial aid and much more. E-BRUNO for Students provides students with web access to UNO’s Student Information System. (<https://ebruno.unomaha.edu/login.html>)

### **E-BRUNO for Faculty**

With E-BRUNO for Faculty, a UNO web-based system, faculty can use their NU ID number and PIN to log in and obtain class rosters, submit course grades and give permits and



authorizations, along with a host of special Blackboard functions.  
(<https://ebruno.unomaha.edu/php/facstaff/>)

### **Datamart**

UNO developed a campus Datamart, built with data from the Student Information System, to meet census-reporting requirements.

### **Short Term Loan System (STLS)**

UNO developed a STLS to meet the needs of short-term student loans from the Student Accounts office.

## **Data Exchange**

Below are the major entities outside of the NU System that ITS exchanges data with.

<b>Entity</b>	<b>Description</b>
JSA Technologies	Web based deposits for Cbord ID card system
National Student Loan Program (NSLP)	Financial Aid loan services
U.S. Department of Education	Financial Aid processing
National Student Clearinghouse	Degree and enrollment verification
U.S. Immigration and Customs Enforcement (ICE)	Student and Exchange Visitor Program (SEVP)
Dragonfly Athletics	Athletic Management System
General Revenue Corporation	Collection of past due student tuition and fees
Credit World Services	Collection of past due student tuition and fees
CashNet	Student Accounts system
Internal Revenue Service	1098 tax reporting
Various Banks	Student refunding

## Technical Architecture

Our goal is information availability whenever and wherever (24x7 access, ubiquitous/pervasive, and in real-time where appropriate). Our choice will be via industry standards, higher education best practices and using products and solutions providing lower Total Cost of Ownership (TCO) and best services to the whole campus.

This table is technical in nature and explains the technical architecture ITS will be following over the next two years. The following web site will assist in defining terms listed in this table.

<http://webopedia.com/>

	Legacy	Current	Future	Currently in Research
<b>Hardware/Servers</b>				
Gigabit & multi-Gigabit network backbone		X	X	
Dynamic Disk Storage (SAN)				
Dell/Intel servers		X	X	
IBM RS 6000	Limited	Limited		
IBM S/390 Mainframe – Based		X	Limited	
Intel Based (PC)		X	X	
Wireless networking access		X	X	
<b>Data Bases</b>				
IBM DB2/UDB (Database 2/Universal Database)	X	X	Limited	
IBM VSAM (Virtual Storage Access Method)	X	Limited	Limited	
Sun Enterprise LDAP Directory (Lightweight Directory Access Protocol)		X	X	
Lotus Notes document and tracking database		Limited		
Microsoft Active Directory		X	X	
Microsoft SQL (Structured Query Language) server		X	X	
Open source DB (Postgres, MYSQL)		X	X	
Oracle			X	

	Legacy	Current	Future	Currently in Research
<b>Server Software</b>				
Apache web server		X	X	
iWay ETL Manager		X	X	
Oracle Application Server			X	
Microsoft IIS server for web enabled applications		X	X	
PHP (Php: Hypertext Preprocessor) for web enabled applications		X	X	
Tomcat		X	X	
Hibernate		X	X	
Web DAV (Distributed Authoring And Versioning)		X	X	
WebFOCUS Reporting Server		X	X	
Lotus Notes		X	X	
Blackboard		X	X	
<b>Server Operating Systems</b>				
Cisco router language IOS		X	X	
VMware		X	X	
IBM zOS		X	Limited	
Redhat Linux on Intel		X	X	
Microsoft 200x Server		X	X	
<b>Languages</b>				
C/CGI (Computer Graphics Interface)	X	Limited		
COBOL (Common Business-Oriented Language)	X	X	Limited	
CSS		X	X	
HLLAPI (High Level Language Application Program Interface) screen scraping	X	X	Limited	
JAVA /J2EE		X	X	
JavaScript		X	X	
PHP (Php: Hypertext Preprocessor) Web-scripting language		X	X	
Structured Query Language (SQL)		X	X	
WebFOCUS	X	X	X	
XHTML (HyperTextMarkupLanguage)		X	X	

	<b>Legacy</b>	<b>Current</b>	<b>Future</b>	<b>Currently in Research</b>
XML ( <b>EX</b> tensible <b>M</b> arkup <b>L</b> anguage)		<b>X</b>	<b>X</b>	
Oracle PL/SQL			<b>X</b>	

