

MEETING AGENDA

Technical Panel of the Nebraska Information Technology Commission

Wednesday, November 21, 2007

9:00 a.m. - 10:30 a.m.

Varner Hall - Board Room

3835 Holdrege St., Lincoln, Nebraska

AGENDA

Meeting Documents: Click the links in the agenda or [click here](#) for all documents. (xx Pages, xxx KB)

1. Roll Call, Meeting Notice & Open Meetings Act Information
2. Public Comment
3. Approval of Minutes* - [September 11, 2007](#)
4. Project Reviews
 - Ongoing Reviews (as needed)
 - Retirement Systems
 - Health and Human Services (MMIS and LIMS)
 - Government Technology Collaboration Fund Grant Application*
 - Security Architecture Work Group - [Vulnerability Threat Management](#)
 - Project Proposals - FY2008 Deficit Budget Requests - Recommendation to the NITC*
 - Nebraska State College System - [Student Information Administrative System \(Summary Sheet\)](#)
 - University of Nebraska - [Student Information System \(Summary Sheet\)](#)
5. Standards and Guidelines
 - [Table of Contents](#)
6. Regular Informational Items and Work Group Updates (as needed)
 - Accessibility of Information Technology Work Group - Horn
 - Learning Management System Standards Work Group - Langer
 - Security Architecture Work Group - Hartman
7. Election - Technical Panel Chair for 2008*
8. Other Business
9. Next Meeting Date - January 8, 2008

10. Adjourn

* Denotes Action Item

(The Technical Panel will attempt to adhere to the sequence of the published agenda, but reserves the right to adjust the order of items if necessary and may elect to take action on any of the items listed.)

NITC and Technical Panel Websites: <http://www.nitc.state.ne.us/>

Meeting notice posted to the NITC Website: 4 OCT 2007; Rescheduled on 8 NOV 2007

Meeting notice posted to the [Nebraska Public Meeting Calendar](#): 4 OCT 2007; Rescheduled on 8 NOV 2007

Agenda posted to the NITC Website: 19 NOV 2007

TECHNICAL PANEL MINUTES

TECHNICAL PANEL

Nebraska Information Technology Commission
Tuesday, September 11, 2007, 9:00 a.m. - 10:30 a.m.
Executive Building - Lower Level Conference Room
521 S 14th Street, Lincoln, Nebraska
PROPOSED MINUTES

MEMBERS PRESENT:

Brenda Decker, CIO, State of Nebraska
Kirk Langer, Technology Director, Lincoln Public Schools
Walter Weir, CIO, University of Nebraska
Mike Winkle, Assistant GM, Nebraska Educational Telecommunications

ROLL CALL, MEETING NOTICE & OPEN MEETINGS ACT INFORMATION

Mr. Weir called the meeting to order at 9:04 a.m. Roll call was taken. There was a quorum present. The meeting notice was posted to the NITC Website and the [Nebraska Public Meeting Calendar](#) on August 16, 2007. The meeting agenda posted to the NITC Website on September 7, 2007.

PUBLIC COMMENT

There was no public comment.

APPROVAL OF MINUTES

Mr. Winkle moved to approve the [August 14, 2007](#) minutes as presented. Ms. Decker seconded. Roll call vote: Decker-Yes, Langer-Yes, Weir-Yes, and Winkle-Yes. Results: Yes-4 and No-0. Motion carried.

PROJECT REVIEWS – ON-GOING REVIEWS

Retirement Systems - Jerry Brown: Mr. Brown provided the following [update](#).

- The first Steering Committee meeting is tomorrow, September 12, 2007.
- The equipment that will be utilized for system testing and user acceptance testing will be installed at the NPERS office location. When the new space at the Office of the CIO is available for client hardware hosting, some of the equipment will be located there for a “proof of concept” process. This will validate response performance, backup processes, client accessibility, etc.
- An arrangement for office furniture for the project team is being pursued this week.
- The Quality Assurance function will be provided by the University Office of the CIO through the State Office of the CIO. The QA team (Kimberly Harper and Joshua Mauk) have added a third member, who will perform the majority of QA detail activities.
- Skip Philson, who was the designated State Project Manager for this project retired from State employment effective September 6, 2007. We have since replace Skip with Robin Goracke, a contractor, who has had a professional relationship with the State. We are pleased to have Robin on the Project.

- Requirements Validation for the financial and employer reporting functions (Phase I) began this week.
- Two JAVA programmers from the Office of the CIO have been designated for the project. They will be attending the Requirements Validation sessions.

Health and Human Services, LIMS (Laboratory Information Management System) Project - James Ohmberger: The State of Nebraska runs a laboratory system used to test water and air quality. The challenge has been the interface of the laboratory equipment with the computer system used for reporting functions. The primary customers are cities and municipalities. The Department of Health and Human Services worked with the Office of the CIO to release an RFP to build the interfaces. Five bids were submitted and are currently being reviewed. The approximate cost of the project is \$200,000-\$500,000. The staff member most familiar with this project has left the State which has caused a reorganization of staff.

Health and Human Services, MMIS (Medicaid Management Information System) Project – James Ohmberger: The system is used to pay all of the State's medical claims and does reporting functioning as well. The system is 30+ years old and was developed internally. An RFP was released. Three bids were submitted and are being evaluated. The agency is looking at Gold's Building for the Project's office space. It is estimated that the Project duration will be 2-2 ½ years. The steering committee for the project consists of representatives of the Office of the CIO, Budget Office, and Department of Health and Human Services Directors. The Steering Committee will make all executive decisions. The Project is funded primarily with federal dollars. Overall budget identified by the Governor is \$50 million. This is a combination of state and federal funds. The State's contribution is approximately \$7.5 million. The anticipated award date is January 2008. Currently, an RFP is being drafted for project management staff.

Nebraska State College System (Student Information Administrative System): Ed Hoffman, Vice President, State College System. During the last biennium budget requests, the NITC requested that the State College System and the University of Nebraska systems collaborate on this endeavor. If both projects were funded, the NITC request progress reports. The State College System is exploring a comprehensive system that would include student information, financial capabilities, and Human Resources information. The State College System has released an RFP. Bids have been received are currently being reviewed. The Student Information System is on the agenda for State College Board which will be meeting Friday, September 14. The goal is to have an enterprise system from a single provider by December 11, 2007. The estimated budget for the project is \$6-10 million dollars. It was not funded last biennium.

University of Nebraska (Student Information System)-Walter Weir, CIO, University of Nebraska: The University of Nebraska is facing the same situation in that the University Student Information System will no longer be supported after 2011. A steering committee has been meeting regularly to discuss this issue. The budget is estimated at \$30 million dollars of which \$15 million is a one-time cost. The University of Nebraska will submit a deficit budget request. The University cannot operate without a student information system. And an RFP for consulting services has been released and bids have been submitted. Vendors were charged with the following priorities: benefit to campus, cost effectiveness, and merging data from all four campuses. The University's Board of Regents will make the final decision.

Implementation would involve that all four campuses and continued communications will occur with the State College System to assure collaboration of efforts wherever possible.

Panel members requested that projects provide a written report similar to that submitted by the Retirement System.

STANDARDS AND GUIDELINES - RECOMMENDATIONS TO THE NITC

[Note: Links to the "Comment Version" are for the documents as posted for the 30-day comment period. Links to the "Strikethrough Version" are to versions showing recommended changes.]

Mr. Becker stated that all four have gone through the 30-day comment period. The State Government Council held three informational meetings to discuss and review the Information Security, Password, and Data Security standards. The Technical Panel Security Work Group has met and approved the changes. The State Government Council approved these, with the recommended changes, at their meeting last Thursday.

INFORMATION SECURITY POLICY ([Comment Version](#) | [Strikethrough Version](#)) and the **DATA SECURITY STANDARD** ([Comment Version](#) | [Strikethrough Version](#))

The panel did not have any additions or changes to the documents. Mr. Hartman and the Security Work Group were commended for their efforts.

Mr. Winkle moved to recommend approval of the Information Security Policy and the Data Security Standard as revised. Ms. Decker seconded. Roll call vote: Decker-Yes, Langer-Yes, Weir-Yes, and Winkle-Yes. Results: Yes-4 and No-0. Motion carried.

PASSWORD STANDARD ([Comment Version](#) | [Strikethrough Version](#))
[Comments Received](#) - Security Related Documents

At the State Government Council meeting there was discussion whether this should be a standard for initial sign-on to the network only or for each application employees access. Another issue of discussion was whether or not there should be different rules for e-government applications. If an agency can make a business case not to do this, they can file for an exemption with the Technical Panel. Mr. Hartman would bring these to the Technical Panel for review and evaluation.

Ms. Decker moved to recommend approval of the Password Standard as revised. Mr. Winkle seconded. Roll call vote: Winkle-Yes, Weir-Yes, Langer-Yes, and Decker-Yes. Results: Yes-4 and No-0. Motion carried.

The State Government Council members requested that if approved that the NITC be informed that there were several agencies that had concerns and issues with the standard.

EMAIL STANDARD FOR STATE GOVERNMENT AGENCIES
[Comments Received](#) - Email Standard

The State Government Council recommended that this be a policy rather than a

standard. It was explained to the council that this addressed employee email only.

Mr. Winkle moved to recommend approval of the Email Standard for State Government Agencies as revised. Mr. Langer seconded. Roll call vote: Winkle-Yes, Weir-Yes, Langer-Yes, and Decker-Yes. Results: Yes-4 and No-0. Motion carried.

REGULAR INFORMATIONAL ITEMS AND WORK GROUP UPDATES (as needed)

Accessibility of Information Technology Work Group, Christy Horn. Ms. Horn was not available to report but asked Mr. Golden to report that she is working on the recruitment of new work group members.

Learning Management System Standards Work Group, Kirk Langer. No items to report.

Security Architecture Work Group, Steve Hartman. Work group's efforts reported earlier in the meeting in the standards section.

OTHER BUSINESS

There was no other business.

NEXT MEETING DATE & ADJOURNMENT

The next meeting of the NITC Technical Panel will be held on Tuesday, October 9, 2007.

Ms. Decker moved to adjourn. Mr. Winkle seconded. All were in favor. Motion carried.

The meeting was adjourned at 10:37 a.m.

The meeting minutes were taken by Lori Lopez Urdiales and reviewed by Rick Becker of the Office of the CIO.

Nebraska Information Technology Commission

Vulnerability Threat Management

Project Proposal Form

Government Technology Collaboration Fund Grant

Project Title	Vulnerability Threat Management
Agency/Entity	Security Architecture Work Group

Notes about this form:

1. **USE.** The Nebraska Information Technology Commission (“NITC”) is required by statute to “make recommendations on technology investments to the Governor and the Legislature, including a prioritized list of projects, reviewed by the technical panel, for which new or additional funding is requested.” Neb. Rev. Stat. §86-516(8) In order to perform this review, the NITC and DAS Budget Division require agencies/entities to complete this form when requesting new or additional funding for technology projects.
2. **WHAT TECHNOLOGY BUDGET REQUESTS REQUIRE A PROJECT PROPOSAL FORM?** See the document entitled “Guidance on Information Technology Related Budget Requests” available at <http://www.nitc.state.ne.us/forms/>.
3. **DOWNLOADABLE FORM.** A Word version of this form is available at <http://www.nitc.state.ne.us/forms/>.
4. **SUBMITTING THE FORM.** Completed project proposal forms should be submitted as an e-mail attachment to rick.becker@nitc.ne.gov.
5. **DEADLINE.** Completed forms must be submitted by October 26, 2007 (the same date deficit budget requests are required to be submitted to the DAS Budget Division).
6. **QUESTIONS.** Contact the Office of the CIO/NITC at (402) 471-7984 or rick.becker@nitc.ne.gov

Section 1: General Information

Project Title	Vulnerability Threat Management
Agency (or entity)	Security Architecture Work Group

Contact Information for this Project:

Name	Steve Hartman
Address	501 South 14 th Street
City, State, Zip	Lincoln, Nebraska 68509
Telephone	402 471-7031
E-mail Address	Steve.hartman@nebraska.gov

Section 2: Executive Summary

The Office of the CIO has used the Government Technology Collaboration Fund in the past to provide enterprise security assessments. KPMG, OmniTech, and most recently ManTech International have been retained to provide vulnerability assessments on our external and internal facing servers. These security assessments while valuable, are 'point in time' assessments and are immediately outdated with the next release of an exploit. The State Information Security Officer is issuing a RFP to purchase an in-house product to perform these vulnerability assessments on a more regular and consistent basis, thereby improving the overall security posture of the State of Nebraska. The vulnerability tool selected will allow an agency to schedule scans to run on a weekly, monthly or quarterly based upon the criticality of the system. A remediation report is created for each device, and once the agency has completed the mitigation steps, a second scan can be conducted to ensure that the vulnerability has indeed been corrected, a step that was missing from the annual security assessments in the past.

A complete vulnerability tracking solution will be integrated into the vulnerability tool to provide for monitoring and analysis regarding the effectiveness of an agency's remediation of known vulnerabilities.

The vulnerability tool will allow for role-based reports to be viewed through a web-based dashboard, while providing the necessary authentication and authorization controls required to prevent one agency from viewing another agencies reports. The State Information Security Officer will have the ability to produce executive level reports that span the enterprise.

Section 3: Goals, Objectives, and Projected Outcomes (15 Points)

1. Describe the project, including:
 - Specific goals and objectives;

The State of Nebraska has provided enterprise security assessments for agencies through funding provided through the Collaboration Technology Fund. The State Information Security Officer, through the Office of the CIO, wishes to use the Government Technology Collaboration Fund to procure a product to perform the external and internal assessments ourselves on a regular and consistent basis.
 - Expected beneficiaries of the project; and

All servers, Firewalls, and switches can be monitored by the vulnerability tool. Every Agency,

Board, and Commission will now have the ability to view their current status, run ad hoc reports and produce meaningful analysis that will be being to show trends and tendencies within an agency and throughout the State of Nebraska.

- Expected outcomes.

All servers, firewalls, and switches will be scanned on a more consistent basis instead of the once every year or two. Agencies will have the information they need to actively harden devices and protect their infrastructure.

2. Describe the measurement and assessment methods that will verify that the project outcomes have been achieved.

The product selected through the RFP process, will provide weekly, monthly, quarterly and year-to-date reports. Inside the reports will be a comprehensive risk mitigation plan along with the ability to assign work to staff and track the progress. (Copies of the requirements for the RFP are attached)

3. Describe the project's relationship to your agency comprehensive information technology plan.

This is an integral component of the State Information Security Officer's strategic plan for 2007 – 2008. It will allow agencies the track their effectiveness in mitigating vulnerabilities in a timely manner and provide agency leaders with meaningful and useful metrics in determining the risk to their infrastructure, applications, and data.

