

NEBRASKA INFORMATION TECHNOLOGY COMMISSION

Thursday, September 9, 2004, 10:00 a.m.
Union Pacific Center, Classroom D, 1400 Douglas Street
Omaha, Nebraska

AGENDA

Meeting Documents:

Click the links in the agenda or click here for all documents (XX MB, XX Pages)

- 10:00 a.m. Call to Order and Roll Call - Lt. Governor Heineman
Notice of Meeting
Approval of June 3, 2004 Minutes*
Public Comment
- 10:05 a.m. Recommended Standards and Guidelines:
Video and Audio Compression Standard for Synchronous Distance Learning and Videoconferencing*
Government Technology Collaboration Fund:
Security Grant Application*
- 10:15 a.m. **Final Approval of the Statewide Technology Plan***
- 10:30 a.m. Discussion of Strategic Initiatives
- A. Nebraska Telehealth Network
 - B. Network Nebraska
 - C. Statewide Synchronous Video Network
 - D. Community IT Planning and Development
 - E. Nebraska eLearning Initiative
 - F. Enterprise Architecture
 - G. E-Government
 - H. Security and Business Resumption
- 11:05 a.m. Presentations
- 1. eLearning Demonstration - Brenda Zabel, Westside High School and Sheran Cramer, University of Nebraska-Omaha
 - 2. Telehealth Update - Roger Keetle and Dave Glover
 - 3. Network Nebraska - Brenda Decker, Director, Division of Communications, State of Nebraska
- 12:00 p.m. Break for Lunch
- 12:30 p.m. Continue Discussion of Strategic Initiatives (if necessary)
- 12:45 p.m. Statutory Reports (Overview of Process for Developing Reports)
- A. Review Budget Request Prioritization Process (Ranking Across Sectors)
 - B. Biennial Progress Report to the Legislature
- 1:15 p.m. Other Reports from the Councils, Technical Panel and Staff
- A. Community Council Report
 - 1. Update on Third Round of Mini-Grant I.T. Planning Grants
 - B. Education Council
 - C. State Government Council Report
 - 1. E-mail Update
 - D. Technical Panel - Walter Weir
- 1:45 p.m. Other Business
- 2:00 p.m. Adjournment
- The next meeting of the NITC will be held on Wednesday, November 10, 2004, at a Lincoln location.

(Bolded * indicated Action Items.)

Meeting notice was posted to the NITC Web site on Wednesday, July 28, 2004 and on the Public Meeting Calendar Web site on Tuesday, August 10, 2004.

The meeting agenda was posted to the NITC and Public Meeting Calendar Web sites on Wednesday, September 1, 2004.

NEBRASKA INFORMATION TECHNOLOGY COMMISSION

Thursday, June 3, 2004, 12:15 p.m.
Central Community College-Columbus Campus
West Education Center, Room 209
4500 63rd Street, Columbus, Nebraska

PROPOSED MINUTES

MEMBERS PRESENT:

Lieutenant Governor Dave Heineman, Chair
Linda Aerni, Chief Executive Officer, Community Internet Systems
Greg Adams, Mayor, City of York
Dr. Eric Brown, Manager, KRVN Radio
L. Merrill Bryan, Senior Vice President & Chief Information Officer, Union Pacific
Trev Peterson, Attorney, Knudsen, Berkheimer, Richardson, and Endacott, LLP

MEMBERS ABSENT: Dr. Doug Christensen, Commissioner, Department of Education and Dr. L. Dennis Smith, President, University of Nebraska

CALL TO ORDER, ROLL CALL, NOTICE OF MEETING

Lieutenant Governor Heineman called the meeting to order at 12:13 p.m. There were six members present at the time of roll call. A quorum existed to conduct official business. It was stated that the meeting notice was posted to the NITC and Public Calendar Web Sites on Wednesday, March 18, 2004. The meeting agenda was posted to the NITC website on May 27, 2004.

APPROVAL OF MARCH MINUTES

Commissioner Bryan moved to approve the [March 9, 2004](#) minutes as presented. **Commissioner Adams** seconded the motion. **Roll call vote: Adams-Yes, Aerni-Yes, Brown-Yes, Bryan-Yes, Heineman-Yes, and Peterson-Yes. Results: 6-Yes, 0-No. The motion was carried by unanimous vote.**

PUBLIC COMMENT

There was no public comment.

PRESENTATION – CENTRAL COMMUNITY COLLEGE IT INITIATIVE

Matt Gotschall, Dean of Educational Services and Doug Pauley, Director of Business and Industry

Mr. Gotschall welcomed the Commission. Mr. Pauley provided a presentation on Central Community College's IT initiatives. [Nebraska Training](#) provides state-of-the-art business training solutions. The Statewide Interactive Multimedia Training Library allows on-site training, seven days a week, 24 hours a day. Nebraska Training's mission is to create and manage an up-to-date interactive multimedia training library utilizing CD's and web technology. The multimedia library offers interactive training available for use anytime, anywhere and can be customized and designed to meet individual and organizational needs. Partners include the Department of Economic Development, Department of Labor, Nebraska Community College Association, Bureau of Apprenticeship, Nebraska business and industry across the state and One Stop Centers. Mr. Pauley entertained questions and comments from the Commissioners. The following link was given for more information: <http://www.nebrtrain.cccneb>.

PRESENTATION – WAYNE STATE COLLEGE-COMMUNITY WIRELESS PROJECT

Dennis Linster, Chief Information Officer, Wayne State College

Mr. Linster also serves on the city council for Wayne, Nebraska. The telecommunications needs of Wayne State increase on campus during evening hours when students are out of the classroom and in their residential halls. Wayne State College approached the city council with a proposed Wireless Project that would connect Wayne Public Schools, Wayne city offices and county offices. Mr. Linster provided maps indicating the wireless network distribution points and the anticipated date for completion. This type of model would be beneficial for smaller communities. Mr. Linster entertained questions and comments from the Commissioners.

UPDATE ON MAJOR INITIATIVES – TELECOMMUNICATIONS INFRASTRUCTURE

Network Nebraska - Steve Schafer and Rick Golden. A press conference was held in Omaha at the Peter Kiewitt Center on April 19th to inform the public of progress of Phase II. It was a successful press conference with approximately 75 persons in

attendance and the informational booths were helpful. The backbone is in place and progress is continuing. Discussions will continue with providers. CAP has been discussing the operation of the network, technical support, and how to work with individual schools and facilities. The concept of regional centers is being explored (eg. Wayne State and what they're doing for that community). Most of current efforts have focused on working through the technical issues to bring on the other Educational Service Units, as well as issues dealing with the Telehealth Network. Mr. Golden reported that the SEGP application is being submitted and it is anticipated to have I2 access by July or August. Nebraska has selected three representatives to serve on their Advisory Council. Project 42 schools, Southeast Community College, Creighton University, Mid-Plains Community College in North Platte, and Lincoln Public Schools are the newest members of Network Nebraska. Wayne State College will be joining the end of June or the first part of July. Efforts will continue to recruit other community colleges and school districts as new members.

[Nebraska Telehealth Network](#) - Steve Schafer. Prior to the meeting, Commissioners had been given a report prepared by Dave Glover, Telehealth Consultant for the Nebraska Hospital Association. The report was broken down into the following sections: 1) Overall status of the Network; 2) Equipment; 3) Connectivity (statewide backbone); 4) Technical Issues; 5) Funding; 6) Security and Confidentiality; and 7) Assessment and Evaluation. Mr. Schafer was available to answer any questions. There were no questions.

Video Standards Work Group - Mike Beach. On May 26th, the Statewide Synchronous Video Work Group (SSVWG) held an all-day meeting at ESU10 in Kearney that brought together representatives from telehealth, distance learning consortia and Educational Service Units' operations staff. This was a significant meeting to build mutual understanding and support for the standards and Network Nebraska. On that same day, the SSVWG got together to conduct video and audio protocol testing. The testing did not take as long as the first time. It is anticipated that the standard will be ready for the Technical Panel in August and then on to the NITC for final approval at their September meeting. Mr. Beach entertained questions and comments from the Commissioners.

UPDATE ON MAJOR INITIATIVES – COMMUNITY AND ECONOMIC DEVELOPMENT

[Status Report on Mini-Planning Grants](#). Prior to the meeting, Commissioners had been given a report prepared by Anne Byers, Community Information Technology Manager. Mr. Schafer was available to answer any questions. There were no questions.

UPDATE ON MAJOR INITIATIVES – DELIVERY OF GOVERNMENT AND EDUCATIONAL SERVICES

[eGovernment Initiatives](#) - Steve Schafer. Prior to the meeting, Commissioners had been given a report. There were no questions.

eLearning Initiative - Tom Rolfes, Office of the CIO/NITC and Jim Zemke, University of Nebraska. This initiative was adopted by the NITC in March. The task group has been discussing the formation of an eLearning consortium to develop strategies. Proof of concept pilots have been conducted in high schools and some have developed into yearlong projects. Commissioner Adams stressed the importance of classroom interaction. Commissioners requested information on distance education usage in the schools. Mr. Rolfes will send the Department of Education link for this information to the Commissioners.