	Legacy	Current	Future	Currently in Research
<b>Application Development Methodologies and Toolsets</b>				
ANT Build Tool for Java		X	X	
Configuration Mgmt Tools (UNIT testing, etc)		X	X	
Eclipse IDE		X	X	
NetBeans IDE		X	X	
Spring		X	X	
Struts		X	X	
UML		X	X	
Web based Content Mgmt Systems			X	X
Web Services			X	X
<b>Application Delivery Methodologies/Protocols</b>				
IBM DB2 (DataBase 2) Connect		X	X	
JDBC (Java DataBase Connectivity)		X	X	
LDAP (Lightweight Directory Access Protocol)		X	X	
iWay Data Adapters		X	X	
ODBC (Open DataBaseConnectivity)		X	X	
SOAP (Simple Object Access Protocol)		X	X	
UDDI (Universal Description, Discovery and Integration)			X	X
WAP (Wireless Application Protocol) /WML (Wireless Markup Language)			X	X
WSDL (Web Services Description Language)		X	X	
XML (EXTensible Markup Language)		X	X	
<b>Rich Content Protocols (Video/Audio)</b>				
Direct Analog and Digital Video over fiber		X	X	
H.323		X	X	
MPEG4 over IP		X	X	
NEB*SAT H.261		Limited	Limited	

	Legacy	Current	Future	Currently in Research
Windows Media Player Quicktime Flash		X	X	X
<b>Project Management tools</b>				
c.support		X	X	
Microsoft Excel		X	X	
Daptiv		X	X	
Subversion		X	X	
Jira Issue Tracking		X	Limited	
Lotus Notes Team Room		Limited		

	Legacy	Current	Future	Currently in Research
<b>Authentication and Security</b>				
TippingPoint IPS		X	X	
FTP		X	Limited	
LDAP with Unique Username		X	X	
PGP		X	X	
Photo ID card with Database		X	X	
PIN (Personal Identification Number)		X	X	
SAP Personnel Number		X	Limited	
SFTP/SCP		X	X	
SSH Secure Shell		X	X	
SSL/TLS Secure Socket Layer		X	X	
Student ID (SSN)		Limited	Limited	
Foundstone Vulnerability Mgt		X	X	
UNO NetID		X	X	
NU ID		X	X	
VPN Virtual Private Network		Limited	X	
Sun IdM Suite			X	X
Wireless VPN		Limited	X	X
McAfee Anti-virus and Spyware		X	X	
McAfee Enterprise Policy Orchestrator (EPO)			X	
Cisco Firewalls		X	X	
VLANS		X	X	
Security Event Management			X	

## Future Direction& Intent

Campus IT in the next biennium is likely to be heavily influenced by the implementation of a new student information system across the university system. Such systems represent the core academic business processes of a campus and tend to affect the overall direction and technical architecture of the institution. Both vendors under current consideration use Oracle, as the underlying technology and therefore it becomes core to the IT operations of the campus for development of interfaces to other campus systems as well as for future application development.

In addition, the unprecedented campus physical expansion and renovations planned in the next two years similarly mandate re-thinking overall campus infrastructure on a new scale. This may include campus network re-design with consideration of a fiber ring from the Dodge Campus to the Center Campus to assure appropriate business continuity. Another factor contributing to network infrastructure design is ongoing convergence of voice, video and data applications on

the IP-based network as well as ubiquitous wireless access that includes a variety of mobile devices.

In response to environmental sustainability, limited capital resources and staffing limitations, UNO ITS is in the process of re-inventing the campus data center. Server virtualization is achieving significant savings in electrical costs, server hardware expenses, and system administration costs. Elimination of major system printing through an output management system and electronic system distribution of output allows the elimination of larger system printers, their associated electrical and maintenance costs as well as paper and other supplies. These steps allow the data center to be managed exclusively by the systems administration staff with no computer operators. Further work in the “greening” of the data center will continue to produce similar benefits in the next two years.

Regulatory mandates as well as best practice diligence triggers continued attention to data security and privacy concerns. While much has been done to address these issues, it is ongoing and dynamic in ways that will continue to make it a priority into the foreseeable future. One of the attendant issues is identity management. The university has purchased the Sun Identity Management system, which will continue to be implemented and refined over the next two years. Continuity Planning will be further enhanced by the virtualization of alternative site operations.