Section 4: Project Justification / Business Case (25 Points)

4. Provide the project justification in terms of tangible benefits (i.e. economic return on investment) and/or intangible benefits (e.g. additional services for customers).

The Office of the CIO has used the Collaborative Technology Fund to provide annual security assessments. For the same investment, the State of Nebraska can own a vulnerability tool that can be used throughout the year, providing weekly, monthly, or quarterly audits, while providing a mechanism to track incidents and remediation plans. Information detailing the risks the State of Nebraska faces can be produced ad hoc, rather than just once per year.

5. Describe other solutions that were evaluated, including their strengths and weaknesses, and why they were rejected. Explain the implications of doing nothing and why this option is not acceptable. An RFP is being issued that will examine multiple vendors and solutions in order to chose the product that best meets the requirements of the State of Nebraska at the most reasonable cost.

6. If the project is the result of a state or federal mandate, please specify the mandate being addressed. The State of Nebraska plans to use the vulnerability tool to provide Payment Card Industry Data Security Standard (PCI DSS) compliance for its credit card processing in the state.

Section 5: Technical Impact (20 Points)

7. Describe how the project enhances, changes or replaces present technology systems, or implements a new technology system. Describe the technical elements of the project, including hardware, software, and communications requirements. Describe the strengths and weaknesses of the proposed solution.

Currently, the State of Nebraska hires an independent third party to come onsite once every year or two and perform a vulnerability assessment. The tools and products the State of Nebraska expects to purchase through the RFP are the exact same tools and products used by the leading consulting firms. However, instead of getting a single snapshot, moment-in-time, view of the State of Nebraska, we will be able to provide continuous insight into the State of Nebraska's infrastructure, which will

allow us to better measure compliance with NITC policies and business objectives.

The weaknesses of this solution, is that the products and tools in the marketplace may produce false positives (report a weakness that isn't there) or worse, a false negative (miss a vulnerability and not report it at all). The leading contenders in this space have been around for quite along time, and the accuracy rate is extremely high. But just to be safe, the State of Nebraska has included in the RFP the requirement that the tool has the ability to be 'tuned' to skip the false positives and to find the false negatives.

8. Address the following issues with respect to the proposed technology:

- Describe the reliability, security and scalability (future needs for growth or adaptation) of the technology.

The product chosen through the RFP process will be a best-of-breed solution, with a targeted implementation that spans the enterprise. The current estimate is that it will cover 1600+ servers, and 1000+ network devices. Agencies will have the opportunity to include all desktops and laptops at their own expense. The majority of the solutions in this market space are appliance based, and their reliability and security are excellent.

- Address conformity with applicable NITC technical standards and guidelines (available at <http://www.nitc.state.ne.us/standards/>) and generally accepted industry standards.

The ability to produce up to the minute vulnerability assessments across the enterprise is addressed in the [NITC Information Security Policy](#), and will assist agency leaders as they perform annual risk assessments as called for under the [Data Security Standard](#).

- Address the compatibility with existing institutional and/or statewide infrastructure.

The solution selected through the RFP process will be required to co-exist with the current infrastructure with minimal or no changes.

Section 6: Preliminary Plan for Implementation (10 Points)

9. Describe the preliminary plans for implementing the project. Identify project sponsor(s) and examine stakeholder acceptance. Describe the project team, including their roles, responsibilities, and experience.

The project sponsor is the State Information Security Officer. Staff from the Office of the CIO will administer the appliance and updates. The State Information Security Officer and / or members his staff will administer the roles within the product. The initial implementation will be run in a non-authenticated mode, so no accounts or administration will be required on the agency's end, other than to perhaps create a firewall rule that will allow the appliance access to the agency LAN.

10. List the major milestones and/or deliverables and provide a timeline for completing each.

The RFP will be released in mid-October, with an expected award date in December 2007. Implementation will be after the first of the year, and we expect to complete the implementation in 5 business days. Agencies should be able to being scanning devices by the end of the January 2008.

11. Describe the training and staff development requirements.

The products can be deployed in a number of configurations. It is the intention of the State Information Security Officer to deploy the product initially in a non-authenticated mode. The only requirements for this deployment is that firewall rule sets between the Office of the CIO and the agencies will need to be modified to allow the vulnerability scans to run across vLANs. Ultimately, the State information Security Officer would like to have the vulnerability scans to run in a full administrative mode, providing registry information, and change / configuration management capabilities. Training is to be included by vendor as part of the RFP request.

12. Describe the ongoing support requirements.

As initially deployed, the on-going administrative support requirements will be minimal. All hardware related support and updates will be handled by the Office of the CIO.

Section 7: Risk Assessment (10 Points)

13. Describe possible barriers and risks related to the project and the relative importance of each.

As mentioned before, the planned implementation will not require and administrator accounts to begin with, so the only potential barrier physically will be if the agency has a firewall rule that blocks the requests from the vulnerability tool. This can be easily corrected, with a firewall rule modification.

Another potential risk is that that the vulnerability tool will consume high levels of bandwidth, causing performance denigration. We have spoken to the University of Nebraska about this issue, and their experience is that the bandwidth requirements for the vulnerability tools are low. Additionally, most scans can be scheduled to run during non-peak hours for maximum utilization of the network.

14. Identify strategies which have been developed to minimize risks.

The RFP was developed in cooperation with the University of Nebraska, Central administration, who has already successfully implemented a vulnerability threat management solution. The University's Information Security Officer, Joshua Mauk has reviewed the RFP and the requirements for the State of Nebraska and has found them to be inline with industry best practices.

Implementation will be in a phased manner, with phase 1 consisting of deploying the appliance in a non-authenticated mode. Minimal amount of setup, debugging, and administration will be needed for this phase. Once the State of Nebraska has been successfully using the vulnerability management tool, and has reached a maturity level of being able to consistently identify and remediate issues within pre-defined service level agreements (SLA) and with NITC policy, we will begin planning for phase 2 and run scans in an full administrative mode. This will allow agencies to document registry, configuration, and code changes on the devices and compare those results against the published change management entries recorded through the state's change management process.

Section 8: Financial Analysis and Budget (20 Points)

15. Financial Information

Financial and budget information can be provided in either of the following ways:

(1) If the information is available in some other format, either cut and paste the information into this document or transmit the information with this form; or

(2) Provide the information by completing the spreadsheet provided below.

Instructions: Double click on the Microsoft Excel icon below. An imbedded Excel spreadsheet will be launched. Input the appropriate financial information. Close the spreadsheet. The information you entered will automatically be saved with this document. If you want to review or revise the financial information, repeat the process just described.



Excel Spreadsheet
(Double-click)

16. Provide a detailed description of the budget items listed above. Include:

- An itemized list of hardware and software.
An RFP has been created, and was issued in October of 2008, to choose a product / vendor that meet the state's requirements for a vulnerability threat assessment tool.
- If new FTE positions are included in the request, please provide a breakdown by position, including separate totals for salary and fringe benefits.
No additional FTE or resources are required
- Provide any on-going operation and replacement costs not included above, including funding source if known.
The costs for the products are a perpetual license. It has not been decided if the Office of the CIO will develop a rate to recover some or all of the continued costs of the product, or if the Government Technology Collaboration Fund will be used in the future.
- Provide a breakdown of all non-state funding sources and funds provided per source.
Other finding sources - None
Government Technology Collaboration Fund- \$75,000

17. Please indicate where the funding requested for this project can be found in the agency budget request, including program numbers.

Not applicable

Nebraska Cyber Security Center Strategic Plan 2007

Focused

- *“Close or narrow attention”*
- *“A condition in which something can be clearly apprehended or perceived”*

Daily we are bombarded with new products that promise to solve all our security problems, yet no one has the budget or resources to buy them all and even if you did, it would in reality be a disaster trying to get all these products to work together. Rather than try and purchase a host of products, the Nebraska Cyber Security Center is committed to deploying only those components that will meet our security goals in a cost effective and responsible manner. Our challenge is to develop a comprehensive plan that provides the most ‘bang-for-the buck’ while continuing to provide the maximum amount of protection for the enterprise using a defense-in-depth approach.

The Nebraska Cyber Security Center is cognizant of the fact that there are millions of events and transactions that occur daily on thousands of devices and that it is impractical to think that any one person or persons could monitor all these events in real time. Therefore, the Nebraska Cyber Security Center will centralize as many of these events in a central location, providing an ideal location to perform analysis in an effective and timely manner. This analysis center will enable us to produce highly detailed compliance reports for our customers and auditors.

Strategic components:

- Qualys / Retina eEye / Foundstone
 - *RFP Fall 2007/ Full implementation January 2008*
- F5
 - *DOL / NIS complete*
 - *Additional sites (App FW summer 2008)*
- Fortigate
 - *All new Fortigate FWs in place and configured Fall 2007*
 - *Change Management for FW modifications - Jan. 2008*
- Net IQ / Network Intelligence / eIQ
 - *Homeland Security Grant 2008*
- WebInspect / AppScan
 - *Purchase Sept/ Oct. 2007*
 - *All OCIO web applications by end of year.*
 - *All web applications by spring 2008*

Secure

- *“dependable; firm; not liable to fail, yield,”*
- *“safe from penetration or interception by unauthorized persons”*
- *“to guarantee the privacy or secrecy of”*

With the Nebraska Cyber Security Center taking a more focused approach in 2007, we must be confident that the solutions we put into place are:

- industry-tested best practices,
- they provide sufficient coverage to accomplish our security goals
- changes are closely monitored, and
- are cost effective solutions that enable eGovernment.

The Nebraska Cyber Security Center will promote training and awareness programs that will raise the level of awareness to insider threats, social engineering attacks, and general security best practices. An additional area of emphasis will be in developing solid documented processes and procedures for the infrastructure and applications that will enable us to accurately test the continued security posture of the State of Nebraska.

Lastly, we will perform vulnerability assessments on a regular schedule for all servers. We will also monitor and track all updates and configuration changes to systems and applications to ensure continued effective protection of our critical assets.

A statewide risk assessment, listing all the critical applications, devices and systems within the State of Nebraska, the vulnerabilities associated with each asset, the likelihood of an exploit occurring for that asset and the impact for the agency (ies) and / or State of Nebraska.

Strategic components:

- Security Awareness training for all state employees
 - *MS-ISAC CBT modified and deployed Fall 2007*
 - *All state employees using CBT Jan. 2008*
- Specialized training for key technology frontline workers
 - *CISSP Training (SANS)*
 - *SANS certification training*
- Nebraska Cyber Security Conference
- Vulnerability Threat Management (Qualys / Retina / Foundstone)
- Risk Assessment

Relevant

- “*Having a bearing on or connection with the matter at hand*”
- “*Pertinence to the matter at hand*”

The Nebraska Cyber Security Center will make all decisions concerning the purchase of products and the implementation of processes or procedures to ensure they are a necessary component that fits into the overall security architecture. The Nebraska Cyber Security Center will *not* be exploring or implementing new technologies that will not be of an immediate benefit to the State of Nebraska.

The Nebraska Cyber Security Center will be focusing more closely on the metrics gathered by the various devices already in place within the State of Nebraska. An evaluation of those metrics will result in the capturing and reporting of meaningful security metrics, and producing a *balanced scorecard* each month for distribution to agency directors, the executive branch, and the legislature.

Lastly, we will continuously evaluate our security program against the ever changing threat landscape to ensure that the products, processes, and procedures continue to provide effective coverage of all our critical assets.

Strategic partners:

- NITC Security Architecture Work Group
- NITC Technical Panel
- Office of the CIO Leadership team
- Partnership with the University of Nebraska
- Partnership with MS-ISAC
- Partnership with local governments

IV. PROJECT DESCRIPTION AND SCOPE OF WORK

The bidder must provide the following information in response to this Request for Proposal.

A. PROJECT OVERVIEW

The Office of the Chief Information Officer seeks proposals from qualified bidders to provide the State of Nebraska with an enterprise Vulnerability Management solution.

B. PROJECT ENVIRONMENT

The Office of the Chief Information Officer operates primarily in a Windows environment, and as such is responsible for managing the threats across a distributed network. The State of Nebraska has additional platforms, e.g. AS-400, zSeries, Linux, Mac OS, etc. which may or may not be included in the scans. The State of Nebraska owns approximately 1600 servers and 15,000 desktops, as well as other network devices.

C. BUSINESS REQUIREMENTS

Provide internal vulnerability assessments on all state devices.

D. SCOPE OF WORK

The Office of the Chief Information Officer manages devices for State of Nebraska agencies in accordance with state statutes. As such, a secure computing environment is required. The Office of the Chief Information Officer wishes to purchase a Vulnerability Management solution to be deployed in multiple phases. The first phase comprises 1600 servers. Additional phases include the deployment of the solution to other platforms, as well as to desktops.

E. TECHNICAL SPECIFICATIONS

Bidders must address each of the following technical specifications. The bidder's response must provide enough detail in narrative form to allow the Evaluation Committee to score the bidder's approach to each technical specification. Minimal responses such as "Yes", "No", "Noted", "Agreed" or "Accepted" will be considered non-responsive.

Required	Desired	Technical Specification
X		automatically discover new servers, desktops, etc... on the network
Response:		
	X	scan without the use of agents
Response:		
X		map all discovered assets in physical and or logical topology
Response:		
X		scan servers, desktops, routers, and other network devices
Response:		
	X	scan AS-400, zSeries, Linux, Mac OS, etc.
Response:		
	X	monitor changes to assets, e.g. new files added or changes to configuration files
Response:		
X		ability to schedule scanning tasks
Response:		
	X	automatically generate incident handling and ticket tracking to the asset custodian
Response:		
	X	integrate with HelpDesk systems (vendor to list products);
Response:		
X		create automatic and customizable reports that meet compliance needs of FISMA, HIPAA, ISO27000, PCI
Response:		

X		group and prioritize assets
Response:		
X		restrict views to business units through a role based web enabled dashboard
Response:		
X		provide remediation action lists
Response:		
	X	integrate with Security Information Event Management (vendor to list products)
Response:		
	X	integrate with Anti-Virus (vendor to list products);
Response:		
	X	integrate with Microsoft SMS
Response:		
	X	integrate with Microsoft Windows Server Update Services (WSUS)
Response:		
	X	export reports to optional formats (vendor to list formats)
Response:		
X		tune the event engine to reduce or eliminate false positives
Response:		
X		configure scans for performance issues, specific ports/services and specific vulnerabilities
Response:		
X		produce a score that indicates the risk based upon criticality and sensitivity of the asset (vendor to describe the methodology)
Response:		
X		encryption of vulnerability data
Response:		
X		non-reputable audit trails
Response:		
	X	two-factor authentication
Response:		
X		compliant with PCI DSS version 1.1
Response:		

F. DELIVERABLES

1. Implementation Plan.
2. Vulnerability Management solution and price schedule (price schedule should be based on the number of device scans, e.g. 1600 servers and incremental pricing for non-server devices); inclusive of all expenses.
3. Maintenance and support plan and associated cost, if any.
4. Training plan and associated cost, if any.