UPDATE ON MAJOR INITIATIVES – PLANNING AND ACCOUNTABILITY

Security Initiatives - Steve Schafer. Omni Tech conducted another vulnerability test and the results have been shared with agencies. Two persons from Omni Tech will be onsite next week to visit with agencies regarding their results. Funding for re-testing came from a grant from the Government Technology Collaboration Fund. On another security initiative, the Department of Administrative Services has hired a firm to develop a business continuity plan.

2004 STATEWIDE TECHNOLOGY PLAN

State statute requires an annual update of the NITC's Statewide Technology Plan. This year the statewide plan is shorter and focuses on the eight strategic initiatives that the NITC adopted in March. The initiatives are tied in with the four goals of the NITC. The councils have adopted action items that support the NITC initiatives. The effectiveness measures section will become part of the biennium report. Before final approval of the Statewide Technology Plan, Lieutenant Governor Heineman stressed the need for support of the statewide plan and would like to have an opportunity to communicate with policy makers, Department of Education and the University of Nebraska.

Commissioner Bryan moved to tentatively approve the [2004 Statewide Technology Plan](#) with final approval to be decided at the September NITC meeting. Commissioner Brown seconded the motion. Roll call vote: Peterson-Yes, Adams-Yes, Heineman-Yes, Aerni-Yes, Bryan-Yes, and Brown-Yes. Results: 6-Yes, 0-No. The motion was carried by unanimous vote.

There were no questions on the [Progress Report](#).

OTHER REPORTS - COMMUNITY COUNCIL REPORT, Steve Schafer

[Membership](#). The Community Council has four members up for renewal: Len Benson, Faith Regional Health System; Donna Hammack, St. Elizabeth Foundation; Max Thacker, UNMC; and Chris Anderson, City of Central City. In addition, Carol Brandl, Telehealth Services Coordinator for BryanLGH, has been nominated to serve on the Community Council. She has been active on the Telehealth Subcommittee and has participated in meetings concerning Network Nebraska. The Community Council is requesting approval of these membership recommendations.

Commissioner Peterson moved to approve the Community Council's membership recommendations. Commissioner Adams seconded the motion. Roll call vote: Brown-Yes, Bryan-Yes, Aerni-Yes, Heineman-Yes, Adams-Yes, and Peterson-Yes. Results: 6-Yes, 0-No. The motion was carried by unanimous vote.

[Community Technology Fund](#). The University of Nebraska's Technologies Across Nebraska initiative, in partnership with the Nebraska Information Technology Commission's Community Council, is proposing a third year of funding for the IT Planning and Mini Grant Program. The program assists communities and regional groups in conducting community information technology assessments and in developing technology plans to utilize information technology to enhance community and economic development. The fund would appropriate \$20,000 for eight \$2,500 mini grants to community or regional groups. Commissioner Adams stated that the community of York has benefited from the mini-grant program.

Commissioner Brown moved to approve the Community Council's recommendation for a third year of funding for the IT Planning and Mini Grant Program. Commissioner Adams seconded the motion. Roll call vote: Peterson-Yes, Adams-Yes, Heineman-Yes, Aerni-Yes, Bryan-Yes, and Brown-Yes. Results: 6-Yes, 0-No. The motion was carried by unanimous vote.

OTHER REPORTS - EDUCATION COUNCIL, Tom Rolfes

The Education Council met on March 19th and May 21st. Discussions have focused on the Priorities and Action Items for the Statewide Technology Plan per the NITC's goals and initiatives. The council has also been working with NOL on the development of the Education Portal enhancements.

[Membership](#). The recommendation for membership renewals and/or replacements effective July 1, 2004 is as follows:

Higher Education Renewals: Arnold Bateman, Dennis Linster

Higher Education Replacement for Dr. Moskus: Mike Chipps, Mid-Plains Community College

K-12 Education Renewals: Terry Haack, Jeff Johnson, Mike Pate, and Alan Wibbels

The Independent Colleges & Universities sector is seeking a replacement for Rob Manzer who is resigning due to a relocation. The Education Council is requesting approval of these membership recommendations.

Commissioner Brown moved to approve the Education Council's recommendations for membership. Commissioner Adams seconded the motion. Roll call vote: Peterson-Yes, Heineman-Yes, Bryan-Yes, Brown-Yes, Aerni-Yes, and Adams-Yes. Results: 6-Yes, 0-No. The motion was carried by unanimous vote.

OTHER REPORTS - STATE GOVERNMENT COUNCIL REPORT, Steve Schafer

Some of the other projects the council has undertaken include the development of an enterprise architecture for all of state government and an online business registration portal. Next Tuesday, the council will be meeting with a NASCIO team with representatives from Georgia, Kansas and North Dakota to discuss enterprise architecture. Nebrask@Online is assisting with the online business registration portal. The primary focus for the past months has been the recommendation of an email standard for state government to the Technical Panel. Mr. Schafer commended Rick Becker for his efforts in this endeavor.

OTHER REPORTS - TECHNICAL PANEL REPORT, Rick Golden

The Technical Panel has met twice since the last NITC meeting. The work groups continue to meet. Technical reviews were done for the State Records Board grant applications. The State Government Council has been working on an Email Standard for State Government Agencies. The standard will help unify email systems in state government and provide greater security. The Technical Panel has reviewed the standard and it has already gone out for public comment. The Technical Panel is recommending approval of the E-mail Standard for State Government Agencies

Commissioner Aerni moved to approve the [Email Standard for State Government Agencies](#) as presented. Commissioner Peterson seconded the motion. Roll call vote: Bryan-Yes, Peterson-Yes, Heineman-Yes, Adams-Yes, Brown-Yes, and Aerni-Yes. Results: 6-Yes, 0-No. The motion was carried by unanimous vote.

Commissioners discussed centralized administration of email systems.

OTHER BUSINESS

Lieutenant Governor Heineman announced that, Susan Heider, Chief Information Officer for Regional West Medical Center in Scottsbluff, will be replacing Hod Kosman on the Nebraska Information Technology Commission. She will be attending the September meeting.

Commissioner Peterson moved to pass a resolution thanking the Columbus Community Hospital for the tour, Wayne State College for their presentation, and Central Community College for their presentation, as well as for hosting the meeting. Commissioner Bryan seconded. Roll call vote: Adams-Yes, Aerni-Yes, Brown-Yes, Bryan-Yes, Heineman-Yes, and Peterson-Yes. Results: 6-Yes, 0-No. The motion was carried by unanimous vote.

Commissioner Peterson will work on the wording of the resolution and get to staff to include in a thank you letter.

NEXT MEETING DATE, TIME AND ADJOURNMENT

The next meeting of the Nebraska Information Technology Commission will be on Thursday, September 9th, 2004 at the Union Pacific headquarters in Omaha. The meeting may begin earlier in the morning with a working lunch. The November 10th meeting will be held in Lincoln with the location to be determined. Lieutenant Governor Heineman thanked the commissioners for their work and stressed the importance of upcoming meetings.

Commissioner Bryan moved to adjourn the meeting. Commissioner Adams seconded. All were in favor. The motion was carried by unanimous voice vote.

The meeting was adjourned at 3:00 p.m.

Meeting minutes were taken by Lori Lopez Urdiales and reviewed by the Office of the CIO/NITC staff.



NEBRASKA INFORMATION
TECHNOLOGY COMMISSION

STANDARDS AND GUIDELINES

**Video and Audio Compression Standard for Synchronous
Distance Learning and Videoconferencing**

Category	Video Architecture
Title	Video and Audio Compression Standard for Synchronous Distance Learning and Videoconferencing
Number	

Applicability	<input checked="" type="checkbox"/> State Government Agencies <input checked="" type="checkbox"/> All..... Standard <input type="checkbox"/> Excluding Not Applicable <input checked="" type="checkbox"/> State Funded Entities - All entities receiving state funding for matters covered by this document..... Standard <input checked="" type="checkbox"/> Other: Entities using state-owned or state-leased communication networks for synchronous video..... Standard Definitions: Standard - Adherence is required. Certain exceptions and conditions may appear in this document, all other deviations from the standard require prior approval of _____. Guideline - Adherence is voluntary.
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Status	<input type="checkbox"/> Adopted <input checked="" type="checkbox"/> Draft <input type="checkbox"/> Other: _____
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Dates	Date: July 13, 2004 Date Adopted by NITC: Other:
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1.0 Standard

1.1 Video protocol standard for synchronous distance learning and videoconferencing

Video Protocol Standard	Comments
H.263	For data rates above 384 Kbps
H.264 (MPEG-4 Part 10)	For data rates at or below 384 Kbps

The CODECs selected for purchase or use should be capable of accommodating both standards and be capable of manual rate selection and/or automatic rate selection. The interconnecting CODECs should be allowed to automatically negotiate the best data rate.