The Academic Partnership for Instruction (API), a division of UNO ITS continues to provide strategic and operational support to distance education and to dedicate efforts in integrating emerging technologies with innovative pedagogy, assessment and instructional design for individual faculty and campus organizations including the Center for Faculty Development, Teaching Circles, the University Committee for the Advancement of Teaching, the Faculty Senate Educational and Resources and Services Committee, and the Distance Education Advisory Committee.

The increasing viability of Software as a Service and the potential for aspects of infrastructure as a service will play a role in future IT acquisitions. Project management and elements of business continuity are currently done in this way and the ongoing evaluation of the success of this approach will continue.

## **1.4 Network Environment**

### **1.4.1 General Description**

Provide a general description of the agency’s network environment. You may optionally include any related diagrams, etc. Also, describe any desktop management and/or LAN monitoring tools used by the agency.

Description:

Information Technology Services professionally manages many of the 'mission critical' computer systems on campus. These include centralized email servers, centralized file servers, campus inter- and intra-networks, including local and wide area networks, Internet and World-Wide-Web communications, application delivery systems, academic and research systems, instructional delivery systems including web-based mediums, and streaming media systems in support of the campus-wide academic mission.

The desktop management software being used is Altiris - <http://www.altiris.com/> .



The LAN monitoring tools used are:

- What's Up Gold <http://www.whatsupgold.com/>
- Tipping Point <http://www.tippingpoint.com/>
- Pakateer <http://www.netequalizer.com/appe.htm>
- Foundstone <http://www.foundstone.com/us/index.asp>
- Netmri <http://www.netcordia.com/>

#### 1.4.2 Network Devices

Complete the following table. For “current” devices, enter the total number of each item currently owned/leased by the agency. For “planned” devices, enter an estimated number of each item at the end of the biennium on June 30, 2011.

	Current	Planned – See narrative below
Firewalls (Hardware)	3	
Wireless Access Points	116	
Video Cameras (USB)*		
IP Phones**	35	
POP Servers	0	
Web Servers		
Windows 2003	34***	
Red Hat Linus	35****	
Application Delivery (e.g. Citrix, Terminal Services servers) (Specify)		
Remote Desktop Connection	80	

\*UNO has many video cameras across the campus to enhance security and will continue to add in the appropriate places.

\*\* ITS is currently testing the use of VOIP. The UNO Telecommunications department has set up VOIP for the Chili Greens location.

\*\*\* This only includes ITS-owned & operated systems and 18 of the 34 are running on VMWare

\*\*\*\* This only includes ITS-owned & operated systems and 29 of the 35 are running on VMWare

Provide a brief narrative describing the reason/rationale for any significant change in the number of planned devices as compared to the number of current devices.

Narrative:

With the physical expansion of the UNO campus to the south (Pacific and Center streets) the expansion of all IT services will be impacted and we are involved in the planning of this growth. On average there has been a 10% expansion of web servers, but with our use of VMWare this growth may change.

## 2. Staff and Training

### Personnel

Information Technology Services has 45 full time employees with 19 part time student workers. Depending on the project outside contractors can be involved.

### IT Related Training

Summarize the agency's efforts to address training needs relating to information technology, including training for IT staff and users.

Yearly performance reviews require ITS employees in conjunction with their manager work on personal development plans that includes training requirements. Employees receive \$250 a year to supplement their personnel development plans. This money is used to contribute toward attending conferences, join national technical organizations, and subscribe to technology journals, or purchase books or tools that support new skill development. Training activities include:

- All staff has attended local and national conferences and belongs to national technology associations.
- ITS API staff utilizes a course development model that includes presenting new technology training courses to ITS staff prior to offering them to the campus. This process provides the ITS instructor with the opportunity to practice and ITS staff with the opportunity to learn about new technology.
- ITS ADIS staff attended 10 days of Sun Identity Management training.
- Each year ITS participates in NU tech day, a system-wide one day workshop for technology professionals.
- In the last year, the focus of training has been on project management. The newly developed ITS office of project management has developed and implemented extensive training for senior staff, project management champions and the staff at large.

Technology training for the campus community consists of formal presentations about upgrades of campus supported software such as Microsoft 2007, new applications such as the UNO ePortfolio system used for faculty and staff annual performance appraisals or the campus webpage template, and new instructional technologies such as clickers. Additionally, ITS staff provides small group and individual training upon request.