Nebraska Information Technology Commission

Project Proposal Form

**New or Additional State Funding Requests
for Information Technology Projects**

FY 2008 Deficit Budget Requests

Project Title	Student Information Administrative System
Agency/Entity	NE State College System

Project Proposal Form
FY 2008 Deficit Budget Requests

Notes about this form:

1. **USE.** The Nebraska Information Technology Commission (“NITC”) is required by statute to “make recommendations on technology investments to the Governor and the Legislature, including a prioritized list of projects, reviewed by the technical panel, for which new or additional funding is requested.” Neb. Rev. Stat. §86-516(8) In order to perform this review, the NITC and DAS Budget Division require agencies/entities to complete this form when requesting new or additional funding for technology projects.
2. **WHAT TECHNOLOGY BUDGET REQUESTS REQUIRE A PROJECT PROPOSAL FORM?** See the document entitled “Guidance on Information Technology Related Budget Requests” available at <http://www.nitc.state.ne.us/forms/>.
3. **DOWNLOADABLE FORM.** A Word version of this form is available at <http://www.nitc.state.ne.us/forms/>.
4. **SUBMITTING THE FORM.** Completed project proposal forms should be submitted as an e-mail attachment to rick.becker@nitc.ne.gov.
5. **DEADLINE.** Completed forms must be submitted by October 26, 2007 (the same date deficit budget requests are required to be submitted to the DAS Budget Division).
6. **QUESTIONS.** Contact the Office of the CIO/NITC at (402) 471-7984 or rick.becker@nitc.ne.gov

Project Proposal Form
FY 2008 Deficit Budget Requests

Section 1: General Information

Project Title	Student Information Administrative System
Agency (or entity)	NE State College System

Contact Information for this Project:

Name	Ed Hoffman
Address	1445 K St., Box 94605
City, State, Zip	Lincoln, NE 68509
Telephone	402.471.2505
E-mail Address	ehoffman@nscs.edu

Section 2: Executive Summary

Provide a one or two paragraph summary of the proposed project. This summary will be used in other externally distributed documents and should therefore clearly and succinctly describe the project and the information technology required.

The Nebraska State College System (NSCS) is requesting \$8.9 million in one time funds and \$605,000 in ongoing support for the purpose of purchasing and supporting a student information administrative software system and necessary supporting hardware. The existing student information system was purchased and implemented in 1987 and is now dated, lacking the necessary function to provide appropriate administrative support to students and faculty, and to provide necessary accountability reporting. Support for this aging product will cease on December 31, 2011. Requested dollars will provide for planning, software and hardware purchase, training, migration, and implementation to a modern system.

The request will allow the State College System to maintain its essential academic administration system. New software and hardware will provide online functions necessary to meet the needs of students, faculty, and administration. Among the components considered are: recruiting, admissions, registration, student accounts, financial aid, housing, grade reports, transcripts, student access to records, faculty advising, class scheduling, room assignment, departmental budgeting and accounting, key control, parking, and alumni functions.

Section 3: Goals, Objectives, and Projected Outcomes (15 Points)

1. Describe the project, including:
 - Specific goals and objectives;
 - Expected beneficiaries of the project; and
 - Expected outcomes.

The goal of this project is to replace an existing, outdated and functionally limited student information system with a modern, scaleable system that can provide for student need, information reporting, and integrated operational support. It will be essential that this system will support all existing student information services while adding integrated system-wide compliance reporting and Nebraska Information System integrated business function. To that end, this project's objectives include systems directed at:

- * Student Information
- * Financial Aid

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- * Financial Management
- * Human Resources
- * Institutional Advancement
- * Analytic Reporting
- * Data Warehousing

The primary benefactor of this investment will be the students served by the NSCS. Enhanced information and operating systems will assure on-going access to student information, reliable financial aid, and business operations. Additional benefit will be evident to faculty, staff and the System in the form of enhanced reporting methodology, making compliance and accountability reporting less onerous and more reliable. Finally, the state of Nebraska will realize benefits from enhanced reporting and data management in academic and business performance areas as well as from the creation of a direct interface with the Nebraska Information System. Such an interface will eliminate multiple data entry requirements and enhance information reliability.

2. Describe the measurement and assessment methods that will verify that the project outcomes have been achieved.

Outcomes will be evident as the current system's live data history is migrated to the new system. Specific performance measures have been defined within the project's request for proposal (RFP). This document was developed with input from key persons from each college and the NSCS office. Areas to be measured include:

- Student Information
- Financial Management
- Institutional Advancement
- Human Resources
- Technical Performance

Proposals are measured on:

- Vendor Reliability
- Commitment to Higher Education
- Vendor Financial Stability
- Application Software
- Hardware
- System Software and Utilities
- Vendor Support
- Cost
- References

These measures have been broadly summarized into six weighted scoring categories including product service, viability, pricing, responsiveness and track record, customer history, and ability to organize.

3. Describe the project's relationship to your agency comprehensive information technology plan.

Reference to this project has been noted in each institution's comprehensive information technology plan.

Section 4: Project Justification / Business Case (25 Points)

4. Provide the project justification in terms of tangible benefits (i.e. economic return on investment) and/or intangible benefits (e.g. additional services for customers).

Colleges today cannot function without operational information systems. Systems like student information, financial aid, financial management, human resources, institutional advancement, analytic reporting, and

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data warehousing are critical to the mission of the institutions. Ensuring reliability of these systems is also critical to the colleges' daily operations. Basic to the tangible benefit is consideration of the future reliability of the existing system. NSCS campuses currently utilize a SunGard SIS Plus student information system which was installed in 1987. SunGard has notified the NSCS that maintenance and support for the Plus system will end on December 31, 2011. This is a significant event for the NSCS and will require the colleges to have fully migrated legacy data to new, fully functional systems well in advance of the December 31, 2011 sunset in order to assure uninterrupted financial aid support for students and a reliable array of business function applications. At the current time SunGard has approximately 25 remaining "Plus" customers, compared to a Banner base of approximately 1,000 customers. The current "Plus" system operates on an HP AlphaServer system. HP plans to phase out the HP Alpha Server and to migrate customers to their new Itanium platform. Concerns are the expense of a new support platform and the fact that the existing system runs on a VMS/OpenVMS operating system. VMS, originally developed by Digital Equipment (DEC) in the late 1970's, peaked in market share in the late 1980's and has since been declining. Additionally, the labor pool for OpenVMS and COBOL programmers is difficult to hire from due to its diminishing size. The question of reliability becomes directly related to availability of support for both software and hardware applications to the current system. Functions currently provided by the existing system and this proposed replacement system are critical to the mission of the institutions and with the announcement of the end of support this project has taken on the role of the number one capital priority for the NSCS.

5. Describe other solutions that were evaluated, including their strengths and weaknesses, and why they were rejected. Explain the implications of doing nothing and why this option is not acceptable.

Five vendors have provided solutions for consideration by the NSCS. At the present time, the NSCS has not rejected any vendors, but has expanded discussion with three vendors by requesting and receiving presentations from Oracle, SunGard, and Datatel. Each vendor had two day presentations which included a cross section of representatives from each college and the system office. These presentations were also attended in part by representatives from the University and one Nebraska community college.

It is reassuring to note the three vendors under active consideration by the NSCS have been recognized by the Gartner Group in a September 2007 research note (G00151346) as industry leaders. Gartner Group is an information and technology research and advisory firm which regularly provide research relating specifically to higher education administrative suites. Their 2007 findings note, "Datatel, Oracle and SunGard Higher Education (Banner) continue to be placed in the Leaders quadrant, and all three have moved higher to the quadrant." It should be noted that this group of three vendors are the only vendors represented in Gartner's "Magic Quadrant" which exhibits the industries highest comparative levels of "ability to execute" and "completeness of vision".

The RFP process and subsequent presentations have allowed the colleges to:

- Build a base of support for the migration process
- Expand the knowledge base and product understanding of potential users relative to individual vendor products, applications, and possible configurations
- See demonstrated differences and similarities of available products

A "no action" position at this time will place the entire Nebraska State College System and our students at risk. The ability to provide financial aid support, essential student records, reporting structure, and required accountability measures will be in peril once support for the legacy student information, financial, and development applications ends on December 31, 2011.

6. If the project is the result of a state or federal mandate, please specify the mandate being addressed.

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No particular state or federal mandate has required this update of existing software, but it should be noted that on-going reporting at both the state and federal level is supported by data generated from this resource. As noted above, support for the existing SunGard product is scheduled to end on December 31, 2011.

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Section 5: Technical Impact (20 Points)

7. Describe how the project enhances, changes or replaces present technology systems, or implements a new technology system. Describe the technical elements of the project, including hardware, software, and communications requirements. Describe the strengths and weaknesses of the proposed solution.

This project replaces the present student information system by:

- Providing a relational database management system replacing the flat file, COBOL based system.
- Providing integrated applications replacing silo based data storage areas and applications.
- Providing a modern web based interface for maintenance of data, viewing of information, and report generation replacing the green screen terminal based functionality.
- Providing integrated data marts and data warehouse functionality replacing in-house developed reporting environments.

The technical elements of the project include:

Hardware:

- Servers to provide data, application, web server, and data warehouse/reporting functions.
- Data storage devices to house large volumes of data

Software:

- Relational Database Management System software
- Application Software
- Reporting Tools

Communication Requirements:

- Network connectivity is the responsibility of the individual campuses. Although network resources are not an element of this project, robust, well managed campus networks and Internet connectivity are required in order to provide reliable Internet access to the applications.

Strengths and weaknesses of the proposed solution will be evident upon completion of the vendor evaluations by the colleges.

8. Address the following issues with respect to the proposed technology:
- Describe the reliability, security and scalability (future needs for growth or adaptation) of the technology.
 - Address conformity with applicable NITC technical standards and guidelines (available at <http://www.nitc.state.ne.us/standards/>) and generally accepted industry standards.
 - Address the compatibility with existing institutional and/or statewide infrastructure.

Reliability, security, migration, and scalability, as well as workflow solutions are critical considerations and are being addressed as the vendor evaluations are conducted.

Open standard architecture and conformity with NITC technical standards and guidelines are being followed. Vendor evaluations have included ADA compliance, interest in higher education best practices, and security architecture.

Compatibility with existing institutional and statewide infrastructure is being considered throughout the vendor evaluation process, including an understanding of the potential for compatibility with existing

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systems currently in use at various colleges dedicated to on-line learning, electronic payment, and admissions processes. Very little of the existing administrative software will remain. An additional goal of this project will be to create a seamless interface between each college and the state's existing Nebraska Information System. The goal of this interface will be to eliminate multiple data entry requirements and enhance information reliability and access.

Section 6: Preliminary Plan for Implementation (10 Points)

9. Describe the preliminary plans for implementing the project. Identify project sponsor(s) and examine stakeholder acceptance. Describe the project team, including their roles, responsibilities, and experience.



ERPOrganizationChartTitle for NITC.ppt

<<< The five slides from this embedded file are included at the end of this PDF version of the document.

10. List the major milestones and/or deliverables and provide a timeline for completing each.

The NSCS has asked each vendor to provide a detailed description of its implementation services including information on approach and timeline. Vendor's timelines vary from 22 to 26 months (excluding college preparation and dual run time). Typical approach to the project begins with general project management activities and structuring of implementation activities into four phases with associated milestones. Those considerations include:

Decision Phase

- Installation of software
- Fit/Gap analysis
- Create project plan
 - Document objective for project
 - Define core resources needed
 - Develop training plan
 - Finalize initial project plan

Design Phase

- Logical Design
 - ID data integrity issues
 - Create functional requirements for any mods, workflow, reports, & interfaces
 - ID data validation criteria
- Physical Design
 - Create technical requirements for modification and reports
- Finalize test strategy, go-live schedule
- Develop end user training plans

Development Phase

- Construction
 - Configure and set up
 - Build security hierarchy
 - Unit testing
 - Create a fully tested, production-ready system
- Confirm design and build
- Documentation and training

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- Finalize end-user documentation & training plan
- Perform end-user training
- Finalize migration/installation documentation
- Finalize system architecture documentation
- Finalize user acceptance plans
- Finalize go-live cutover plans
- Complete validation process
- User acceptance testing
- Work with technical resource for test processes and peak processing
- Evaluate functionality and performance

Deployment Phase

- Go live
 - System wide deployment
- Final end user training
 - Transition support from project team to trained production team
- Post implementation support
 - Trouble shoot as necessary
 - Review production support
 - Consider additional training

11. Describe the training and staff development requirements.

Specific training requirements will be determined upon selection of the vendor. The technical staff will require relational database and other technical training in advance of the implementation process. Functional staff and end users will be trained on software functionality and reporting. Project team members will be trained as part of the implementation process.

12. Describe the ongoing support requirements.

Elements of ongoing support are defined in the needs statement and are included as a requirement of the RFP. Elements of those requirements include maintenance agreement and costs, training, and support. The existing system has been in service at each of the colleges since 1987. Ongoing maintenance agreements currently exist for each component of the system at each college. Funds currently earmarked and used for maintenance on the legacy system will be applied to ongoing costs for the new system.

Section 7: Risk Assessment (10 Points)

13. Describe possible barriers and risks related to the project and the relative importance of each.

Software implementations of this magnitude contain an array of both barriers and risks. Many have been anticipated in the early stages of planning by the colleges and others have presented themselves from conversations with peer institutions that have already been through a similar process. I will note many of the anticipated barriers and risks and provide our anticipated strategies to deal with same in item #14.

14. Identify strategies which have been developed to minimize risks.

- Staffing – It is important to provide a means to operate existing software with temporary personnel allowing permanent staff members the opportunity for early involvement in

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implementation of the new product. In addition, consideration has been given to assessing needed staffing levels for both application and end user support.