1.2 Audio protocol standard for synchronous distance learning and videoconferencing

Audio Protocol Standard	Comments
G.722	For data rates above 128 Kbps
G.722 or G.722.1 or G.728	For data rates at or below 128 Kbps

The CODECs selected for purchase or use should have the ability to use G.722 at all speeds and one or both of the other two standards listed for lower speeds. If any two CODECs do not have a common protocol at or below 128Kbps then they should continue to use G.722. The CODECs selected for purchase or use should be capable of accommodating audio standard G.722 and be capable of manual rate selection and/or automatic rate selection. The interconnecting CODECs should be allowed to automatically negotiate the best data rate.

2.0 Purpose and Objectives

The purpose of this document is to establish video and audio protocol standards that will enable all existing and future synchronous distance learning and videoconferencing facilities in Nebraska to achieve interoperability and maintain an acceptable quality of service.

3.0 Definitions

3.1 Bandwidth

In digital applications, this term refers to the speed at which data is transmitted. It is usually expressed in terms of bits per second. It is often used interchangeably with the term data rate.

3.2 CODEC

Stands for Encoder / Decoder or Coder / Decoder. This device changes outbound analog video and audio into data and inbound data into analog video and audio. It is a device that attaches directly to the video and audio source.

3.3 Data Rate

This is the amount of digital information that a system can process and/or transmit. It is usually expressed in terms of bits per second. It is often used interchangeably with the term bandwidth.

3.4 Distance Learning

Distance learning is the delivery of educational experiences where the instructor(s) and student(s) are in different locations and engaging in learning at the same time (synchronously) or at different times (asynchronously). Synchronous distance learning typically involves 2-way interactive video delivered to two or more classrooms.

3.5 G.7xx

A family of audio protocols with varying specifications as developed by the ITU. Examples include:

Standard	Required Bandwidth	Frequency Response
ITU-TG.711	56/64Kbps	50Hz – 3.4KHz
ITU-TG.722	48/56/64Kbps	50Hz – 7KHz
ITU-TG.728	16Kbps	50Hz – 3.4KHz

3.6 Gateway

As used in this document, this term refers to a device or system that allows a system using one protocol standard to communicate with a system using a different protocol standard.

3.7 H.2xx

A family of video protocols with varying specifications as developed by the ITU. Examples include H.261 and H.263. They are differentiated by the specific algorithms used to encode and decode video.

3.8 H.3xx

A family of communications protocols with varying specifications as developed by the ITU. Each of these protocols have multiple options of video, audio and data protocols defined within them. Examples include:

- H.320 for transportation on an ISDN network
- H.321 for transportation on an ATM network
- H.323 for transportation on an IP network

3.9 ITU

International Telecommunication Union, headquartered in Geneva, Switzerland is an international organization within the United Nations System where governments and the private sector coordinate global telecom networks and services. Website: <http://www.itu.int/home/index.html>

3.10 Mbps

Megabits Per Second – Millions of bits per second.

3.11 MPEG

Motion Picture Experts Group – A body that defines protocols for digitally encoding video and audio. Some of the protocols defined by this group include:

MPEG 1 – Designed to compress the data required to pass analog video and audio.

MPEG 2 – An improvement in efficiency over the algorithms of MPEG 1

MPEG 4 – Designed to incorporate voice, video and data as objects that can be transported interchangeably.

4.0 Applicability

These standards apply to synchronous distance learning and videoconferencing facilities as follows:

- If utilizing state-owned or state-leased communications networks:
 - Any synchronous distance learning facility or videoconferencing application which utilizes state-owned or state-leased communications networks must comply with the compression standards listed in Section 1.0; or
 - The entity must provide, or arrange for, the necessary gateway technology to transcode to the adopted standards.
- If using state funding:
 - All **new** facilities or applications receiving state funding must comply with the compression standards listed in Section 1.0.
 - All **existing** facilities or applications receiving state funding for ongoing operations must convert to the standards listed in Section 1.0 as soon as fiscally prudent or upon renewal of any existing communications service contract, whichever comes first.
- These standards **do not apply** to the following entities:
 - University of Nebraska (relating to the university's academic research mission)
 - Any entity which applies for, and receives, a waiver of these requirements from the NITC.

GENERAL STATEMENT ON APPLICABILITY

The Governing board or chief administrative officer of each organization is responsible for compliance with these standards. The NITC will consider adherence to technical standards as part of its evaluation and prioritization of funding requests

5.0 Responsibility

An effective program for video and audio standards compliance involves cooperation of many different entities. Major participants and their responsibilities include:

1. Nebraska Information Technology Commission. The NITC provides strategic direction for state agencies and educational institutions in the area of information technology. The NITC also has statutory responsibility to adopt minimum technical standards and guidelines for acceptable and cost-effective use of information technology. Implicit in these requirements is the responsibility to promote adequate quality of service and uniformity for information systems through adoption of policies, standards, and guidelines.
2. Technical Panel Video Standards Work Group. The NITC Technical Panel, with advice from the Video Standards Work Group, has responsibility for recommending video standard policies and guidelines and making available best practices to operational entities.
3. Agency and Institutional Heads. The highest authority within an agency or institution is responsible for interoperability of information resources that are consistent with this policy. The authority may delegate this responsibility but delegation does not remove the accountability.
4. Information Technology Staff. Technical staff must be aware of the opportunities and responsibility to meet the goals of interoperability of information systems.

6.0 Related Documents

6.1 Report: A Video And Audio Compression Standard For Synchronous Distance Learning And Videoconferencing In The State Of Nebraska, July 13, 2004.
[LINK]

6.2 Video and Audio Compression Standard for Synchronous Distance Learning and Videoconferencing, adopted on February 21, 2002, and to be repealed upon adoption of this document.
[LINK]

Nebraska Information Technology Commission
Government Technology Collaboration Fund - 2004
Grant Application Form

For more information about Government Technology Collaboration Fund grants, see the Grant Guidelines at <http://www.nitc.state.ne.us/sgc/grants/>.

Section I: General Information

A. Project Title: Security Assessment
Submitting Agency (or Agencies): Office of the Chief Information Officer

Contact Information for this Project

Name: Steven Schafer
Address: 521 South 14th Street, Suite 301
City, State, Zip: Lincoln, NE 68508-2707
Telephone: 402 471-4385
E-mail: slschafe@notes.state.ne.us

B. Certification for Request
I certify that to the best of my knowledge the information in this application is correct and that the application has been authorized by this entity to meet the obligations set forth in this application.

Name: Steven Schafer
Title: Chief Information Officer
Agency: Office of the Chief Information Officer
Date: June 30, 2004

Total Grant Funds Requested: \$75,000
Total Project Costs: \$95,000

Section II: 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 NITC security policies (Information Security Management Policy) provide guidance for establishing effective security programs. One requirement is to conduct regular security audits. The Network Security Policy states, “An audit of network security should be conducted annually.”

The HIPAA (Health Insurance Portability and Accountability Act) proposed rule for Security and Electronic Signature Standards (45 CFR Part 142) imposes a comprehensive set of security requirements for “covered entities” that “electronically maintain or transmit any health information relating to an individual.” The regulations pertaining to “Administrative Procedures to Guard Data Integrity, Confidentiality, and Availability” includes a requirement for “Security Testing.” Given the breadth of HIPAA requirements and the potential penalties for violators, state government requires an independent evaluation of compliance efforts.

Guidelines pertaining to federal Bioterrorism Preparedness and Response grants require “regular independent validation and verification of Internet security, vulnerability assessment, and security and continuity of operations...” (Critical Capacity #13, Focus Area E – Health Alert Network / Communications and Information Technology).

The National Strategy to Secure Cyberspace recommends that state and local governments “establish IT security programs ... including awareness, audits, and standards.”

In 2003, the Office of the CIO engaged Omnitech Corporation to conduct an external perimeter security sweep of the state’s network. The initial evaluation took place during April to June of 2003. This included an automated vulnerability scan and testing of devices exposed to the Internet. In March 2004, Omnitech conducted a second vulnerability scan of the state’s network.

The purpose of this grant is to engage a qualified firm to conduct a security assessment of the information technology infrastructure for state government.

Section III: Goals and Objectives

1. *Describe the project, including the specific goals and objectives.*

The purpose of conducting a current-state Information Security Assessment is to obtain a realistic measure of the potential exposures to which information resources of state agencies are exposed. This provides a baseline and corrective action priority list so that appropriate counter measures can be implemented. Managing risks requires identification of threats, their impact, and severity under certain conditions.

Specific goals and objectives include:

- Identify security problems and vulnerabilities;
- Recommend remedial steps;
- Promote attention to security issues and the use of best practices to improve security of information systems.

Additional objectives will be developed in conjunction with the Security Work Group.