## 3. Survey

	Yes	No	In Progress	Not Applicable

	Yes	No	In Progress	Not Applicable
<b>3.1 Security</b> - Please answer the following questions regarding your agency's efforts to maintain a secure information technology environment. [The questions refer to the Nebraska Information Technology Commission's Security Policies. These policies are available at <a href="http://nitc.ne.gov/standards/">http://nitc.ne.gov/standards/</a> ]				
Has your agency implemented the NITC's Security Policies?				X
Has your agency implemented other security policies?	X			
If your answer to the previous question is YES, please list the other security policies. List:				
<ul style="list-style-type: none"> <li>• University of Nebraska <a href="#">Executive Memorandum No. 16</a></li> <li>• <a href="#">Data Inventory Project</a> related to Nebraska State Law LB876[1]</li> <li>• Data and Privacy policy</li> <li>• PCI Policies (in progress)</li> </ul>	X		X	
	X		X	
	X		X	
<b>3.2 Disaster Recovery and Business Continuity</b> - For purposes of this document, the term "Disaster Recovery Plan" refers to preparations for restoring information technology systems following a major disruption.				
Does your agency have a disaster recovery plan?	X			
If your answer to the previous question is YES, have you tested your disaster recovery plan?	X			
If your answer to the previous question is YES, have you revised your disaster recovery plan based on the results of your test?	X			
Does your agency perform regular back-ups of important agency data?	X			
If your answer to the previous questions is YES, does your agency maintain off-site storage of back-up data?	X			
<b>3.3 Accessibility / Assistive Technology</b>				
Does your agency include the Nebraska Technology Access Clause in contracts for information technology purchases? (See Neb. Rev. Stat. § 73-205. The Technology Access Clause is posted at <a href="http://nitc.ne.gov/standards/">http://nitc.ne.gov/standards/</a> )*	X*			
<p><b>* The university uses the following statement when creating purchase order's:</b>  <b>"The seller agrees to comply with LB352, Nebraska Technology Access Standards to ensure that the needs of Nebraskans with disabilities are met through reasonable accommodation of the information technology products and services of the state."</b></p>				

	Yes	No	In Progress	Not Applicable
Does your agency have procedures in place to identify the information technology related requirements of users with disabilities?	X			
Does your agency provide training opportunities for management, procurement, and technical personnel on how to meet the accessibility needs of users with disabilities?	X			
Has your agency evaluated its website(s) to ensure accessibility to all persons with disabilities?	X*			
<p>If yes, what tools were used to evaluate accessibility?</p> <p>NO - <a href="http://www.w3.org/WAI/ER/existingtools.html">http://www.w3.org/WAI/ER/existingtools.html</a>  NO - <a href="http://www.vischeck.com/">http://www.vischeck.com/</a>  NO - <a href="http://www.henterjoyce.com/fs_downloads/jaws_form.asp">http://www.henterjoyce.com/fs_downloads/jaws_form.asp</a></p> <p>Yes - Other (please specify _____)  <a href="http://www.contentquality.com/">http://www.contentquality.com/</a>  <a href="http://colorfilter.wickline.org/">http://colorfilter.wickline.org/</a>  <a href="http://validator.w3.org/">http://validator.w3.org/</a>  <a href="http://jigsaw.w3.org/css-validator/">http://jigsaw.w3.org/css-validator/</a></p>	X			
<p><b>* If departments and colleges use the UNO template designed, updated and supported by the ITS department.</b></p>				

	Yes	No	In Progress	Not Applicable
<b>3.4 Geographic Information System (GIS)</b>				
Does your agency have plans, over the next biennium, for the development and/or acquisition of GIS/geospatial data or web-based systems to display or make accessible this type of data that is estimated to cost more than \$25,000?	X			
<p>If your answer to the previous question is YES, please provide a brief description:</p> <ul style="list-style-type: none"> <li>• The Cartography &amp; GIS Laboratory has been recognized as an ESRI certified training facility.</li> <li>• The Remote Sensing and GIS Applications Laboratory (RSAL) is a sophisticated computational facility, which facilitates instruction and research. Research projects involve remote sensing, geographic information systems (GIS) technology, environmental modeling, terrestrial monitoring, artificial intelligence, software and algorithm development, virtual reality simulations, and scientific visualization.</li> <li>• UNO certificate in GIScience. The curriculum stresses spatial theory, oral and written communication, computer experience, problem-solving skills, and GIS industry experience.</li> <li>• The University of Nebraska at Omaha is host to the Global Land Ice Measurements from Space (GLIMS) Regional Center (RC) for Southwest Asia, which includes the Hindu Kush and western Himalaya mountains of Afghanistan and Pakistan. (<a href="http://avalon.unomaha.edu/glims/">http://avalon.unomaha.edu/glims/</a>) The International GLIMS project is a global consortium of universities and research institutes, coordinated by the University of Arizona, whose purpose is to assess and monitor the Earth's glaciers from space for better resource management and planning.</li> <li>• The University of Nebraska Foundation recently funded center for Public Health Informatics (CPHI). This center will provide access to a think tank of UNO/UNMC IT, GIS and Public Health researchers and experts. This group will provide assistance on how IT and GIS capabilities can be used to integrate, visualize, analyze, and disseminate public health information and further research.</li> </ul>				