- Business Process Documentation – It is important to begin to document existing business processes as soon as possible.
- Fit/Gap – Once business process has been documented and a vendor contracted, it will be important to compare software function against existing process to determine those functions that have a fit and areas that will require change.
- Change agent – A project of this magnitude will effect change on all state colleges and the system office. This change will provide opportunity to standardize process across the system and to create common data element definitions with other Nebraska institutions of higher education.
- Vanilla implementation with scalable and tailorable features – A software provider should be capable of providing functions designed specifically for higher education and be capable of sizing applications to suit the needs of the individual colleges. While sizing and function of applications is critical, it is also important for the product to have the capability to be tailored to the needs of individual users.
- Institutional buy-in – It is important that each institution in the system recognize the importance of individuals throughout the college to the outcome of the project. Early involvement of a broad base of campus constituents has been evident in the planning and organizational process to this point and will continue.
- Training – Inadequate training will create unacceptable risk for the project. Application effectiveness can be achieved only if staff is given the opportunity to receive adequate and meaningful training. Geographic differences among the colleges require that trainers be provided to each institution individually whenever feasible. Training has been strongly emphasized in this project's implementation plan.
- Implementation charter - Careful planning to define institutional and consulting roles prior to the beginning of implementation is essential to maximizing potential for a successful project. The colleges are committed to the development of a comprehensive plan of action once a vendor has been determined.
- Implementation partner – The colleges will work with either a vendor provided or third party implementation partner with a proven capacity to provide technical support and project management. Implementation and application configuration will focus on best practices with consideration to tailorable functionality for end users.
- Data conversion – Data migration will be provided by the selected vendor in conjunction with the colleges' technology staffs. Recent vendor presentations have emphasized discussion of data migration capabilities of different corporations. The process will include normalization of current data, migration of live, and a defined level of legacy data, mapping, and implementation.

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Section 8: Financial Analysis and Budget (20 Points)

15. Financial Information

Financial and budget information can be provided in either of the following ways:

- (1) If the information is available in some other format, either cut and paste the information into this document or transmit the information with this form; or
- (2) Provide the information by completing the spreadsheet provided below.

Instructions: Double click on the Microsoft Excel icon below. An imbedded Excel spreadsheet will be launched. Input the appropriate financial information. Close the spreadsheet. The information you entered will automatically be saved with this document. If you want to review or revise the financial information, repeat the process just described.



form520e08 01a ERP Cap Outlay.XLS



form520e08 01b ERP Ongoing Support.XLS

<<< These embedded spreadsheets appear at the end of this PDF version of the document.

NEBRASKA STATE COLLEGE SYSTEM
ERP -- ONGOING
SUPPORT

DESCRIPTION	DB Admin 3 FTE	Applications Support Spec. 3 FTE	Maintenance Agreement	TOTAL
Permanent Salaries	171,000.00	120,000.00		291,000.00
FICA	13,200.00	9,300.00		22,500.00
Retirement	13,800.00	9,600.00		23,400.00
Life/LTD	3,000.00	2,700.00		5,700.00
Health	23,100.00	23,100.00		46,200.00
Total Personnel	224,100.00	164,700.00	0.00	388,800.00
Operating Expenses	1,500.00	1,500.00	200,000.00	203,000.00
Travel	2,100.00	2,100.00		4,200.00
Capital Outlay	4,500.00	4,500.00		9,000.00
	8,100.00	8,100.00	200,000.00	216,200.00
TOTAL	232,200.00	172,800.00	200,000.00	605,000.00

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16. Provide a detailed description of the budget items listed above. Include:

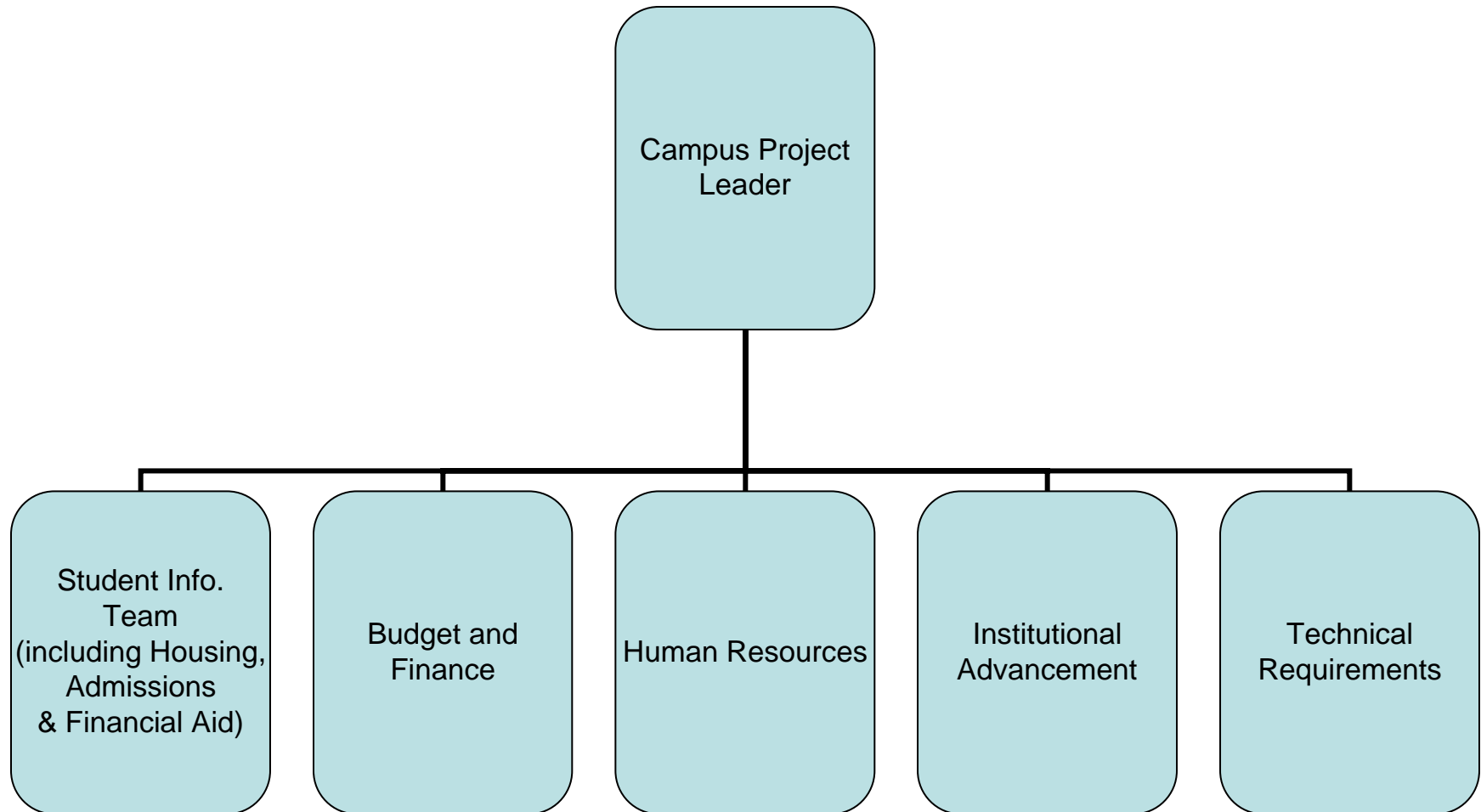
- An itemized list of hardware and software.
- If new FTE positions are included in the request, please provide a breakdown by position, including separate totals for salary and fringe benefits.
- Provide any on-going operation and replacement costs not included above, including funding source if known.
- Provide a breakdown of all non-state funding sources and funds provided per source.

Supporting hardware detail has been requested from vendors and will be available to the review panel when received. I would also like to offer an electronic version of any or all of the proposals currently under consideration for panel review if you feel the documents might assist your process. Contact information is at the beginning of this document.

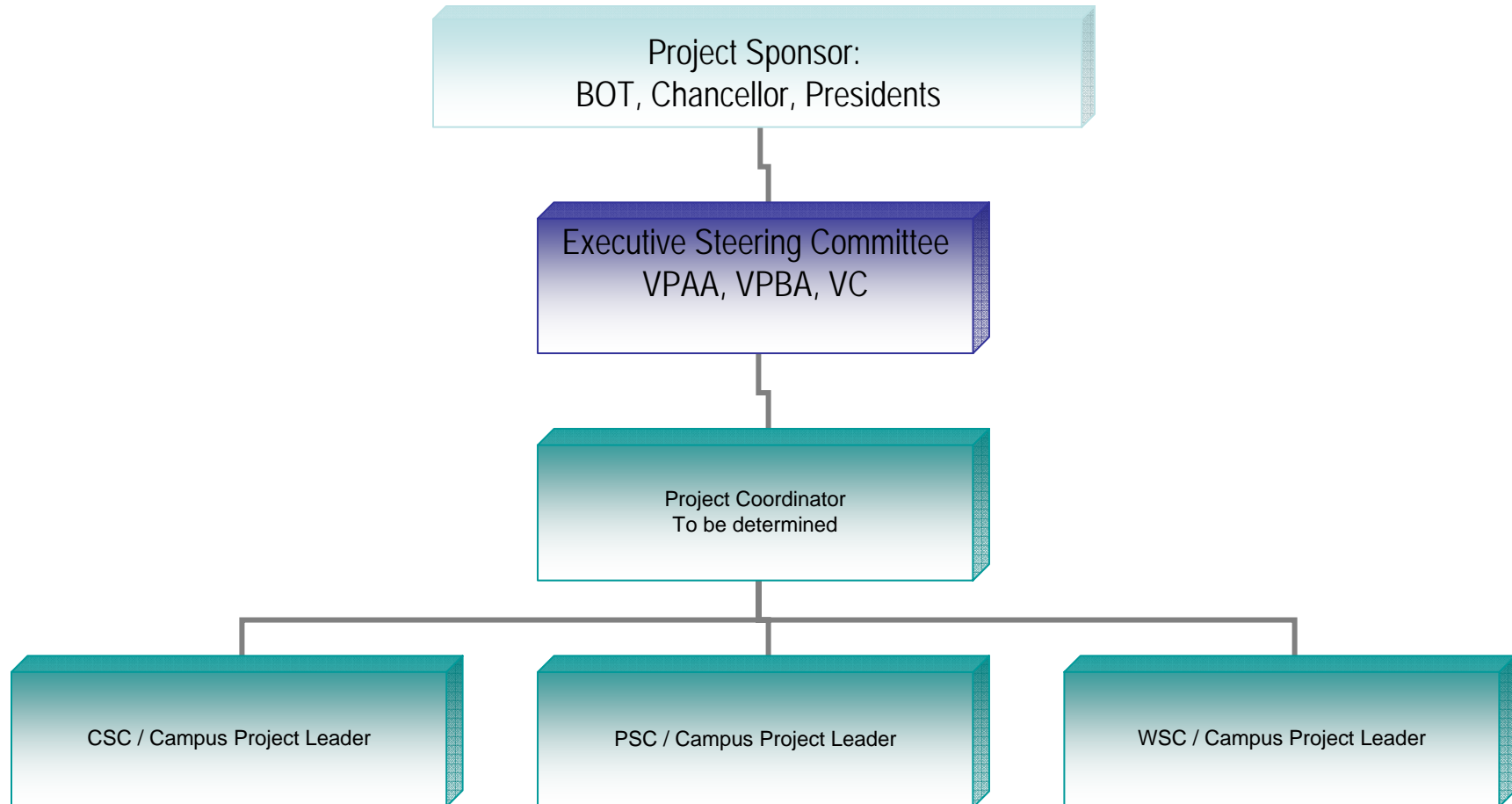
17. Please indicate where the funding requested for this project can be found in the agency budget request, including program numbers.

The deficit funding request for one time dollars for this project can be found in agency 50, program 921. On going funds are requested again by agency 50 under program 48.