2. Describe the project's relationship to the agency's comprehensive technology plan. The mission of the CIO/NITC is "...to make the State of Nebraska's information technology infrastructure more accessible and responsive to the needs of its citizens, regardless of location, while making investments in government, education, health care and other services more efficient and cost effective." The basic strategy used by the office to achieve this mission has been to bring together representatives of various groups having an interest in information technology to share information, determine needs, aggregate demand, and collaborate on all matters relating to the mission. To achieve this, the NITC has created three councils (representing communities, education, and state government), a Technical Panel, and various working groups, which meet regularly and provide input to the NITC.

The project directly supports one of the NITC Strategic Initiatives (Security and Business Resumption). Security has also been a long-standing priority of the State Government Council and Technical Panel: "The State Government Council, in coordination with the Technical Panel, will work to implement (the NITC security) policies in state government."

3. Describe, if applicable, how this project furthers the implementation of electronic government. [Preference will be given to projects, which support the State Government Council's priority of implementing electronic government as reflected in the goals of the Business Portal Action Plan and the E-Government Strategy (available at <http://www.nitc.state.ne.us/sgc/>).]

Adequate security must be in place for e-government. The state's E-Government Strategy, Business Portal Action Plan, and draft e-government architecture all recognize the importance of addressing security issues. This project will build awareness of security issues, identify potential areas of weakness, and recommend improvements.

Section IV: Scope and Projected Outcomes

Describe the project's specific scope and projected outcomes. The narrative should address the following:

1. Beneficiaries of this project and the need(s) being addressed;
State agencies will benefit by gaining additional insight into the adequacy of security efforts.

Policy makers will benefit by knowing that security policies are being implemented and that the security of information systems is subject to periodic testing.

Citizens will benefit from improvements to security of information resources.

All three groups will benefit from steps that avoid the potential costs of non-compliance.

2. Expected outcomes of the project;
The primary outcome of the project will be a report with findings and recommendations. The specific scope will be developed in conjunction with the Security Work Group. Tasks may include, but not be limited to:
 - Conducting an external vulnerability scan of the state's network and computer assets that are exposed to the Internet to identify known security vulnerabilities (two scans, every six months);

- Performing controlled assessment activities (manual and automated) on these primary network devices to exploit the vulnerabilities uncovered by the scans (two scans, every six months);
 - Searching for unsecured wireless networks of state agencies (single engagement);
 - Evaluating internal network security practices (single engagement);
 - Evaluating application-level security for selected agencies (single engagement).
3. Measurement and assessment methods that will verify project outcomes;
The scope of work, deliverables and detailed work plan will have sufficient specificity to evaluate whether the study achieves its stated purpose. Some aspects of the study will be subjective. Involvement of the State Government Council, Technical Panel, Security Work Group and other stakeholders (through the Security Work Group) will help assure a process for assuring a quality product.

Section V: Project Justification / Business Case

Please provide the project justification in terms of tangible benefits (an economic return on investment) and/or intangible benefits to the agency or the public. The narrative should address the following:

1. Tangible: Economic cost/benefit analysis;
The proposed project will cost \$95,000. Because this is a study, it will not create any direct economic benefits.

The information and recommendations stemming from the study have the potential for creating indirect economic benefits by avoiding the cost of security breaches that are avoided by implementing the recommendations of the study.

2. Intangible: Benefits of the project for customers, clients, and citizens and/or benefits of the project for the agency;
Below are several intangible benefits:
- The NITC fulfills its statutory mandate to develop broad strategies and encourage collaboration in the area of information technology.
 - The State Government Council makes progress on its priority relating to security.
 - Policy makers will know that a process is in place to test the security of information technology systems.

3. Other solutions that were evaluated and why they were rejected. Include their strengths and weaknesses. Explain the implications of doing nothing and why this option is not acceptable.

One option is to rely on individual agencies to sponsor security assessments of their systems. This is a poor option, because of the high degree of interdependency among agencies. Only an enterprise approach is effective for testing the overall security of the state's information systems.

Doing nothing violates NITC security policies and increases the state's exposure to security vulnerabilities.

4. If the project is required to comply with a state or federal mandate, please so indicate.
The project will comply with NITC security policies and identify potential issues pertaining to several federal security regulations.

Section VI: Implementation

Describe the implementation plan -- from design through installation and ongoing support -- for the project. The narrative should address the following:

1. Project sponsor(s) and stakeholder acceptance analysis;
 - The project sponsor is the Chief Information Officer.
 - The main issue regarding stakeholder acceptance is whether state agencies will cooperate with the consultant in conducting the study and implementing any recommendations. The project will seek stakeholder acceptance by involving affected agencies in the study. Agencies will be involved in refining the scope of the study, developing the RFP and vendor selection.
2. Define the roles, responsibilities, and required experience of the project team;

The project team will include the CIO, consultants, and agency representatives. A project charter and detailed work plan will define the roles and responsibilities of each participant. The consultant will provide the methodology and expertise to conduct the security assessment.

3. List the major milestones and deliverables for each milestone;

Milestone	Date	Deliverable
Submit grant application	June 30, 2004	Project Proposal Form
Obtain NITC approval	September 9, 2004	
Determine Scope (Security Work Group)	November 1, 2004	Draft Scope of Work
Develop RFP and Selection Process	December 1, 2004	Project charter, RFP, etc.
Select consultant	January 15, 2005	
Develop detailed work plan	January 30, 2005	Work Plan
Conduct security assessment	March 31, 2005	Preliminary findings
Prepare draft recommendations	April 30, 2005	Draft recommendations
Submit final documents	May 15, 2005	Final documents

4. Training and staff development requirements and procedures;

Because it is a study, the project does not require any training or staff development.
5. Ongoing support requirements, plans and provisions.

Agencies may need technical assistance in implementing security recommendations.

Section VII: Technical Impact

Describe how the project enhances, changes or replaces present technology systems, or if new systems are being added. The narrative should address the following:

1. Descriptions of hardware, software, and communications requirements for this project.

Describe the strength and weaknesses of the proposed solution;
The project does not require the purchase of hardware, software or communications equipment.

2. Issues pertaining to reliability, security and scalability;
The project does not involve issues of reliability, security, and scalability in the usual sense.
3. Conformity with applicable NITC technical standards and guidelines (available at <http://www.nitc.state.ne.us/standards/>) and generally accepted industry standards;
The project will help with developing standards and guidelines pertaining to security.
4. Compatibility with existing institutional and/or statewide infrastructure.
The project will identify new recommendations and options for security.

The project will take into consideration other studies and efforts that are relevant to providing secure information technology systems. These include:

- Security policies and procedures;
- IMServices' Security and Directory Services Evaluation

Section VIII: Risk Assessment

Describe possible barriers and risks related to the project. The narrative should address the following:

1. List the identified risks, and relative importance of each;
Below are several potential risks, listed in declining order of importance:
 - Not gaining the cooperation of key stakeholders;
 - Not achieving the entire scope of the project;
 - Not finding qualified experts who will fulfill the goals of the study;
 - Not following the timeline.
2. Identify strategies, which have been developed to minimize risks.
Below are strategies for addressing these risks:
 - Key stakeholders will be invited to participate in every aspect of the study.
 - For the dollars available, it will be difficult to achieve all of the objectives of the study. There are two strategies to address this risk. First, the CIO is prepared to devote time to help coordinate the study. Second, participating agencies will need to cooperate in implementing recommendations.
 - The RFP process and involvement of stakeholders in the vendor selection process will help insure that we choose a qualified consultant to conduct the study.
 - The timeline is fairly aggressive to achieve a completed study by the end of May 2004. It is also a rather artificial timeline, since it is done without a detailed work breakdown structure or input from the consultant. As project sponsor, the CIO has responsibility to keep the project on track. There are no major consequences of missing the timeline.

Section IX: Financial Analysis and Budget

1. Provide the following financial information:

	GTCF Grant Funding	Cash Match	In-Kind Match	Other Funding Sources	Total
Personnel Costs			20,000		20,000
Capital Expenditures (Hardware, software, etc.)					
Contractual Services	75,000				75,000
Supplies and Materials					
Telecommunications					
Training					
Travel					
Other costs					
Total	75,000	①	20,000	②	95,000

2. Provide a detailed description of the budget items appearing above.
 The in-kind match reflects staff time of the CIO and agencies that participate in the study. This includes administrative support, time spent developing the RFP, vendor selection, contract management, agency participation in the security assessment, and implementation of recommendations.
3. Match Requirement: This grant requires a 25% match from the agency. Please use the calculation below to ensure your application meets this requirement.

$$\frac{\text{Total Cash Match } \$0 + \text{Total In-Kind Match } \$20,000}{\text{Total Project Cost } \$75,000} = \$ 0.25$$



UNITED 2004

Nebraska's Statewide Technology Plan

**September 2004
State of Nebraska
Nebraska Information Technology Commission
521 S. 14th Street, Suite 301
Lincoln, NE 68508-2707
(402) 471-3560**

UNITED 2004 Nebraska's Statewide Technology Plan
is available from the NITC Web site:
<http://www.nitc.state.ne.us>



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Executive Summary

The Legislature established the Nebraska Information Technology Commission (NITC) in 1998 to provide advice, strategic direction, and accountability on information technology investments in the state. Section 86-516 directs the NITC to “annually update a statewide technology plan.” *Nebraska's Statewide Technology Plan* for 2004 is the fifth iteration. The purpose of the *Statewide Technology Plan* is to set forth the vision and goals for the use of information technology in Nebraska, with a set of action items that will guide the work of the NITC and its councils.