**Agency** University of Nebraska-Lincoln

Agency IT Contact	Gary Aerts
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## 1. Current Assets

### 1.1 Applications

#### 1.1.1 Off-the-Shelf Applications

Provide an estimated number of licenses for each of the following applications:

	Estimated Number of Users/Licenses	Version(s) (Optional)
<b>Productivity Suite</b>		
Microsoft Office	9500	
WordPerfect Office	100	
OpenOffice/StarOffice		
Other (Specify)		
<b>Internet Browser</b>		
Microsoft Internet Explorer	15,000	
Firefox/Mozilla	5500	
Safari	1300	
Other (Specify)		
<b>Desktop Antivirus</b>		
Symantec/Norton		
McAfee	5200	
Other (Specify) Sophos	16,000	
<b>Email and Calendaring</b>		
Microsoft Outlook/Exchange	2000	
Lotus Notes	8300	
Other (Specify)		
<b>Instant Messaging</b>		
Lotus	8300	
Jabber		
Other (Specify)		
<b>Database Management (DBMS)</b>		
IBM		
Oracle		
Microsoft SQL		
AS/400		
Other (Specify)		
<b>Applications Development Tools</b>		
Microsoft Visual Studio	10	

IBM Rational Application Developer		
Micro Focus COBOL		
Other (Specify)		

### 1.1.2 Other Off-the-Shelf Applications

List other significant off-the-shelf applications utilized by the agency:

Application	Estimated Number of Users/Licenses	Version(s) (Optional)

### 1.1.3 Custom Applications

List custom applications used by the agency, including (a) the general purpose of the application; (b) the platform on which it is running; (c) application development tools used; and (d) how the application is supported.

Application: WAM! - Web-based access to UNL student information  
Platform: Linux  
Development Tools: Java  
How Supported: UNL Information Services staff

Application: NuView - UNL Admissions management software  
Platform: Linux  
Development Tools: Java  
How Supported: UNL Information Services staff

Application: Image Retrieval System  
Platform: Linux  
Development Tools: Java  
How Supported: UNL Information Services staff

Application: Course Assessment (PEARL)  
Platform: Linux  
Development Tools: Java  
How Supported: UNL Information Services staff and Colorado State

Application: NCard transaction system  
Platform: Windows  
Development Tools: .Net, C  
How Supported: Shared Computing Services

Application: Facilities Project Management  
Platform: Windows  
Development Tools: .Net  
How Supported: Shared Computing Services

## 1.2 Data

### 1.2.1 Databases

List the significant databases maintained by the agency and a brief description of each.

Database: Student Information System

Brief Description: Student administrative system of course grades, class schedule, financial aid, student accounts

**1.2.2 Data Exchange**

List the significant electronic data exchanges your agency has with other entities.

Title/Description: Pell grants  
 Other Entity: Federal Government - Department of Education  
 Purpose: Reporting financial aid awarded and disbursed  
 Is this exchange encrypted?: yes

Title/Description: Direct loans  
 Other Entity: Federal Government - Department of Education  
 Purpose: Reporting financial aid awarded and disbursed  
 Is this exchange encrypted?: yes

Title/Description: Perkins Loans  
 Other Entity: Campus Partners  
 Purpose: Reporting financial aid awarded and disbursed  
 Is this exchange encrypted?: yes

Title/Description: IRS 1098T  
 Other Entity: Internal Revenue Service  
 Purpose: Federal reporting of student scholarships/grants and tuition for income taxes  
 Is this exchange encrypted?: yes

**1.3 Hardware**

**1.3.1 General Description of Computing Environment**

Provide a general description of the elements of the computing environment in the agency (mainframe, midrange, desktop computers, thin clients, etc.).