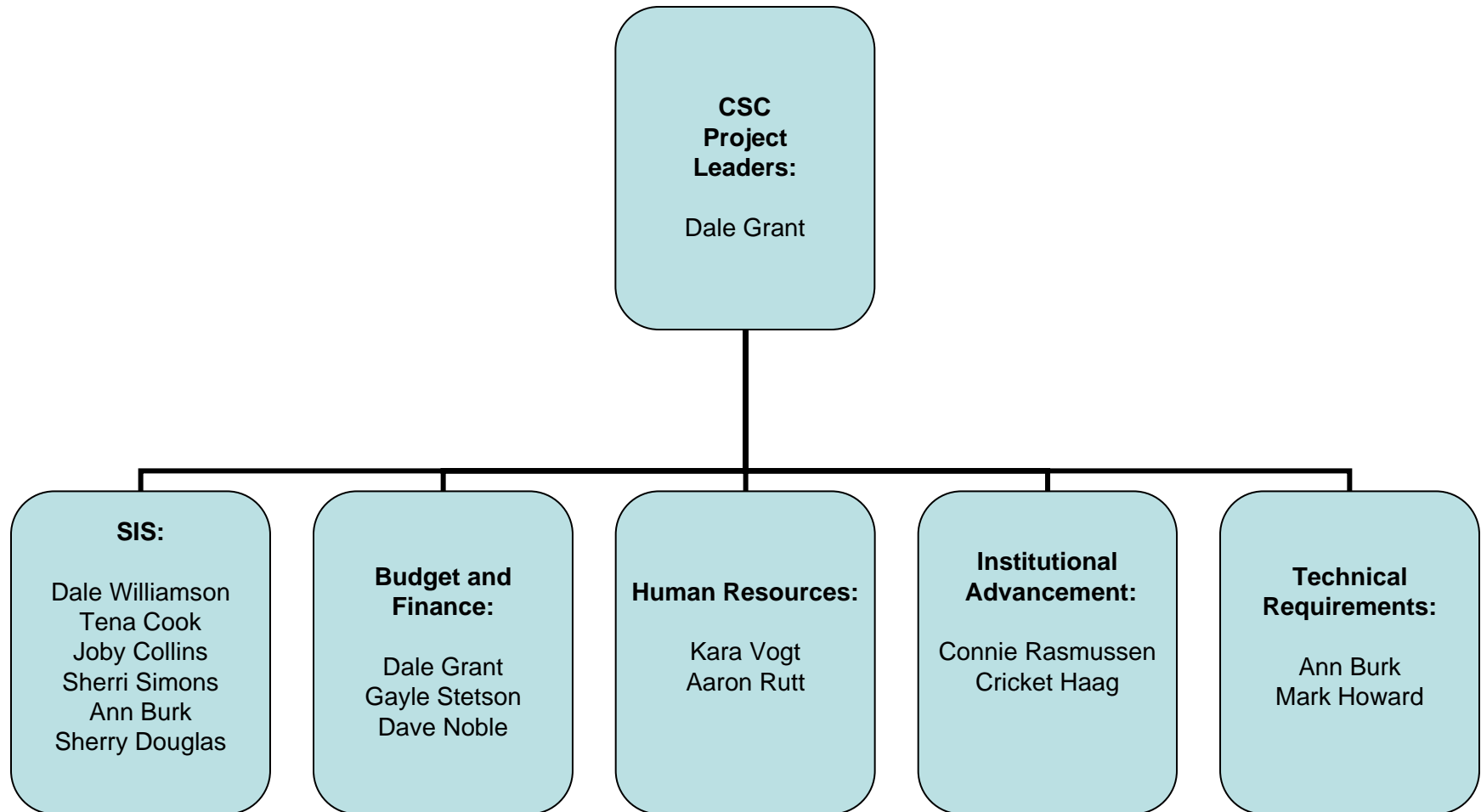
ERP/RFP Organizational Structure



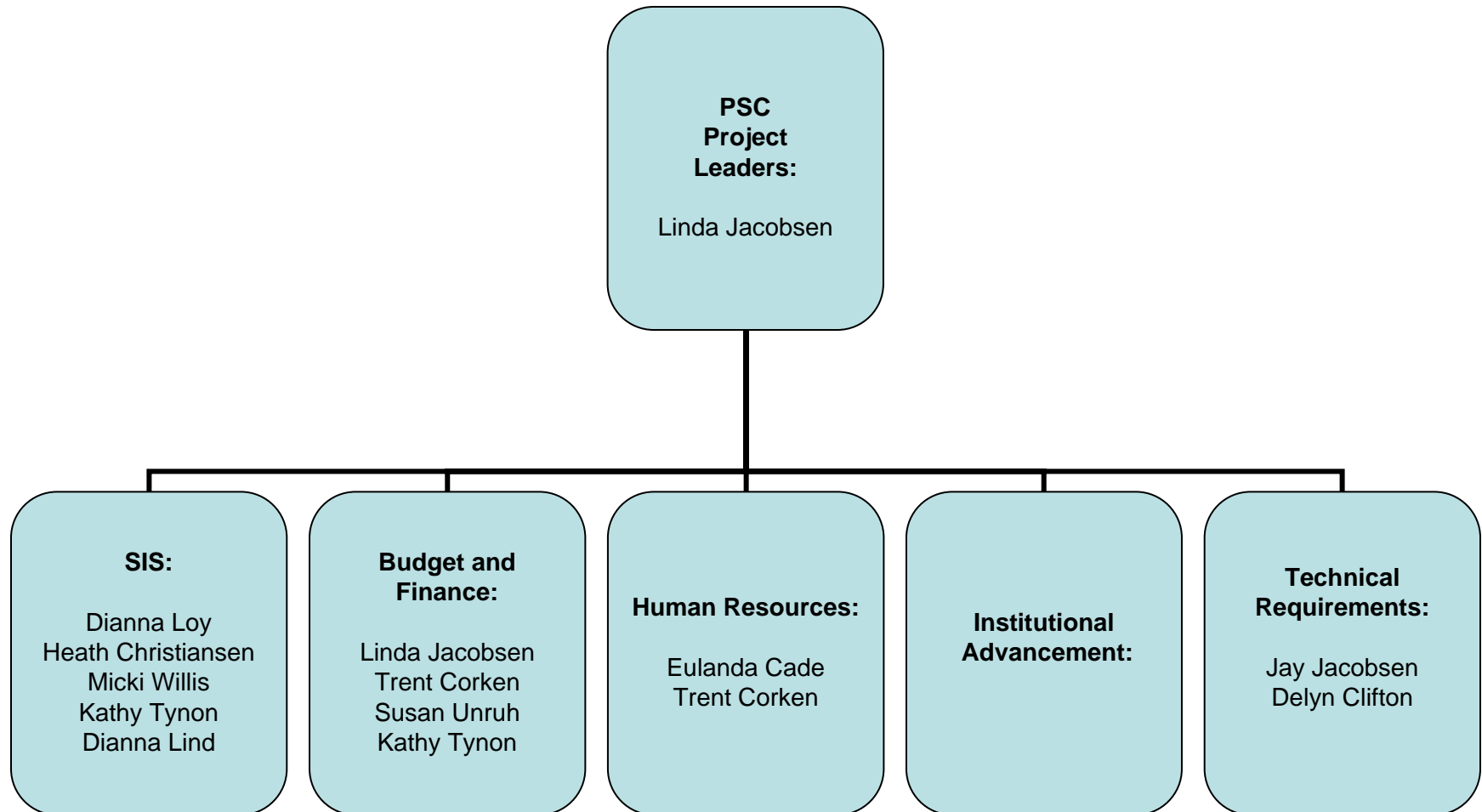
ERP/RFP Organizational Structure



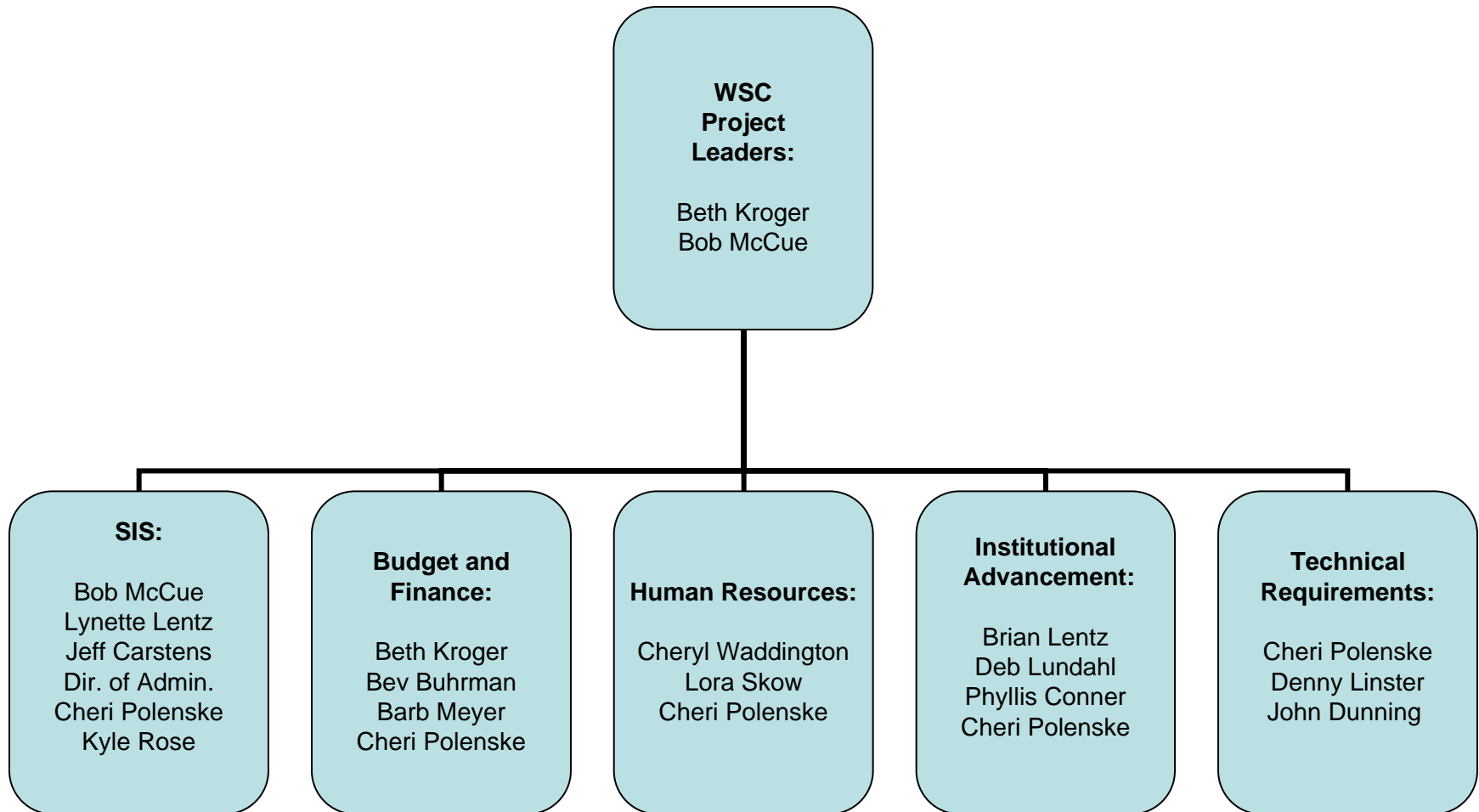
ERP/RFP Organizational Structure



ERP/RFP Organizational Structure



ERP/RFP Organizational Structure



Form Number 520

Program Adjustment Request

State of Nebraska - Administrative Services - Budget Division

	PAGE NUMBER
	CODE & DESCRIPTION
AGENCY	50 Nebraska State College System Office
PROGRAM	921 System Admin Software
REQUEST	01a ERP - Capital Outlay (One-Time)

EXPENDITURE ACCOUNT	APPROPRIATIONS		ADJUSTMENTS	
	2007-2008	2008-2009	2007-2008	2008-2009
Permanent F.T.E. Positions				
511100 Permanent Salaries - Wages				
511200 Temporary Salaries - Wages				
511600 Per Diem Payments				
511900 Supplemental (One-time payments)				
All Other Salaries				
Sub-Total Salaries	0	0	0	0
515100 Retirement Plans Expense				
515200 OASDI Expense				
515400 Life and Accident Insurance Expense				
515500 Health Insurance Expense				
All Other Personal Services				
Sub-Total Benefits	0	0	0	0
510000 Personal Services	0	0	0	0
520000 Operating Expenses				
Software Maintenance				
570000 Travel Expenses				
580000 Capital Outlay				8,900,000
590000 Government Aid				
Total Expense	0	0	0	8,900,000
Means of Financing				
General Fund				8,900,000
Cash Fund				
Federal Fund				
Revolving Fund				
Total Funding	0	0	0	8,900,000

Note: In the blank lines under Operating Expenses, itemize individual line items that comprise a significant portion of the Total Operating Expenses.

Program Adjustment Request

State of Nebraska - Administrative Services - Budget Division

	PAGE NUMBER
	CODE & DESCRIPTION
AGENCY	50 Nebraska State College System Office
PROGRAM	48 System Office
REQUEST	01b ERP - Ongoing Support & Maintenance

EXPENDITURE ACCOUNT	APPROPRIATIONS		ADJUSTMENTS	
	2007-2008	2008-2009	2007-2008	2008-2009
Permanent F.T.E. Positions				6.0
511100 Permanent Salaries - Wages				291,000
511200 Temporary Salaries - Wages				
511600 Per Diem Payments				
511900 Supplemental (One-time payments)				
All Other Salaries				
Sub-Total Salaries	0	0	0	291,000
515100 Retirement Plans Expense				23,400
515200 OASDI Expense				22,500
515400 Life and Accident Insurance Expense				5,700
515500 Health Insurance Expense				46,200
All Other Personal Services				
Sub-Total Benefits	0	0	0	97,800
510000 Personal Services	0	0	0	388,800
520000 Operating Expenses				3,000
Software Maintenance	300,000	300,000	0	200,000
570000 Travel Expenses				4,200
580000 Capital Outlay				9,000
590000 Government Aid				
Total Expense	300,000	300,000	0	605,000
Means of Financing				
General Fund	300,000	300,000	0	605,000
Cash Fund				
Federal Fund				
Revolving Fund				
Total Funding	300,000	300,000	0	605,000

Note: In the blank lines under Operating Expenses, itemize individual line items that comprise a significant portion of the Total Operating Expenses.

NEBRASKA INFORMATION TECHNOLOGY COMMISSION

Project Proposal - Summary Sheet
 FY 2008 Deficit Budget Requests

Project #50-01
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Project #	Agency	Project Title
50-01	Nebraska State College System	Student Information Administrative System

SUMMARY OF REQUEST (Executive Summary from the Proposal)

[Full text of the proposal is posted at: http://nitc.ne.gov/nitc/documents/2008_deficit/50-01.pdf.]

The Nebraska State College System (NSCS) is requesting \$8.9 million in one time funds and \$605,000 in ongoing support for the purpose of purchasing and supporting a student information administrative software system and necessary supporting hardware. The existing student information system was purchased and implemented in 1987 and is now dated, lacking the necessary function to provide appropriate administrative support to students and faculty, and to provide necessary accountability reporting. Support for this aging product will cease on December 31, 2011. Requested dollars will provide for planning, software and hardware purchase, training, migration, and implementation to a modern system.

The request will allow the State College System to maintain its essential academic administration system. New software and hardware will provide online functions necessary to meet the needs of students, faculty, and administration. Among the components considered are: recruiting, admissions, registration, student accounts, financial aid, housing, grade reports, transcripts, student access to records, faculty advising, class scheduling, room assignment, departmental budgeting and accounting, key control, parking, and alumni functions.

FUNDING SUMMARY

Excerpt from Budget Division Form 520 for "ERP - Capital Outlay (One-Time)":

State of Nebraska - Administrative Services - Budget Division		REQUEST		01a ERP - Capital Outlay (One-Time)	
EXPENDITURE ACCOUNT	APPROPRIATIONS		ADJUSTMENTS		
	2007-2008	2008-2009	2007-2008	2008-2009	
580000 Capital Outlay					8,900,000
590000 Government Aid					
Total Expense	0	0	0		8,900,000
Means of Financing					
General Fund					8,900,000
Cash Fund					
Federal Fund					
Revolving Fund					
Total Funding	0	0	0		8,900,000

NEBRASKA INFORMATION TECHNOLOGY COMMISSION

Project Proposal - Summary Sheet
 FY 2008 Deficit Budget Requests

Project #50-01
 Page 2 of 8

Excerpt from Budget Division Form 520 for "ERP - Ongoing Support & Maintenance":

State of Nebraska - Administrative Services - Budget Division		REQUEST		01b ERP - Ongoing Support & Maintenance	
EXPENDITURE ACCOUNT	APPROPRIATIONS		ADJUSTMENTS		
	2007-2008	2008-2009	2007-2008	2008-2009	
Permanent F.T.E. Positions					6.0
511100 Permanent Salaries - Wages					291,000
511200 Temporary Salaries - Wages					
511600 Per Diem Payments					
511900 Supplemental (One-time payments)					
All Other Salaries					
Sub-Total Salaries	0	0	0		291,000
515100 Retirement Plans Expense					23,400
515200 OASDI Expense					22,500
515400 Life and Accident Insurance Expense					5,700
515500 Health Insurance Expense					46,200
All Other Personal Services					
Sub-Total Benefits	0	0	0		97,800
510000 Personal Services	0	0	0		388,800
520000 Operating Expenses					3,000
Software Maintenance	300,000	300,000			200,000
570000 Travel Expenses					4,200
580000 Capital Outlay					9,000
590000 Government Aid					
Total Expense	300,000	300,000	0		605,000
Means of Financing					
General Fund	300,000	300,000	0		605,000
Cash Fund					
Federal Fund					
Revolving Fund					
Total Funding	300,000	300,000	0		605,000

Additional information from project proposal form:

**NEBRASKA STATE COLLEGE SYSTEM
 ERP -- ONGOING
 SUPPORT**

DESCRIPTION	DB Admin 3 FTE	Applications Support	Maintenance	TOTAL
		Spec. 3 FTE	Agreement	
Permanent Salaries	171,000.00	120,000.00		291,000.00
FICA	13,200.00	9,300.00		22,500.00
Retirement	13,800.00	9,600.00		23,400.00
Life/LTD	3,000.00	2,700.00		5,700.00
Health	23,100.00	23,100.00		46,200.00
Total Personnel	224,100.00	164,700.00	0.00	388,800.00
Operating Expenses	1,500.00	1,500.00	200,000.00	203,000.00
Travel	2,100.00	2,100.00		4,200.00
Capital Outlay	4,500.00	4,500.00		9,000.00
	8,100.00	8,100.00	200,000.00	216,200.00
TOTAL	232,200.00	172,800.00	200,000.00	605,000.00