The NITC has identified eight strategic initiatives which address the NITC's goals of supporting the development of a robust telecommunications infrastructure; supporting community and economic development; and promoting the efficient delivery of government and educational services. These are projects that would materially advance the vision and statewide goals as identified by the NITC, that are ready to be implemented, or that require an enterprise approach, involvement by the NITC and cooperation of multiple entities for their success. By emphasizing selected strategic initiatives, the NITC hopes to encourage funding of these initiatives and to encourage state agencies to work together to advance these initiatives. Additionally, the NITC and its advisory groups have developed 11 action items which support the NITC's strategic initiatives. The eight strategic initiatives identified by the NITC and brief description of each follow:

Nebraska Telehealth Network. A telehealth network which connects all hospitals, providing access to consultation with medical specialists, continuing medical education, and bioterrorism training and alerts is critical to the provision of health care in rural areas of the state. The Nebraska Hospital Association, in cooperation with the Nebraska Public Service Commission, and Nebraska Health and Human Services System, is developing a plan for a statewide telehealth network.

Network Nebraska. The primary objective of Network Nebraska is to develop a broadband, scalable telecommunications infrastructure that optimizes the quality of service to every public entity in the state of Nebraska. Potential benefits of Network Nebraska include lower network costs, greater efficiency, interoperability of systems providing video courses and conferencing, increased collaboration among educational entities, and better use of public investments.

Statewide Synchronous Video Network. This initiative will establish an Internet Protocol-based network that will interconnect all existing and future distance learning and videoconferencing facilities in the state. Benefits include greater sharing of educational courses and resources; more efficient use of available resources; and one-to-many videoconferencing capabilities for alerts and emergency situations.

Community IT Planning and Development. In order to compete in the global economy, communities need access to advanced telecommunications services and a tech-savvy workforce. Businesses need to understand how to utilize technology to expand their markets, increase efficiency, and reduce costs. Information technology can also enhance quality of life by improving access to health care, educational opportunities, and community information.

Nebraska eLearning Initiative. This initiative will promote the effective and efficient integration of technology into the instructional process and to utilize technology to deliver enhanced educational opportunities. A standards-based eLearning strategy will provide students and teachers equitable access to rich instructional resources.

Enterprise Architecture. Establishing a common enterprise architecture for state government makes it simpler to get systems to work together. Benefits include lower costs, easier interoperability among systems, greater data sharing, and improved services.

E-Government. Through the use of technology, state agencies can enhance information sharing, service delivery, and constituency and client participation. Benefits include improved services for citizens and businesses, and increased efficiency and effectiveness for agencies.

Security and Business Resumption. This initiative will define and clarify policies, standards and guidelines, and responsibilities related to the security of the State's information technology resources. Benefits include lower costs by addressing security from an enterprise perspective, cost avoidance, and protecting the public trust.

NITC Commissioners and Staff

Commissioners

Lieutenant Governor Dave Heineman, Chair

Greg Adams, Mayor of York

Linda Aerni, Chief Executive Officer, Community Internet Systems

Dr. Eric Brown, Station Manager, KRVN-AM

L. Merrill Bryan, Jr., Senior Vice President & Chief Information Officer, Union Pacific

Dr. Doug Christensen, Commissioner of Education, Nebraska Department of Education

Susan D. Heider, Vice President—Support Service & Chief Information Officer,
Regional West Medical Center

Trev E. Peterson, Attorney, Knudsen, Berkheimer, Richardson & Endacott, LLP

Dr. L. Dennis Smith, University of Nebraska

Staff

Steve Schafer, Chief Information Officer

Rick Becker, Government Information Technology Manager

Anne Byers, Community Information Technology Manager

Tom Rolfes, Education Information Technology Manager

Lori Lopez Urdiales, Administrative Assistant



Section 1

Goals and Strategic Initiatives

UNITED 2004

Nebraska's Statewide Technology Plan



Section 1

Goals & Strategic Initiatives

Introduction

The Legislature established the Nebraska Information Technology Commission (NITC) in 1998 to provide advice, strategic direction, and accountability on information technology investments in the state. Section 86-516 directs the NITC to “annually update a statewide technology plan.” *Nebraska's Statewide Technology Plan* for 2004 is the fifth iteration.

To achieve its mandate, the NITC relies on coordination and collaboration to influence a wide range of information technology issues. The NITC has neither operational authority nor enforcement powers for implementing its policy directives. The NITC has adhered to the legislative directive in Section 86-513 to “coordinate the state’s investment in information technology in an efficient and expeditious manner. The provisions (of Sections 86-512 to 86-524) are not intended to impede the rapid deployment of appropriate technology or establish cumbersome regulations or bureaucracy.”

Given these considerations, the purpose of the *Statewide Technology Plan* is to set forth the vision and goals for the use of information technology in Nebraska, with a set of action items that will guide the work of the NITC and its councils. The *Statewide Technology Plan* does not allocate funding among technology projects. A different report, “Recommendations on Technology Investments to the Governor and Legislature” provides advice on proposed funding for technology projects, as part of the biennial budget process.

Previous versions of the *Statewide Technology Plan* included two other sections. One was the Technical Infrastructure, which defined a technical architecture and the process for preparing technical standards and guidelines. The other section set forth planning and project management requirements. In the interests of brevity, these sections are now presented as separate documents. Both are located on the NITC Web site. Both are incorporated into the *Statewide Technology Plan* by reference. Previous plans also included a status report of what has been accomplished to date, with effectiveness measures to evaluate progress in the future. Because this information is duplicative of the information that will be presented in the Commission’s biennial report to the Legislature, the status report is not included in this year’s technology plan.

Vision and Goals

The vision of the NITC is to improve the quality of life of all Nebraskans by promoting the use of information technology in education, health care, economic development and all levels of government. To achieve this vision, the NITC has identified four goals:

1. Support the development of a robust statewide telecommunications infrastructure that is scalable, reliable, and efficient;
2. Support the use of information technology to enhance community and economic development;
3. Promote the use of information technology to improve the efficiency and delivery of governmental and educational services, including homeland security;
4. Promote effective planning, management and accountability regarding the state's investments in information technology.

Strategic Initiatives

The NITC has identified eight strategic initiatives, which address the NITC's goals of supporting the development of a robust telecommunications infrastructure; supporting community and economic development; and promoting the efficient delivery of government and educational services. These initiatives would materially advance the vision and statewide goals as identified by the NITC. By emphasizing selected strategic initiatives, the NITC hopes to encourage funding of these initiatives and to encourage state agencies to work together to advance these initiatives.

The eight strategic initiatives, listed as supporting the NITC goals, are:

Supporting the Development of a Robust Telecommunications Infrastructure

- **Nebraska Telehealth Network.** A telehealth network which connects all hospitals, providing access to consultation with medical specialists, continuing medical education, and bioterrorism training and alerts is critical for health care in rural areas of the state. The Nebraska Hospital Association, in cooperation with the Nebraska Public Service Commission, and Nebraska Health and Human Services System, is developing a plan for a statewide telehealth network.
- **Network Nebraska.** The primary objective of Network Nebraska is to develop a broadband, scalable telecommunications infrastructure that optimizes the quality of service to every public entity in the state of Nebraska. Potential benefits of Network Nebraska include lower network costs, greater efficiency, interoperability of systems providing video courses and conferencing, increased collaboration among educational entities, and better use of public investments.

- **Statewide Synchronous Video Network.** This initiative will establish an Internet Protocol-based network that will interconnect all existing and future distance learning and videoconferencing facilities in the state. Benefits include greater sharing of educational courses and resources; more efficient use of available resources; and one-to-many videoconferencing capabilities for alerts and emergency situations.

Supporting Community and Economic Development

- **Community IT Planning and Development.** In order to compete in the global economy, communities need access to advanced telecommunications services and a tech-savvy workforce. Businesses need to understand how to utilize technology to expand their markets, increase efficiency, and reduce costs. Information technology can also enhance quality of life by improving access to health care, educational opportunities, and community information.