Description:

**1.3.2 Hardware Assets**

Complete the following table. For “current” assets, enter the total number of each item currently owned/leased by the agency. For “planned” assets, enter an estimated number of each item at the end of the biennium on June 30, 2011.

	Current				Planned			
	Windows	Mac	Linux	Other	Windows	Mac	Linux	Other
Desktop Computers	21,000	500	100					
Laptop Computers	250							
Servers								

Provide a brief narrative describing the reason/rationale for any significant change in the number of planned hardware assets as compared to the number of current hardware assets. Also, provide a description of the agency’s hardware replacement cycle.



Narrative:

## 1.4 Network Environment

### 1.4.1 General Description

Provide a general description of the agency's network environment. You may optionally include any related diagrams, etc. Also, describe any desktop management and/or LAN monitoring tools used by the agency.

Description:

### 1.4.2 Network Devices

Complete the following table. For "current" devices, enter the total number of each item currently owned/leased by the agency. For "planned" devices, enter an estimated number of each item at the end of the biennium on June 30, 2011.

	Current	Planned
Firewalls (Hardware)	30	45
Wireless Access Points	460	1000
Video Cameras (USB)		
IP Phones	100	120
POP Servers		
Web Servers		
Application Delivery (e.g. Citrix, Terminal Services servers) (Specify)		

Provide a brief narrative describing the reason/rationale for any significant change in the number of planned devices as compared to the number of current devices.

Narrative:

## 2. Staff and Training

### 2.1 Staff and Related Support Personnel

Identify staffing necessary to maintain your current IT environment, including contractor and OCIO staff supporting your agency specific environment.

	Approximate FTE
Agency IT Staff	
Contractors	
OCIO Staff	145.5

### 2.2 IT Related Training

Summarize the agency's efforts to address training needs relating to information technology, including training for IT staff and users.

Description:

### 3. Survey

	Yes	No	In Progress	Not Applicable
<b>3.1 Security</b> - Please answer the following questions regarding your agency's efforts to maintain a secure information technology environment. [The questions refer to the Nebraska Information Technology Commission's Security Policies. These policies are available at <a href="http://nitc.ne.gov/standards/">http://nitc.ne.gov/standards/</a> ]				
Has your agency implemented the NITC's Security Policies?		X		
Has your agency implemented other security policies?	X			
If your answer to the previous question is YES, please list the other security policies. List: Reduction of SSN identifiers				
<b>3.2 Disaster Recovery and Business Continuity</b> - For purposes of this document, the term "Disaster Recovery Plan" refers to preparations for restoring information technology systems following a major disruption.				
Does your agency have a disaster recovery plan?	X			
If your answer to the previous question is YES, have you tested your disaster recovery plan?	X			
If your answer to the previous question is YES, have you revised your disaster recovery plan based on the results of your test?	X			
Does your agency perform regular back-ups of important agency data?	X			
If your answer to the previous questions is YES, does your agency maintain off-site storage of back-up data?		X		
<b>3.3 Accessibility / Assistive Technology</b>				
Does your agency include the Nebraska Technology Access Clause in contracts for information technology purchases? (See Neb. Rev. Stat. § 73-205. The Technology Access Clause is posted at <a href="http://nitc.ne.gov/standards/">http://nitc.ne.gov/standards/</a> )				
Does your agency have procedures in place to identify the information technology related requirements of users with disabilities?				
Does your agency provide training opportunities for management, procurement, and technical personnel on how to meet the accessibility needs of users with disabilities?				
Has your agency evaluated its website(s) to ensure accessibility to all persons with disabilities?  If yes, what tools were used to evaluate accessibility? _X_ <a href="http://www.w3.org/WAI/ER/existingtools.html">http://www.w3.org/WAI/ER/existingtools.html</a> ___ <a href="http://www.vischeck.com/">http://www.vischeck.com/</a> ___ <a href="http://www.henterjoyce.com/fs_downloads/jaws_form.asp">http://www.henterjoyce.com/fs_downloads/jaws_form.asp</a> ___ Other (please specify _____)	X			
<b>3.4 Geographic Information System (GIS)</b>				
Does your agency have plans, over the next biennium, for the development and/or acquisition of GIS/geospatial data or geospatial data applications or services that is estimated to cost more than \$25,000?				
If your answer to the previous question is YES, please provide a brief description and/or reference where that description is provided in Section 4 below:				