PROJECT SCORE

Section	Reviewer 1	Reviewer 2	Reviewer 3	Mean	Maximum Possible
3: Goals, Objectives, and Projected Outcomes	10	14	14	12.7	15
4: Project Justification / Business Case	19	24	23	22.0	25
5: Technical Impact	12	19	17	16.0	20
6: Preliminary Plan for Implementation	7	9	8	8.0	10
7: Risk Assessment	7	10	9	8.7	10
8: Financial Analysis and Budget	10	16	12	12.7	20
TOTAL				80	100

REVIEWER COMMENTS

Section	Strengths	Weaknesses
3: Goals, Objectives, and Projected Outcomes	<ul style="list-style-type: none"> - Desired outcomes are clearly articulated and the goals are appropriate. - The project goals and objectives cover every area of service and support required of a college system. Having recently experienced the move from an older mainframe legacy SIS to a new system the benefits of change are worth the investment and the effort required. - The proposal aptly describes the need for, functions and beneficiaries of, the administrative software system. 	<ul style="list-style-type: none"> - While the migration of data and services provide key indicators of progress no specific milestones were provided belying the complexity of the undertaking. - Measurement of acquisition are addressed but perhaps more should have been addressed regarding implementation outcomes. - It seems like the new software system will contain many new technical functions that are not currently being used by the State College System. It may be helpful to explain that contemporary software systems contain these functions as a matter of fact; that the technology and features have progressed greatly since 1987.
4: Project Justification / Business Case	<ul style="list-style-type: none"> - The authors make a strong point for the necessity of updating the current system that is scheduled to lose support in 4 years. - Speaking from experience support of an aging or end of life system is generally lacking and the vendor simply maintains the core product. Innovation and new technology gains are not available and the college is put at a competitive disadvantage and students are not served as they should be. Though one vendor may be favored the fact that three vendors with high marks of the Gartner group speaks highly of the efforts thus far. - The proposal explains specific systems and the justification for considering a new enterprise system. 	<ul style="list-style-type: none"> - The requirement to update is clear, however, very little was included with respect to tangible benefits beyond that. Given the age of the previous solution and advancements in the intervening period, articulating tangible benefits to end users is expected. The lack of such descriptions is a serious oversight. - I assume that this will be a single instance of the software serving all three state college campuses. I also assume that a single instance is more cost-effective than three decentralized placements. The proposal did not speak to this approach. Will cost avoidance be realized as the three campuses retire their legacy systems? Also, will the new statewide network be a factor in enabling faster data flow between NSCS and the three campuses that did not exist before?
5: Technical Impact	<ul style="list-style-type: none"> - Clear indication that the existing system will be replaced with a modern Web-based system based on a three-tier architecture. - The web interface is not only critical for maintenance of data but delivery of information to today's students and faculty. - The proposal touched on each of the technical impact items. 	<ul style="list-style-type: none"> - Very little specific information related to hardware or software to be implemented. For example, the author mentions large storage devices and storage consolidation but provides no specifics information. Will SAN technology be embraced? How will data be backed up and archived? The description was very general to the point of being vague. - The proposal did not describe the future server environment. Will this be an externally hosted application or will it be served and hosted within Nebraska? If servers are state-side, does NSCS have a secure server environment that provides for 24/7 mission critical support? Have these

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Section	Strengths	Weaknesses
<p>6: Preliminary Plan for Implementation</p>	<ul style="list-style-type: none"> - Solid breakdown of existing staff and relationships to the work of the project. - All of the bases have been covered and reflect the real task of converting from an old system to a new one. The vendor's estimate of implementation is perhaps more aggressive than what the reality will be. I would suggest additional staffing budget during the deployment to prevent burnout of end users and IT support. - The project proposal gave intermediate task detail for the Decision, Design, Development, and Deployment Phases. 	<p>ongoing costs been included in the \$605,000?</p> <ul style="list-style-type: none"> - Only scant descriptions of project rollout strategy and training plans. For example, changing the core architecture will require very different skills from the technical staff. Such skill acquisition may not be possible within the scope of the project based on timelines. The description is much more a framework than a plan. - Perhaps more consideration to additional staffing. Running systems in parallel, training, testing, and go live require many extra hours of effort from key personnel. (I noticed this was addressed in the next section but will leave my comments for emphasis!) - On Question 9, please describe the stakeholder acceptance. Are the three campuses welcoming this enterprise system with "open arms" or "guardedness"? On Question 10, where is the timeline for the associated deliverables? Although the three vendors' timelines differed with "22 to 26 months" duration, it would have been helpful to provide an approximate duration for each of the Decision, Design, Development and Deployment phases.
<p>7: Risk Assessment</p>	<ul style="list-style-type: none"> - Strong indication of the relationship of training to project success. - Perhaps the best section of the project proposal. The risks are many but clearly anticipated and mitigated by a good plan. I would add regarding the "change agent" section that many institutional policies and administrative guidelines will be evaluated because the new technology and software may provide better tools for dealing with day to day tasks which may have been developed because of the limitations of the existing system. - Project management is key to keeping the project on time and at or under budget. "The colleges will work with either a vendor provided or third party implementation partner..." Do the three prospective vendors all supply this service and is it automatically included in the \$8.9 million one-time and \$605,000 or will it be an additional expense? 	<ul style="list-style-type: none"> - There is an emphasis on the vendor responsibility for data migration and application customization. These are the areas of greatest concern for users of the existing system and the reviewer expected to see greater local ownership of the process. - Project management is key to keeping the project on time and at or under budget. "The colleges will work with either a vendor provided or third party implementation partner..." Do the three prospective vendors all supply this service and is it automatically included in the \$8.9 million one-time and \$605,000 or will it be an additional expense?
<p>8: Financial Analysis and Budget</p>	<ul style="list-style-type: none"> - Staff costs are clearly indicated. - Much better than the previous effort. The amounts seem to be reasonable. - Ongoing support budget detail and estimates very reasonable for a project of this size. 	<ul style="list-style-type: none"> - It is very difficult to provide a response to the budget when the vendor has not been selected, no hardware is specified and there is no indication of whether the project will be negotiated as fixed price or time and materials. - An itemized list would have been nice but this is pre-RFP. Based on the budget amounts provided there is realism to the numbers based on my experience with a similar project at our college. - Capital outlay of \$8.9 million still needing additional detail. ("Supporting hardware detail has been requested from vendors and will be available to the review panel when received.") An itemized list of hardware and software is needed. I would be happy to revisit this section and score, once vendor details have been transmitted.

Staff Note: The NSCS submitted a proposal for this project as part of the FY2007-2009 Biennial Budget process. Below are links to the project review documents from last year for this project:

2006 Project Proposal Form - <http://nitc.ne.gov/nitc/documents/fy2007-09/ppf/50-01.pdf>

Summary Sheet with Reviewer Scores and Comments - http://nitc.ne.gov/nitc/documents/fy2007-09/ss/50-01_s.pdf

TECHNICAL PANEL COMMENTS

Technical Panel Checklist				Technical Panel Comment
	Yes	No	UNK	
1. The project is technically feasible.				
2. The proposed technology is appropriate for the project.				
3. The technical elements can be accomplished within the proposed timeframe and budget.				

EDUCATION COUNCIL COMMENTS

- The Education Council recommends the project be designated as a Tier 1 Priority (mission critical for the agency) because of discontinuation of support of the existing student information system.
- The Education Council adds the following remarks:
 - To commend the State College System staff on their efforts to operate as an integrated system of three colleges.
 - To the extent possible, both the State College System and the University of Nebraska must synchronize their RFP processes and co-evaluate vendors.
 - To require an analysis of cost-savings and an analysis of 'effect on students' for two pathways:
 - Centralization and cooperative hosting of Projects 50-01 and 51-01
 - Adoption of a single vendor for Projects 50-01 and 51-01
 - To require a unified look at adopting the same vendor by both the State College System and the University of Nebraska; and if not the same result, to provide a justification for divergence.

NITC COMMENTS

APPENDIX**AGENCY RESPONSE TO REVIEWER COMMENTS**

Section 3 – Identified Weaknesses

While the migration of data and services provide key indicators of progress no specific milestones were provided belying the complexity of the undertaking.

Response – The NSCS does not underestimate the “complexity of the undertaking” and has the benefit of having key personnel at each of the three colleges that were involved in the SIS Plus installation. The entire process will benefit tremendously because of that existing knowledge base.

I would also point out that section 10 provided a process outline with four project phases and significant activities within each phase. I have copied that outline for your consideration:

Decision Phase

- Installation of software
- Fit/Gap analysis
- Create project plan
 - Document objective for project
 - Define core resources needed
 - Develop training plan
 - Finalize initial project plan

Design Phase

- Logical Design
 - ID data integrity issues
 - Create functional requirements for any mods, workflow, reports, & interfaces
 - ID data validation criteria
- Physical Design
 - Create technical requirements for modification and reports
- Finalize test strategy, go-live schedule
- Develop end user training plans

Development Phase

- Construction
 - Configure and set up
 - Build security hierarchy
 - Unit testing
 - Create a fully tested, production-ready system
- Confirm design and build
- Documentation and training
 - Finalize end-user documentation & training plan
 - Perform end-user training
 - Finalize migration/installation documentation
 - Finalize system architecture documentation
 - Finalize user acceptance plans
 - Finalize go-live cutover plans
 - Complete validation process
- User acceptance testing
- Work with technical resource for test processes and peak processing
- Evaluate functionality and performance

Deployment Phase

- Go live
 - System wide deployment
- Final end user training
 - Transition support from project team to trained production team
- Post implementation support
 - Trouble shoot as necessary
 - Review production support
 - Consider additional training

Measurements of acquisition are addressed but perhaps more should be addressed regarding implementation outcomes.

Implementation outcomes will be far reaching, involving each functional element of individual colleges. Each college will be able to provide business operation functions with a comprehensive, fully integrated enterprise wide solution offering communication and workflow coordination for recruitment, student services, enrollment, financial aid, human resources, accounting and alumni development. The completed implementation will provide the colleges with a Web-based enterprise platform.

Additional outcomes to be realized include:

- Self service functionality for students to enhance enrollment
- Retention rate improvements by creating auto interaction with students that are unattended
- Automated recruiting processes for higher success rate and an expanded ability to reach out beyond current recruiting capacity
- Controlled expenses/spending
- Manage expenses control spending
- Directed procurement
- Adoption of best business practices
- Improved personnel recruiting
- Enhanced reporting capabilities resulting in data driven decision making

Technology improvements since 1987...

The existing SIS Plus software has historically provided support to the colleges in the areas including student information, financial records, alumni development, and reporting. Not all functions are currently being utilized at all colleges. A replacement product will provide the colleges with the opportunity to integrate function for student, financial aid, business, human resources, advancement, and reporting in a manner never before realized by the colleges. The system will provide the capability to merge information, workflow development, best business practices, and processing rules while improving data entry requirements (single rather than multiple entries), automating regulatory update, providing employee management tools, and analytic reporting. The enterprise solution will also provide students, faculty, and students with the ability to manage daily activities through a variety of self service functions, dynamic calendaring for academics, enrollment planning, advanced security options, identity management, and data mining.

Section 4 – Identified Weaknesses

Tangible benefits to end users...

End users should expect to realize:

- a reduced data entry load because of the centralization of data elements
- improved change and enhancement capabilities
- improved institutional decision making

- improved data analysis and reporting
- improved campus-wide progress toward shared goals
- enhanced services and support
- improved efficiency because users will be able to operate from a single system rather than involving multiple products and data bases
- greater potential to implement best business practices

I assume that this will be a single instance of the software serving all three state college campuses.

The NSCS is currently considering proposals for both central and decentralized data base systems. It is expected that regardless of the central vs. decentralized decision applications for each of the colleges will be discrete.

Will cost avoidance be realized as the three campuses retire their legacy systems?

Existing maintenance costs will be avoided once the legacy system is retired. Those costs have been considered and are being applied to offset (reduce) costs in the on-going funding request.

Will the new statewide network be a factor in enabling faster data flow?

We know the answer is yes for the Wayne campus. We assume the answer will be yes for the Chadron campus after bids are opened for NET 2, and we hope similar services will be available for the Peru campus in the near future.

Section 5 – Identified Weaknesses

Server environment -

Servers at each institution are currently in secure, environmentally controlled environment, but are not supported 24/7 by staff. Server requirements vary dramatically among vendors. At least one vendor will likely require support beyond the currently anticipated operating costs.

Nebraska Information Technology Commission

Project Proposal Form

**New or Additional State Funding Requests
for Information Technology Projects**

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Project Title	Student Information System
Agency/Entity	University of Nebraska

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Notes about this form:

1. **USE.** The Nebraska Information Technology Commission (“NITC”) is required by statute to “make recommendations on technology investments to the Governor and the Legislature, including a prioritized list of projects, reviewed by the technical panel, for which new or additional funding is requested.” Neb. Rev. Stat. §86-516(8) In order to perform this review, the NITC and DAS Budget Division require agencies/entities to complete this form when requesting new or additional funding for technology projects.
2. **WHAT TECHNOLOGY BUDGET REQUESTS REQUIRE A PROJECT PROPOSAL FORM?** See the document entitled “Guidance on Information Technology Related Budget Requests” available at <http://www.nitc.state.ne.us/forms/>.
3. **DOWNLOADABLE FORM.** A Word version of this form is available at <http://www.nitc.state.ne.us/forms/>.
4. **SUBMITTING THE FORM.** Completed project proposal forms should be submitted as an e-mail attachment to rick.becker@nitc.ne.gov.
5. **DEADLINE.** Completed forms must be submitted by September 15, 2006 (the same date budget requests are required to be submitted to the DAS Budget Division).
6. **QUESTIONS.** Contact the Office of the CIO/NITC at (402) 471-7984 or rick.becker@nitc.ne.gov

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Section 1: General Information

Project Title	Student Information System
Agency (or entity)	University of Nebraska

Contact Information for this Project:

Name	Walter Weir
Address	3835 Holdrege
City, State, Zip	Lincoln, NE, 68583
Telephone	402-472-2111
E-mail Address	wweir@nebraska.edu

Section 2: Executive Summary

Provide a one or two paragraph summary of the proposed project. This summary will be used in other externally distributed documents and should therefore clearly and succinctly describe the project and the information technology required.

The University of Nebraska currently operates separate student information systems for each of our four campuses. A vendor developed student information product, the SunGard SCT SIS PLUS system, is utilized by our UNL, UNO, and UNK campuses. UNMC operates an in-house developed student information system. These SIS systems are running on a variety of database management products, operating platforms, and hardware environments.