Promoting the Efficient Delivery of Government and Educational Services

- **Nebraska eLearning Initiative.** This initiative will promote the effective and efficient integration of technology into the instructional process and to utilize technology to deliver enhanced educational opportunities. A standards-based eLearning strategy will provide students and teachers equitable access to rich instructional resources.
- **Enterprise Architecture.** Establishing a common enterprise architecture for state government makes it simpler to get systems to work together. Benefits include lower costs, easier interoperability among systems, greater data sharing, and improved services. (This initiative also supports the fourth NITC goal of promoting effective planning, management and accountability.)
- **E-Government.** Through the use of technology, state agencies can enhance information sharing, service delivery, and constituency and client participation. Benefits include improved services for citizens and businesses, and increased efficiency and effectiveness for agencies.
- **Security and Business Resumption.** This initiative will define and clarify policies, standards and guidelines, and responsibilities related to the security of the State's information technology resources. Benefits include lower costs by addressing security from an enterprise perspective, cost avoidance, and protecting the public trust. (This initiative also supports the fourth NITC goal of promoting effective planning, management and accountability.)

Each of these strategic initiatives and supporting action plans are discussed in Section 2.

Role of Advisory Groups

The NITC conducts most of its work through three advisory groups and the Technical Panel.

Community Council. The Community Council has twenty members from each of its three focus areas (rural and community information technology development, local governments and libraries, and telehealth), resource providers, and other groups as deemed appropriate by the Community Council and the NITC. The Community Council focuses on the role of information technology in community and economic development. It seeks to foster the collaborative and innovative use of technology through partnerships between public and private sectors, to improve teleliteracy, and to support community and economic development for Nebraska citizens.

Education Council. The Education Council has sixteen members, eight representing the K-12 sector, eight representing the postsecondary sector, and four liaisons as representatives of the Department of Education, the Coordinating Commission for Postsecondary Education, the Department of Administrative Services, and the Nebraska Educational Telecommunications Commission. The Education Council works on common areas of interest in the use of information technology across all sectors of education from elementary through postsecondary levels and including public and private institutions. The Education Council advises the NITC on education information technology needs, goals, and policy. The Council identifies, coordinates, and prioritizes matters pertaining to information technology for a more strategic and cost-effective approach to developing the State's education information technology infrastructure.

State Government Council. The State Government Council has 24 members representing state agencies and two members chosen from the private sector, with experience in managing major information technology systems. The mission of the State Government Council is to provide direction and oversight for state government information technology vision, goals, and policy. It promotes collaboration on technology issues among state agencies.

Technical Panel. The Technical Panel is a statutory body, which provides technical analysis and recommendations to the Commission. The Technical Panel is codified at Neb. Rev. Stat. § 86-521. It consists of seven members approved by the Commission. The mission of the Technical Panel is to assist in the development of a statewide technical infrastructure that will be scalable, reliable, and efficient, including a shared statewide telecommunications network. It provides technical analysis of projects and recommends technical standards and guidelines.

Each of the councils and the Technical Panel has a charter, adopted by the NITC, which establishes the council membership, responsibilities, and meeting procedures. Charters, proceedings, and other information are available on the NITC Web site.

Other Coordinating Entities. The NITC also recognizes the important contributions of other information technology coordinating entities, such as the Criminal Justice Information Systems (CJIS) Advisory Committee, and the Geographic Information Systems (GIS) Steering Committee. The CJIS Advisory Committee includes representatives of state and local agencies involved in all aspects of criminal justice. It conducts strategic planning and sponsors automation and data sharing projects. Further information about the CJIS

Advisory Committee is available at <http://www.cjis.state.ne.us/>. The Legislature established the GIS Steering Committee in 1991 (Sections 81-2601 through 81-2605), in an effort to coordinate the implementation of GIS technology by state and local governments in Nebraska. Membership on the GIS Steering Committee includes local, state, and federal representatives. Further information about the GIS Steering Committee is available at <http://www.calmit.unl.edu/gis/>.

The NITC encourages other information technology coordinating entities to collaborate with the NITC and its advisory councils.

Advisory Group Members

Community Council

Jeanne Saathoff, Co-Chair, Kearney Public Library and Information Center

Robert. E. Sweeney, Co-Chair, Aim Institute

Chris Anderson, City of Central City

Tim Armstrong, Great Plains Communications

K.C. Belitz, Columbus Area Chamber of Commerce

Len Benson, Faith Regional Health Systems

Carol Brandl, BryanLGH Medical Center

John Dale, Lincoln City Libraries

Norene Fitzgerald, York County Development Corporation

Donna Hammack, St. Elizabeth Hospital Foundation

Lance Hedquist, City of South Sioux City

Roger Keetle, Nebraska Hospital Association

Georgia Masters Keightley, City of Crawford

Harold Krueger, Chadron Community Hospital

Pat Langan, Department of Economic Development

Michael Nolan, City of Norfolk

Ted Smith, Norfolk Public Library

Max Thacker, University of Nebraska Medical Center

Jerry Vap, Public Service Commission

Mary Wernke, Letter Perfect Communications

Education Council

Dr. Jack Huck, Co-Chair, Southeast Community College

Alan Wibbels, Co-Chair, ESU 10

Arnold Bateman, University of Nebraska-Lincoln

Michael Beach, Nebraska Educational Telecommunications Commission

Brenda Decker, Department of Administrative Services

Linda Engel, Nebraska City Public Schools

Wayne Fisher, Nebraska Department of Education

Dr. Terry Haack, Elkhorn High School

Yvette Holly, University of Nebraska Medical Center

Jeff Johnson, Centennial Public Schools

Dr. Tom Krepel, Chadron State College

Joe LeDuc, Catholic Diocese of Lincoln

Chuck Lenosky, Creighton University

Dennis Linster, Wayne State College

Dr. Rob Manzer, Nebraska Wesleyan University

Dr. Jerry Moskus, Metropolitan Community College

Michael Pate, Millard Public Schools

Dr. David Powers, Coordinating Commission for Postsecondary Education

Ed Rastovski, Wahoo Public Schools

Al Schneider, ESU 5

State Government Council

Steve Schafer, Chair, Chief Information Officer

Bob Beecham, Department of Education

Dennis Burling, Department of Environmental Quality

Mike Calvert, Legislative Fiscal Office

Tom Conroy, DAS—IM Services

John Craig, Department of Roads

Al Curtis, Crime Commission

Steve Curtiss, Health & Human Services—Finance and Support

Brenda Decker, DAS—Division of Communications

Mary Jane Egr, Department of Revenue

Jack Falconer, Department of Correctional Services

Pat Flanagan, Private Sector

John Gale, Secretary of State of Nebraska

Rex Gittins, Department of Natural Resources

Frank Goodroe, Supreme Court

Dorest Harvey, Private Sector

Lauren Hill, Governor's Policy Research Office

Butch Lecuona, Department of Labor

Lori McClurg, Department of Administrative Services

Scott McFall, Nebraska State Patrol

Glenn Morton, Workers' Compensation Court

Beverly Neth, Department of Motor Vehicles

Gerry Oligmueller, DAS—Budget Division

Rod Wagner, Library Commission

Technical Panel

Walter Weir, Chair, University of Nebraska

Michael Beach, Nebraska Educational Telecommunications Commission

Brenda Decker, DAS—Division of Communications

Christy Horn, University of Nebraska—Lincoln

Kirk Langer, Lincoln Public Schools

Steve Schafer, Chief Information Officer



Section 2

Action Plan

UNITED 2004

Nebraska's Statewide Technology Plan



Section 2

Action Plan

Summary

The NITC has prepared an action plan consisting of eight strategic initiatives and 11 action items which address the NITC's goals of supporting the development of a robust telecommunications infrastructure; supporting community and economic development; and promoting the efficient delivery of government and educational services. The NITC's 2004-2005 strategic initiatives and action items are listed below. A brief description of each strategic initiative and action item is also included in this section.

Supporting the Development of a Robust Telecommunications Infrastructure

Strategic Initiative: Nebraska Telehealth Network

- Community Council Action Item: Support the Nebraska Telehealth Network

Strategic Initiative: Network Nebraska

- Technical Panel Action Item: Provide Technical Assistance to the Collaborative Aggregation Partnership (CAP) for the Development of Statewide Network Services
- Education Council Action Item: Support the Network Nebraska Initiative

Strategic Initiative: Statewide Synchronous Video Network

- Technical Panel and Education Council Action Item: Develop Statewide Synchronous Video Standards and Recommendations

Supporting Community and Economic Development

Strategic Initiative: Community IT Planning and Development

- Community Council Action Item: Support IT Planning and Development through Technologies Across Nebraska

Promoting the Efficient Delivery of Government and Educational Services

Strategic Initiative: Nebraska eLearning Initiative

- Education Council Action Item: Establish the Nebraska eLearning Consortium to Oversee Development of the Nebraska eLearning System

Strategic Initiative: Enterprise Architecture

- State Government Council and Technical Panel Action Item: Recommend Technical Standards, Guidelines, Enterprise Solutions, and Best Practices
- State Government Council Action Item: Improve Planning Process and Project Management
- Technical Panel Action Item: Investigate Opportunities for Collaboration

Strategic Initiative: E-Government

- State Government Council Action Item: Implement *E-Government Strategic Plan*

Strategic Initiative: Security and Business Resumption

- State Government Council Action Item: Implement Security Policies

NITC Goal

Supporting the Development of a Robust Telecommunications Infrastructure

Strategic Initiative

Nebraska Telehealth Network

On December 17, 2002 the Public Service Commission issued an order authorizing the support of telehealth from the Nebraska Universal Service Fund. The order directed the Nebraska Hospital Association to submit a plan which would define how Nebraska Universal Service Fund support should be used to support rural health care providers. A preliminary plan was submitted to the Public Service Commission in late May, 2003. The Nebraska Hospital Association has continued to work with the hub hospitals to develop a more detailed plan which will also incorporate bioterrorism alerts. Efforts are also being made to incorporate bioterrorism preparedness into the plan for the Nebraska Telehealth Network.