The SCT SIS PLUS system was developed in the 1970s and is based on dated design principles and technologies (e.g. terminal access and batch processing) that are becoming technologically obsolete. The SIS PLUS vendor announced 5 years ago they would continue to provide basic system maintenance to comply with federal and other higher education regulatory requirements but would not implement any significant PLUS system enhancements in the future. SCT is no longer actively marketing the PLUS system and the PLUS client base has declined from a peak of approximately 450 schools in 2000 to less than 70 and this number continues to decline. Indications are that SCT will likely terminate maintenance for PLUS in the 2009 - 2010 timeframe.

Additionally, PLUS provides limited support in a number of areas that are becoming increasingly important in the higher education arena - e.g. prospecting and recruiting, 24x7 availability, the ability to offer and administer courses that are not term-based, web-based access to data and services, workflow support, reporting capability, decision-support, and flexibility in registration and billing. These functionality "gaps" are addressed either through the purchase of additional function specific software products that must be integrated with PLUS, a costly process, or through in-house developed applications. Enhancements to PLUS developed in-house often require complex interfaces due to the lack of technical integration in

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the PLUS system. It is becoming more and more expensive to implement and maintain these “external” applications to provide functionality the base PLUS system does not offer.

As we face increasing competitive pressure to provide any time any place access to information and enhanced services we are finding it more and more difficult, and in some cases virtually impossible, to implement new desirable features and functionality due to the PLUS system architecture and technical limitations.

If the University of Nebraska is to remain competitive in the future we must implement new student information systems which allow us to be more innovative, responsive, and effective in meeting these challenges.

Section 3: Goals, Objectives, and Projected Outcomes (15 Points)

1. Describe the project, including:
 - Specific goals and objectives;
 - The University of Nebraska Board of Regents reaffirms and restates its position that all University of Nebraska administrative computing systems, especially including but not limited to student information systems (SIS), will be standardized and made compatible, resulting in a virtually integrated enterprise.
 - Improved access to information – greater access to more data on a more timely basis
 - Improved services – i.e. web-based any time, any place access
 - Consistent service level across all campuses
 - Eliminate the need to develop and operate campus level applications to supplement base SIS system functionality
 - 24x7 system availability
 - More responsive and agile – ability to implement change on a more timely basis
 - More effective and efficient through ability to implement best business practices across UN system
 - Implement CRM and workflow
 - Improved reporting and decision-support capability
 - Improved integration capability to UN financials
 - Expected beneficiaries of the project; and
 - 47,000 students
 - 13,000 faculty, staff, and administrators
 - Prospective students
 - Parents

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- High school advisors
 - Non-traditional students seeking professional development, career enrichment educational opportunities
 - State of Nebraska via a better educated work force
 - Expected outcomes.
 - More efficient and effective operation
 - Provide better operational and administrative decision-support
 - Service improvements
 - Ability to implement best business practices
 - Improved responsiveness to competitive pressure
 - Improved flexibility and the ability to adapt to change
 - Seamless student-centric service model
 - Ability to develop and deploy additional new services and instructional programs targeting the growing non-traditional student population
2. Describe the measurement and assessment methods that will verify that the project outcomes have been achieved.
- Changes will be dramatic. Many improvements will be reflected in the ability to provide new, additional services and options that would not have been possible previously.
 - Increased retention – our ability to offer better services to include improved advising and progress monitoring capability should lead to improved student retention and higher graduation rates
 - Enhanced recruitment – we should be able to drastically improve our reach and yield with more advanced tools in this area.
 - Ability to monitor and assess progress based on longitudinal studies via improved reporting.
 - Increased revenues – more students, more credit hours (see #2 above)
 - Before and after satisfaction surveys of faculty, staff, and students.
3. Describe the project's relationship to your agency comprehensive information technology plan.
- This project proposal is consistent with the University of Nebraska Information Technology Plan and is included in the 2007- 2009 plan.
 - Implementing a new SIS systems will allow the University to operate more efficiently.
 - We will be able to more easily implement best business practices with all campuses operating the same basic student information system.

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- Consistent platforming, languages, technical infrastructure, will lead to improvements in maintenance and reduce complexity and the cost of system administration.
- Maintain the University position as a leader in the field of technology and student services
- A single SIS system solution will allow us to better leverage our technical resources
- Enhance decision-support through improved access to information/data.

Section 4: Project Justification / Business Case (25 Points)

4. Provide the project justification in terms of tangible benefits (i.e. economic return on investment) and/or intangible benefits (e.g. additional services for customers).
 - Implementing new SIS systems will allow the University to operate more effectively and efficiently and better serve the post-secondary educational needs of the State of Nebraska.
 - The ability to deliver enhanced student services should lead to increased enrollments and retention levels.
 - We will be able to more easily implement best business practices under a common student information system environment.
 - We should also be able to implement new options for payment and billing that should allow more students access to a UN education.
 - Provide better, more consistent service throughout the UN system.
 - Improve overall administrative capability through enhanced decision-support.
 - Consistent platform, languages, technical infrastructure, will lead to cost savings in hardware, software, and maintenance costs and reduce the complexity of SIS system administration and support.
 - A new SIS will eliminate the need to develop extensive additional new SIS services and functionality
 - Improve our ability to implement changes and enhancements
 - Better share and leverage existing technical resources and skills through the standardization of technology.
 - Benefit from economies of scale and through centralization/consolidation as appropriate.
5. Describe other solutions that were evaluated, including their strengths and weaknesses, and why they were rejected. Explain the implications of doing nothing and why this option is not acceptable.

Continue to operate current SIS systems

- This option was deemed unacceptable and also rejected since the SIS PLUS system vendor is no longer enhancing this product and will discontinue maintenance of the

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PLUS system (or maintenance will become prohibitively expensive) within the next 3 - 4 years.

- The SIS PLUS system does not meet our current or future operational, informational, or service needs. We have already invested a great deal of time and money to purchase or develop enhanced functionality around the PLUS system and we have reached to point where continued investment in any additional PLUS-based development when similar functionality is available in other student information systems no longer makes sense.
 - The SIS PLUS system was designed and developed in the early 1970s and the technology and architecture no longer are appropriate to serve as a basis for one of our most mission-critical applications. It is also becoming more and more difficult to find and retain technical staff with the skills, knowledge, and ability to maintain the PLUS system as the technology continues to age.
 - Inconsistent level of service campus to campus.
 - Difficult to pull data/information together at the institutional level because of the differences in data, process, and procedural related to the separate campus-level instances of SIS.
 - Separate campus-level instances and the differences in how these separate instances were implemented require different, redundant, and costly development efforts to develop and deploy enhancements.
 - Inter-operability considerations - have to log into the separate campus SIS systems and they do not interface easily.
 - Inter-campus operations, processes, and procedures and the consistent delivery of services difficult.
 - SIS PLUS technology and design make it difficult to implement web-based applications.
 - Data structures are archaic and make reporting very difficult and costly.
7. If the project is the result of a state or federal mandate, please specify the mandate being addressed.
- Compliance with Federal financial aid rules and regulations.
 - Compliance with Federal SEVIS requirements.
 - Other required federal reporting.
 - FERPA compliance.
 - ADA compliance.
 - HIPAA compliance.

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Section 5: Technical Impact (20 Points)

7. Describe how the project enhances, changes or replaces present technology systems, or implements a new technology system. Describe the technical elements of the project, including hardware, software, and communications requirements. Describe the strengths and weaknesses of the proposed solution.
 - New, more current hardware, software, operating system, language, data base management system, and other technical components.
 - Move from terminal based access, batch processing, and the limitations imposed by the dated technology reflected in our current SIS systems to web-based, real-time, more flexible and dynamic technologies.
8. Address the following issues with respect to the proposed technology:
 - Describe the reliability, security and scalability (future needs for growth or adaptation) of the technology.
 - The SIS system options we are evaluating all offer significant improvements in accessibility, reliability, security, and scalability.
 - Address conformity with applicable NITC technical standards and guidelines (available at <http://www.nitc.state.ne.us/standards/>) and generally accepted industry standards.
 - The SIS system options we are evaluating all conform to applicable NITC and generally accepted industry technical standards and guidelines.
 - Address the compatibility with existing institutional and/or statewide infrastructure.
 - The SIS system options we are considering are compatible with existing institutional and state-wide infrastructures.

Section 6: Preliminary Plan for Implementation (10 Points)

9. Describe the preliminary plans for implementing the project. Identify project sponsor(s) and examine stakeholder acceptance. Describe the project team, including their roles, responsibilities, and experience.
 - This project is sponsored by the University's Board of Regents, Central Administration, and our four campuses. All entities are in agreement that the replacement of our existing SIS systems is necessary.
 - The plan for implementing a new SIS system is to begin the process of defining requirements, evaluating options, selection, and implementation as soon as possible. It is anticipated this process will take approximately 30 - 36 months.
 - There will be a number of project teams to include:
 - University-wide SIS Steering Committee made up of high-level administrative staff to provide overall project administration, direction and an institutional vision/strategy.

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- U-wide SIS Task Force made up of high-level operational and technical staff to define functional requirements, and provide tactical analysis, design, and implementation support.
- U-wide work groups will be required at the operational level to address detailed functional requirements and to implement best business practices.
- Campus level work groups will be required at the operational level to address campus-specific processing, policy, and implementation requirements.

10. List the major milestones and/or deliverables and provide a timeline for completing each.

- Preliminary analysis - 3 to 4 months
 - Organize project teams
 - Define long-term University of Nebraska student information and services vision and strategy
 - Define operational, data, and service delivery requirements
 - Identify available SIS system options
- Evaluation and Selection - 1 - 6 months
 - Evaluate SIS options
 - Select most appropriate SIS option
- Implementation - 24 - 36 months
 - Develop implementation plan
 - Implement SIS system

11. Describe the training and staff development requirements.

- Any new SIS system will include many new and different hardware and software components which will require new skills and expertise. These will be filled through a combination of new staff and training of existing staff as appropriate depending on the SIS option selected.

12. Describe the ongoing support requirements.

- The ongoing support structure is already in place with programmers on each campus. Modifications to the support structure, if any, will be minimal.

Section 7: Risk Assessment (10 Points)

13. Describe possible barriers and risks related to the project and the relative importance of each.

- While there are always risks, software development has changed over the years. Development environments now support an iterative process where software can quickly be built and tested and used. The software is then modified after it has been used to reflect the current needs - not the need of the outdated analysis done in the past.

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Software is constantly improved based on current need. In theory it is a never ending loop of improvement.

- This same philosophy can be applied to major system implementations. The current generation of software is much more flexible and configurable. It has much more functionality. This newer software allows us to take what others have done (like Kent State, Tennessee, Oregon State) and use that as a starting point. We can implement much quicker - but more importantly we can adapt at a rapid pace even after implementation. We can use the software; we can learn the software; we can adapt the software. This is again a continuous process of refinement and improvement.
- Since there are many others who have been through the Student Information System implementation cycle - we can also build on what others have learned in the past. Consultants are more mature and knowledgeable and have proven methods and tools to successfully implement this type of system. Higher Education is a unique market where we share what we have done with our competitors. We can literally stand on the shoulders of others who have done this before us. We will be relying on the best practices developed over the last ten years and hopefully we will be adding to this growing archive of strategies and techniques.
- Lastly the University of Nebraska has experience in implementing large complex systems, such as SAP, on time and on budget.

14. Identify strategies which have been developed to minimize risks.

- The project plan developed will identify obstacles, barriers and risks and strategies to mitigate each.
- Data Migration Toolkits will be provided by the vendor as migrating or converting data between legacy and newer application solutions remains one of the most complex and resource-consuming application deployment projects. The necessary research, specifications development, and associated programming requirements demand significant time and understanding of the old and new application systems as well as a comparison and understanding of both data components and their intended uses.
- A vendor provided Data Migration toolkit will efficiently convert legacy data to a new production system. Additionally, it will reduce the time necessary for migration and help identify errors without requiring a high-level technical skill set or additional third-party software. Combined, these tools will provide significant time savings and resource reduction necessary for researching, defining, programming, and validating the converted data through predefined templates, extract programs, and testing procedures. The Data Migration toolkit will include:
 - Baseline to new system data mapping definitions
 - COBOL data extraction tools
 - Customized SQL scripts
 - Customized SQL*Loader control file
 - Data translation tools (crosswalk structures)
 - PL/SQL conversion scripts, with accompanying database functions

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- Data migration artifacts
- Error validation
- The University will engage an implementation partner who has a record of providing proven models and methodologies delivered by experienced trainers, consultants, and project and account management professionals. Throughout a services engagement, the implementation partner will be instructed to focus on maximizing the business value of our IT systems. With service standards centered on the principles of business process, our implementation partner will be required to understand our business practices and determine how the new student information systems will best support our institution in achieving its unique and strategic business goals.
- Quality milestone checkpoints will be implemented throughout the project to insure we deliver to the highest standards.

Section 8: Financial Analysis and Budget (20 Points)

15. Financial Information

Financial and budget information can be provided in either of the following ways:

- (1) If the information is available in some other format, either cut and paste the information into this document or transmit the information with this form; or
- (2) Provide the information by completing the spreadsheet provided below.

Instructions: Double click on the Microsoft Excel icon below. An imbedded Excel spreadsheet will be launched. Input the appropriate financial information. Close the spreadsheet. The information you entered will automatically be saved with this document. If you want to review or revise the financial information, repeat the process just described.



Excel Spreadsheet
(Double-click)

<<< This embedded spreadsheet appears at the end of this PDF version of the document.

Budget Table Notes:

- * Current cost estimate consists of all contractual services, including design, programming, project management, and consultant travel and expenses.
- ** Other operating costs include financing interest, cost of space & furniture, and project contingency fund.

16. Provide a detailed description of the budget items listed above. Include:

- An itemized list of hardware and software.