Components

- Phase one of the network will include all Nebraska hospitals which currently have videoconferencing equipment or are planning to order equipment. A router will be installed in College Park in Grand Island to provide a connection among all of the hub hospitals.
- Phase two will address issues such as maintenance, scheduling, operations, and governance. Additional hospitals will also be added to the network.

Enterprise Benefits

A telehealth network which connects all hospitals, providing access to consultations with medical specialists, continuing medical education, and bioterrorism training and alerts is critical to the provision of health care in rural areas of the state. There is a lack of specialist services in rural areas, particularly mental health services. Telemedicine has proven to be an effective way to provide consultations with specialists. Currently mental health consultations and teleradiology are the two most common types of specialist services provided via telemedicine. Rural health care providers also have fewer opportunities for continuing medical education in their community and must often drive several hours to attend training. Continuing medical education is currently being provided via telehealth in Nebraska and has proven to be an effective and efficient method of delivery. It is also critical that all hospitals are connected to a telehealth network in order to prepare health care providers to respond quickly to bioterrorism threats and other public health risks.



Community Council Action Item

Support the Nebraska Telehealth Network

The development of a statewide telehealth network will be supported in the following ways:

1. The NITC and the Telehealth Subcommittee should facilitate communication and coordination among telehealth networks.
2. The Telehealth Subcommittee and NITC staff should provide continuing assistance to the Nebraska Hospital Association in developing a telehealth plan for the Nebraska Public Service Commission.
3. The NITC Technical Panel should address the need for interoperability.

Expected Outcomes

- Telehealth systems in Nebraska will be interconnected.
- The number of critical access and rural hospitals participating in telehealth systems will increase—especially in the second year of implementation of the system.
- The number of telehealth consultations in the state will increase.
- Health care providers will have better access to continuing medical education.
- Specialist services, especially mental health services and teleradiology, in rural areas will be more accessible.

Lead: Telehealth Subcommittee and NITC

Timeframe: June, 2004 - May, 2005

Strategic Initiative

Network Nebraska

The primary objective of this initiative is to develop a broadband, scalable telecommunications infrastructure that optimizes the quality of service to every public entity in the State of Nebraska. The Division of Communications and the University of Nebraska engaged in a collaborative partnership that used existing resources to aggregate disparate networks into a multipurpose core backbone extending from Norfolk, Omaha, Lincoln, Grand Island, Kearney, and North Platte to the Panhandle. The next phase of this initiative is to formalize business relationships and agreements and to enhance rural bandwidth through local aggregation.

Components

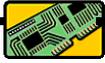
The major components of this initiative include:

- Development of a scalable, reliable, and secure telecommunications infrastructure that enables any type of eligible entity (i.e., local and state government, public and private K-12 and higher education, health care institutions) to purchase the amount of service that the entities need, when they need it, on an annual basis;
- Establishment of a catalog of value-added applications that enables eligible entities to pick and choose services that are pertinent to them (e.g., Internet1, Internet2, and videoconferencing);
- Implementation of a network operations center that offers a helpdesk, network diagnostics, and engineering assistance in order to ensure acceptable qualities of service;
- Establishment of a billing or accounting center to accept service orders, extend service agreements, provide consolidated billing, and to maintain customer accounts.

Enterprise Benefits

Through aggregation of demand, adoption of common standards, and collaboration with network services and applications, participants can achieve many benefits, including:

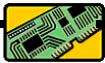
- Lower network costs;
- Greater efficiency for participating entities;
- Interoperability of systems providing video courses and conferencing;
- Increased collaboration among all K-20 educational entities;
- New educational opportunities;
- Competitiveness with surrounding states; and
- Better use of public investments.

**Technical Panel Action Item****Provide Technical Assistance to the Collaborative Aggregation Partnership (CAP) for the Development of Statewide Network Services**

The Technical Panel will provide technical assistance for the implementation of statewide network services through the Collaborative Aggregation Partnership and related work groups.

Lead: Brenda Decker, Division of Communications

Timeframe: Ongoing

**Education Council Action Item****Support the Network Nebraska Initiative**

The Education Council will provide promotional assistance and customer feedback during the implementation of statewide network services through the Collaborative Aggregation Partnership and related work groups.

Expected Outcomes:

- Network Nebraska will be able to attract a greater number of education customers, thereby enabling a greater array of educational services to be offered.

Lead: Education Council and NITC Staff

Strategic Initiative

Statewide Synchronous Video Network

The primary objective of this initiative is to establish an Internet Protocol-based network that will interconnect all existing and future distance learning and videoconferencing facilities in the State of Nebraska. Nebraska currently has approximately 300 high school distance learning classrooms, 30 higher education distance learning classrooms, over 50 state agency videoconferencing rooms, and (soon-to-be) over 60 videoconferencing facilities for telehealth in local and regional hospitals. More growth and proliferation of distance learning and videoconferencing equipment and sites is expected in the near future. These 400+ interactive video facilities currently utilize a variety of video standards and bandwidth speeds that prevent interconnection between sub-networks. The Statewide Synchronous Video Network, as envisioned, would use compatible audio and video standards to enable any classroom or facility to connect with any other classroom or facility or to connect with multiple sites simultaneously.

Components

The major components of this initiative include:

- A single, interconnected synchronous video network with various levels of authorization and traffic prioritization;
- An event clearinghouse and scheduling system that would allow registration for interactive video events;
- Development of a network bandwidth management system or network operations center that assures pre-determined qualities of service, depending upon the type of video traffic.

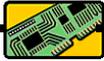
Enterprise Benefits

Interactive videoconferencing and distance learning developed rapidly across Nebraska in the 1990's. Prior to recognized video standards or a coordinating body, entities were free to adopt any equipment, standard, or system that met their needs. Little thought was paid to interconnectivity or compatibility. Consequently, Nebraska became a state of disparate, redundant systems that prevented multi-jurisdictional collaboration or maximization of educational opportunities outside of a particular geographic boundary or system.

The enterprise benefits of an interconnected video system include:

- Greater sharing of educational courses, events, and training across sub-network boundaries, irrespective of geography;
- More efficient use of available resources—more classrooms and sites are available within less distance of the user at more convenient times;

- One-to-many videoconferencing capabilities for news alerts, bioterrorism alerts, or other emergency uses;
- Collaborative development across various service agencies (i.e., medical services to schools, and adult and continuing education opportunities).



Technical Panel and Education Council Action Item Develop Statewide Synchronous Video Standards and Recommendations

The Statewide Synchronous Video Work Group was chartered by the Technical Panel on November 8, 2002 to develop the technical and non-technical recommendations needed in order to provide for a statewide, interconnected, synchronous video network serving citizens involved with education, state government, and telehealth.

The major action items of this initiative include:

- Identification of a single audio and video standard for low-bandwidth distance learning and videoconferencing;
- Acquisition of upgrade or replacement equipment and/or software that ensures compliance with the audio and video standard;
- Development or purchase of a scheduling system or enterprise resource management program that allows potential users to A) know the location and availability of resources, and B) set up or reserve ad hoc or regularly scheduled events with other entities;
- Development of a network bandwidth management system or network operations center that assures pre-determined qualities of service, depending upon the type of video traffic;
- Development of an event clearinghouse that allows promotion, marketing, and registration for interactive video events;
- Training modules for new users;
- Development of a funding algorithm to allow shared use of the statewide backbone.

Expected Outcomes

- Nebraska will derive more efficient and cost-effective use of its synchronous video assets and ultimately increase lifelong learning and training opportunities.

Lead: Statewide Synchronous Video Network Work Group and Education Council

Timeframe: July, 2004 – June, 2005

NITC Goal

Supporting Community and Economic Development

Strategic Initiative

Community IT Planning and Development

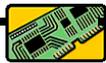
Information technology is transforming the economy and society, creating a completely new paradigm. In response to these changing conditions, communities are finding that economic and community development processes need to be retooled. In order to compete in the global economy, communities need access to advanced telecommunications services and a tech-savvy workforce. Businesses need to understand how to utilize technology to expand their markets, increase efficiency, and reduce costs. Information technology can also enhance quality of life by improving access to health care, educational opportunities, and community information.