<u>Hardware & Software</u>	<u>Description</u>	<u>Est. Cost</u>
Production Data Base Server	IBM p570: 12 POWER5+ CPUs and 64GB RAM	\$395,496
U-Wide Work Flow Server	IBM p550: 4 POWER5+ CPUs and 16GB RAM	\$32,429
U-Wide Data Base & Appl Test/Dev Server	IBM p560: 8 POWER5+ CPUs and 32GB RAM	\$63,394

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Hardware & Software	Description	Est. Cost
U-Wide SAN Storage	IBM DS4800: 16TB Storage	\$327,555
Tape Backup	IBM TS3310: 5 LTO drives and 174 Tape Slots	\$111,975
Lincoln -Self Service Server	IBM p550: 4 POWER5+ CPUs and 16GB RAM	\$32,429
Lincoln -Core Application Server	IBM p550: 4 POWER5+ CPUs and 16GB RAM	\$32,429
Lincoln -Core Application Server	IBM p550: 4 POWER5+ CPUs and 16GB RAM	\$32,429
Lincoln -Platform Server 1	IBM p560: 8 POWER5+ CPUs and 32GB RAM	\$63,394
Lincoln -Platform Server 2	IBM p560: 8 POWER5+ CPUs and 32GB RAM	\$63,394
Lincoln -Messaging Server	IBM p550: 4 POWER5+ CPUs and 16GB RAM	\$32,429
Omaha -Self Service Server	IBM p510: 2 POWER5+ CPUs and 8GB RAM	\$13,852
Omaha -Core Application Server	IBM p510: 2 POWER5+ CPUs and 8GB RAM	\$13,852
Omaha -Platform Server 1	IBM p550: 4 POWER5+ CPUs and 16GB RAM	\$32,429
Omaha -Platform Server 2	IBM p550: 4 POWER5+ CPUs and 16GB RAM	\$32,429
Omaha -Messaging Server	IBM p510: 2 POWER5+ CPUs and 8GB RAM	\$13,852
UNMC -Self Service Server	IBM p510: 2 POWER5+ CPUs and 8GB RAM	\$13,852
UNMC - Core Application Server	IBM p510: 2 POWER5+ CPUs and 8GB RAM	\$13,852
UNMC -Platform Server 1	IBM p550: 4 POWER5+ CPUs and 16GB RAM	\$32,429
UNMC -Platform Server 2	IBM p550: 4 POWER5+ CPUs and 16GB RAM	\$32,429
UNMC -Messaging Server	IBM p510: 2 POWER5+ CPUs and 8GB RAM	\$13,852
Kearney -Self Service Server	IBM p510: 2 POWER5+ CPUs and 8GB RAM	\$13,852
Kearney - Core Application Server	IBM p510: 2 POWER5+ CPUs and 8GB RAM	\$13,852
Kearney -Platform Server 1	IBM p550: 4 POWER5+ CPUs and 16GB RAM	\$32,429
Kearney -Platform Server 2	IBM p550: 4 POWER5+ CPUs and 16GB RAM	\$32,429
Kearney -Messaging Server	IBM p510: 2 POWER5+ CPUs and 8GB RAM	\$13,852
Enterprise Server Upgrade	IBM Z890-360	\$350,000
Desktops/Laptops	Implementation team	\$58,000
Hardware Maintenance	1 st 5 years	\$1,148,540
Student Mgmt Software		\$4,102,941
Student Mgmt Software Maintenance	1 st 5 years	\$5,283,594
Database Software		\$2,000,000
Database Software Maintenance		\$2,575,516
Operations Software & Maintenance		\$531,203
Other Software	e.g., printing, analytics	\$70,000
Other Items	Description	Est. Cost
Consulting & Travel Expense		\$7,395,000
Financing expense	Financing of (a) student mgmt & database software and hardware and (b) consulting/travel	\$2,475,749
Network connectivity	Reverse proxy servers, switch ports, network fabric, additional firewall support	\$324,000

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<u>Hardware & Software</u>	<u>Description</u>	<u>Est. Cost</u>
Remote access	Consultants and Implementation Team	\$68,400
Space & furniture	Rent & furniture rental for implementation team	\$171,000
Office supplies		\$4,500
Training	Change Management	\$320,000
Contingency fund		\$500,000

- If new FTE positions are included in the request, please provide a breakdown by position, including separate totals for salary and fringe benefits.

Backfill Dollars	Annual	Total Project
Estimated 20 positions @ \$30,000 each	\$600,000	\$1,800,000

Positions/Personnel	Annual Salary*	Annual Benefits*
Senior Database Administrator	\$100,000	\$20,000
Database Administrator	\$66,700	\$13,300
Operating System	\$70,800	\$14,200
Operating System	\$70,800	\$14,200
Total	\$2,108,300	\$61,700

* The above salary and benefit amounts represent the first year's cost. A 3% annual salary increase is assumed for subsequent years for all positions (not including backfill positions).

- Provide any on-going operation and replacement costs not included above, including funding source if known.
 All anticipated on-going operation costs are presented in the "Year 5" column of the budget table. Estimated on-going costs identified in the attached table include:
 - Hardware maintenance
 - Software maintenance
 - Personnel
 - Network connectivity
 - Training (Change Management)
- Provide a breakdown of all non-state funding sources and funds provided per source.
 The vast majority of funding will come from the University's budget. A small portion of the cost may be offset by student fees.

17. Please indicate where the funding requested for this project can be found in the agency budget request, including program numbers.

PROJECT SCORE

Section	Reviewer 1	Reviewer 2	Reviewer 3	Mean	Maximum Possible
3: Goals, Objectives, and Projected Outcomes	14	14	14	14.0	15
4: Project Justification / Business Case	25	24	24	24.3	25
5: Technical Impact	15	19	14	16.0	20
6: Preliminary Plan for Implementation	9	10	8	9.0	10
7: Risk Assessment	9	9	9	9.0	10
8: Financial Analysis and Budget	20	19	19	19.3	20
TOTAL				92	100

REVIEWER COMMENTS

Section	Strengths	Weaknesses
3: Goals, Objectives, and Projected Outcomes	<ul style="list-style-type: none"> - Specific and measurable outcomes articulated. Impact of the additional services scoped to include both administrative and student users of the system. Clear tie to existing plans to reduce application complexity and application rationalization process. - The strength that stood out the most was the benefit the new system would provide the students. I've spent the last 4 days at the League for Innovation Conference on Technology and theme mentioned over and over was that students are demanding changes in the way they receive information and interact with their professors. A 24/7 web-based system is clearly the mandate for the future. The goals are clear and the benefits many! - Concurrence with the strengths indicated in the 2006 Review. 	<ul style="list-style-type: none"> - The only notable weakness is the lack of inward-facing assessment methods. That is, those methods listed are mostly outcome or "outward-facing." Beyond before/after surveys of the users additional assessment data might be gathered from users to align business processes with the functions of the new software. - Concurrence with the weaknesses indicated in the 2006 Review.
4: Project Justification / Business Case	<ul style="list-style-type: none"> - Clear and tangible benefits were listed along with solid rationale for migrating to a new SIS. The implications for remaining on the current system were clearly articulated. - The challenge of maintaining an aging legacy system that the vendor does not improve or enhance with new innovations in technology is unacceptable. The benefits of providing services that today's students expect, providing uniform services throughout the University system, and benefiting through the economies of scale seem on the mark and achievable with this proposal. - Concurrence with the strengths indicated in the 2006 Review. 	<ul style="list-style-type: none"> - The relationship of the proposed SIS to compliance is not spelled out but may be beyond the scope of this summary. - Concurrence with the weaknesses indicated in the 2006 Review.
5: Technical Impact	<ul style="list-style-type: none"> - Clear indication that the new system will be based upon current software code, RDBMS and hardware architecture. - The challenge of providing better accessibility without compromising security 	<ul style="list-style-type: none"> - It was difficult to evaluate the technical impact with the limited information relative to hardware, software and system architecture. In fairness to the proposer this is a reflection of the status of the project.

Section	Strengths	Weaknesses
	<p>are properly addressed. The improvements and new technical elements have been identified.</p> <ul style="list-style-type: none"> - Concurrence with the strengths indicated in the 2006 Review. 	<ul style="list-style-type: none"> - Concurrence with the weaknesses indicated in the 2006 Review.
6: Preliminary Plan for Implementation	<ul style="list-style-type: none"> - Clear plan to engage users and technical staff at many levels. Clear and reasonable milestones along with an overall timeline that is appropriate. - The time necessary to plan the implementation seems reasonable and points to the necessity of making a decision for a new SIS system. The plan is thorough and reasonable. Pleased to see that additional staffing has been addressed and planned for. Implementation means for a period of time the University would be supporting two systems until the full implementation has been completed. - Concurrence with the strengths indicated in the 2006 Review. 	<ul style="list-style-type: none"> - Until a system is selected the specific new skills can't be fully articulated, however, additional information would have been helpful. - Concurrence with the weaknesses indicated in the 2006 Review.
7: Risk Assessment	<ul style="list-style-type: none"> - Clearly articulated technical barriers and remediation strategies. Clear indication of previous success migrating complex computing environments. - The University will benefit from the knowledge peer institutions have gained and share through their implementations. Our college experienced this with its recent implementation of a new SIS system. Data mapping and migration from the old system to the new are huge tasks and the University has properly gauged the scope of the work and has planned accordingly. - Concurrence with the strengths indicated in the 2006 Review. 	<ul style="list-style-type: none"> - No specific "human" or "process" barriers were listed. Given that this will include 2nd-order change recognition of "human" barriers at the outset is an important consideration. - None
8: Financial Analysis and Budget	<ul style="list-style-type: none"> - Hardware, software and personnel costs are clearly indicated including 5-year TCO. - The budget reflects costs that seem high but the cost of delay add up as well. It would seem that acquiring a new SIS system is not a question of if but when. The spreadsheet showing the four year costs are well done. The comment regarding the use of some of the student fees to support the project seem reasonable as the students are the main beneficiary. - Concurrence with the strengths indicated in the 2006 Review. 	<ul style="list-style-type: none"> - It is not clear what RDBMS will be used so there is no method to understand the costs associated with the licensing. - Concurrence with the weaknesses indicated in the 2006 Review.

Staff Note: The University indicates that, "This is a re-submission of the original (51-01) request submitted to the NITC in Aug 2006, in response to the New or Additional State Funding Requests for Information Technology Projects FY2007-2009 Biennium. The only significant change to this submission is in the budget portion of the original request. All other sections of the request are unchanged."

Below are links to the project review documents from last year for this project:

2006 Project Proposal Form - <http://nitc.ne.gov/nitc/documents/fy2007-09/ppf/51-01.pdf>

Summary Sheet with Reviewer Scores and Comments - http://nitc.ne.gov/nitc/documents/fy2007-09/ss/51-01_s.pdf

TECHNICAL PANEL COMMENTS

Technical Panel Checklist				Technical Panel Comment
	Yes	No	UNK	
1. The project is technically feasible.				
2. The proposed technology is appropriate for the project.				
3. The technical elements can be accomplished within the proposed timeframe and budget.				

EDUCATION COUNCIL COMMENTS

- The Education Council recommends the project be designated as a Tier 1 Priority (mission critical for the agency) because of discontinuation of support of the existing student information system.
- The Education Council adds the following remarks:
 - To commend the University of Nebraska staff on their efforts to operate as an integrated system of four campuses.
 - To require the University of Nebraska to more clearly delineate "Other" as part of the budget (\$8.246million).
 - To the extent possible, both the State College System and the University of Nebraska must synchronize their RFP processes and co-evaluate vendors.
 - To require an analysis of cost-savings and an analysis of 'effect on students' for two pathways:
 - Centralization and cooperative hosting of Projects 50-01 and 51-01
 - Adoption of a single vendor for Projects 50-01 and 51-01
 - To require a unified look at adopting the same vendor by both the State College System and the University of Nebraska; and if not the same result, to provide a justification for divergence.

NITC COMMENTS

Technical Panel
of the
Nebraska Information Technology Commission

Policies, Standards and Guidelines

November 21, 2007

01	General Provisions		
	(a) Definitions and General Matters		
	Definitions	01-101	New
	Process for Adoption of Policies, Standards, and Guidelines	01-102	New
	Exemption Policy	01-103	New
	Tables: Cross Reference, Exemptions Granted, Other	01-RD-01	New
	(b) Planning and Project Management		
	Agency IT Plans	01-201	New/Update
	Requests for Funding from Legislature (guidance document, selection of reviewers, etc.)	01-202	New/Update
	Project Reporting	01-203	New
	IT Procurement Review Policy	01-204	New
02	Accessibility Architecture		
	(a) General Provisions		
	Accessibility Policy	02-101	Existing
	(b) Technology Access Clause		
	Technology Access Clause	02-201	Existing
	Accessibility Checklists	02-201-RD-01	Existing
03	Data and Information Architecture		
	(a) General Provisions		
	(b) Geographic Information System (GIS) Data		
	Geospatial Metadata Standard	03-201	Existing
	Land Record Information and Mapping Standard	03-202	Existing
04	E-Government Architecture		
	(a) General Provisions		
	(b) State Government Websites		
	Web Branding and Policy Consistency	04-201	Existing
	Web Cookie Standard	04-202	Existing
	Security Statement - State of Nebraska Home Page	04-203	Existing
	Emergency Information Page	04-204	Existing
05	Groupware Architecture		
	(a) General Provisions		
	(b) Email		
	Email Policy for State Government Agencies	05-201	Existing
	Blocking Email Attachments	05-202	Existing
	Blocking Unsolicited Bulk Email / "Spam"	05-203	Existing
	Secure Email for State Government Agencies	05-204	To Be Reviewed
	Lotus Notes Guidelines for State Government Agencies	05-205	To Be Reviewed

	Lotus Notes Standards for State Government Agencies	05-206	To Be Reviewed
(c)	Computer Based Fax Services		
	Use of Computer-based Fax Services by State Government Agencies	05-301	To Be Reviewed
(RD)	Resource Documents		
	Best Practices for Management of Lotus Notes Email Records	05-RD-01	To Be Reviewed
06	Hardware Architecture		
(a)	General Provisions		
07	Network Architecture		
(a)	General Provisions		
	Acceptable Use Policy	07-101	Existing
	DNS Forwarding Standard	07-102	Existing
	SMTP Routing Standard	07-103	Existing
(b)	Network Nebraska		
	Network Edge Device Standard for Entities Choosing to Connect to Network Nebraska	07-201	Existing
	Contracting Guidelines for Upgrade of Distance Learning Services	07-202	Existing
(c)	Wireless		
	Wireless Local Area Network Standard	07-301	Existing
	WLAN Security Checklist	07-301-RD-01	Existing
	WLAN Approval Process	07-301-RD-02	Existing
(d)	Video		
	IP Communication Protocol Standard for Synchronous Distance Learning and Videoconferencing	07-401	Existing/Moved
08	Security Architecture		
(a)	General Provisions		
	Security Policy	08-101	Existing
	Data Security Standard	08-102	Existing
	Minimum Server Configuration Standard	08-103	Existing
(b)	Business Continuity and Disaster Recovery		
	Information Technology Disaster Recovery Plan Standard	08-201	Existing
(c)	Authentication and Authorization		
	Password Standard	08-301	Existing
	Identity and Access Management Standard for State Government Agencies	08-302	Existing
	Remote Access Standard	08-303	Existing
	Remote Administration of Internal Devices Standard	08-304	Existing
(d)	Incident Response and Reporting		
	Incident Response and Reporting Procedure for State Government	08-401	To Be Reviewed
	Electronic Crime Scene Investigation	08-401-RD-01	To Be Reviewed