Components

- **Community Leadership and Support.** Through the IT Planning and Mini Grant program, communities in Nebraska are forming local technology committees and developing technology plans. Each year, up to eight communities are able to participate in the program.
- **Telecommunications Infrastructure.** Communities need access to broadband Internet service, wireless telephone service, and advanced telephone services such as voice mail. In the next few years, Voice over IP and WIFI may be other services that businesses require in order to relocate or expand in a community.
- **Technology Literacy and Access.** Community residents need access to basic computer and Internet training as well as access to the Internet at public libraries or community technology learning centers.
- **Advanced Technology Training.** Businesses need access to advanced technology training for their employees.
- **Economic Development and E-commerce.** Economic developers need to understand the needs of technology-intensive businesses. In order to remain competitive, small businesses need to begin utilizing information technology to expand their markets, reduce costs, and increase efficiency.
- **Community Services and Information.** Local governments and other community organizations can use telecommunications to provide services and to improve communication with customers. In many communities, telecommunications can improve access to health care.

Enterprise Benefits

For many years, Nebraska has experienced a two-tier economy: prospering metropolitan areas and economically challenged rural areas. If rural communities do not utilize technology effectively to enhance development opportunities, the gap between metropolitan and rural areas will continue to grow.



Community Council Action Item Support IT Planning and Development through Technologies Across Nebraska

The NITC Community Council will support community IT development by working with the University of Nebraska and other Technologies Across Nebraska Partners, including the following action steps:

- Pending the availability of funding, work with up to 8 community or regional technology committees to develop community or regional IT plans through the 2004-2005 Community IT Planning and Mini Grant program.
- Provide continuing support for the 17 community and regional technology committees which have participated the 2002-2003 and 2003-2004 IT Planning and Mini Grant programs.
- Work with the Nebraska Rural Initiative and the Nebraska Rural Development Commission on efforts to promote and coordinate e-commerce training across the state.
- Continue partnering with Technologies Across Nebraska and the University of Nebraska to promote technology-related development through the quarterly newsletter, *TANgents*.
- Continue to maintain and update the TAN and Community IT Toolkit Web sites, including adding funding information.
- Work with the Nebraska Rural Initiative to explore the expanded use of youth to assist in IT development activities.
- Provide and/or promote training opportunities on effectively using technology to enhance development opportunities and the delivery of services, especially in the area of IT-related economic development.

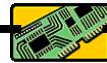
Support IT Planning and Development through Technologies Across Nebraska—Continued

Expected Outcomes

- Communities in Nebraska will make progress toward becoming Information Age communities;
- Communities will have easy access to information and resources to assist them in developing their capacity to use information technology for community and economic development.

Lead: Technologies Across Nebraska and Community Council

Timeframe: June, 2004 - May, 2005



NITC Goal

Promoting the Efficient Delivery of Government and Educational Services

Strategic Initiative

Nebraska eLearning Initiative

The primary objective of this initiative is to promote the effective and efficient integration of technology into the instructional process and to utilize technology to deliver enhanced educational opportunities to students at all levels throughout Nebraska on an equitable and affordable basis.

This initiative also involves the establishment of a Nebraska eLearning Consortium to organize and facilitate the development and execution of a P-20+ statewide eLearning strategy to:

- Connect eLearning innovators and leverage their expertise and experience;
- Build collaborative relationships between K-12 and Higher Ed educators;
- Develop discipline-specific and age-specific instructional design models;
- Encourage the development and sharing of instructional content; and
- Ensure the infrastructure required to support the deployment and ongoing support of eLearning is in place and available.

The eLearning Consortium would also be responsible for providing administrative and technical support to include: the negotiation of required hardware and software purchasing and licensing agreements; developing and implementing deployment strategies; facilitating the establishment of statewide eLearning organizations; and providing hosting, training, and technical support services as necessary.

Components

The primary components of this initiative are:

1. **Course Management Software.** This technology supports the development and delivery of instructional content, assessment and grading, lesson planning, and provides learners with instructional support features to include interactive chat and threaded discussion groups, linkage to reference materials, etc.
2. **Content Management Software.** This technology would serve as the basis for the establishment of a Nebraska eLearning Knowledge Repository to facilitate the sharing of educational content. This Knowledge Repository would provide the ability to store, organize, classify, categorize, control access to, share, retrieve,

and present digital content of all forms to include audio, video, graphical, and textual.

3. **Infrastructure.** This includes the network, organizational, administrative, and support resources required to deploy and support eLearning statewide.

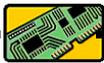
The primary access and delivery medium for eLearning will be the Internet. Therefore, the availability of a robust statewide network providing sufficient bandwidth to support the deployment of eLearning across the state of Nebraska is essential.

Enterprise Benefits

Establishing a statewide eLearning strategy is critical. The costs associated with the deployment of an efficient and effective eLearning environment are expected to be substantial. However, the costs of not acting and implementing a statewide eLearning strategy will be even higher in terms of maintaining a highly literate and employable work force. A standards-based eLearning strategy will provide students and teachers all over Nebraska equitable access to rich instructional resources not currently available at a time when educational resources are being depleted in many areas of the state.

The enterprise benefits of a statewide eLearning system would include:

- The sharing of learning objects and other educational content and reference materials that would significantly enrich and deepen the learning experiences offered to Nebraska students, particularly those in the K-12 sector;
- Greater collaboration between educators at all levels;
- The building of extended educational communities of learning and support for ongoing professional development and lifelong learning opportunities;
- Creation of a dual-use training engine for other state agencies, political subdivisions, and adult continuing education;
- Development of diverse instructional and training modules ranging from the simple (how to operate a piece of machinery) to the complex (a web-based course to achieve technician certification).



Education Council Action Item

Establish the Nebraska eLearning Consortium to Oversee Development of the Nebraska eLearning System

A statewide eLearning Consortium to advance the Nebraska eLearning Initiative and improve coordination between K-12, higher education, and adult/continuing education will be established using the following action steps:

- Organize a Summer 2004 Planning Workshop to bring together potential participants who have a stake in improving educational and training opportunities for Nebraska citizens. Objectives of the workshop would be to:
 - Define statewide eLearning goals and objectives;
 - Develop draft documents to address the issues of definition, organization, structure, representation, accountability, authority, etc;
 - Identify potential sponsor(s) and funding source(s);
 - Develop an action plan and timeline to activate the Nebraska eLearning Consortium.
- Develop a design document detailing the technology components, standards, costs and administration of a Nebraska eLearning Knowledge Repository for the sharing of educational content. This Knowledge Repository would provide the ability to store, organize, classify, categorize, control access to, share, retrieve, and present digital content of all forms to include audio, video, graphics, and text.
- Work with education and staff development professionals to document strategies, techniques and tools used in course management and create a clearinghouse of eLearning best practices and training modules.
- Explore cost-efficient options for the aggregated purchase of course management software for the State of Nebraska.
- Convene focus groups composed of formal education and public entities to A) determine the present state of eLearning in Nebraska; B) compare the present state of eLearning to the desired goals of the eLearning Initiative; and C) communicate the gap analysis to elected officials and policy makers.

Establish the Nebraska eLearning Consortium to Oversee Development of the Nebraska eLearning System—Continued

Expected Outcomes

- Nebraska citizens and students will enjoy greater access to more flexible lifelong learning opportunities which should aid in workforce development.
- Nebraska's economic engine will be improved through greater retention of high school and college graduates.

Lead: Nebraska eLearning Initiative Steering Committee and Education Council

Timeframe: July, 2004 - June, 2005



Strategic Initiative

Enterprise Architecture

Enterprise Architecture Framework can be described as a methodology for developing an organization's IT support functions. Ideally, when governments establish their infrastructures using common enterprise architecture, making systems work together will be simpler because each would have addressed the items that are crucial to interoperability of systems developed for specific business needs.

Enterprise Architecture supports the business of government, enables information sharing across traditional barriers, enhances government's ability to deliver effective and timely services, and supports agencies in their efforts to improve government functions and thereby services.

The State Government Council will serve as a "committee-of-the-whole" to develop the enterprise architecture. The enterprise architecture will focus on those areas that provide opportunities for cost sharing, data sharing and enhancements that affect multiple agencies rather than a single entity. It is not feasible for the enterprise architecture to address every technical detail for every agency. All agencies should have an opportunity to review and comment on the enterprise architecture as it evolves.

The State Government Council looked at several enterprise architecture methodologies. There was consensus to investigate the methodology developed by the National Association of State CIOs (NASCIO), because it was designed for state government and reflects the need for a high level perspective, rather than one that is too detailed.

Components

Developing the Enterprise Architecture will include the following activities:

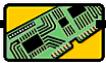
1. Readiness Assessment
 - **NASCIO EA Maturity Model v1.3.** The *EA Maturity Model* is a series of benchmarks for evaluating a state's current capabilities in 8 areas.
 - **NASCIO EA Assessment Preview.** The *EA Assessment Preview* provides an introduction to the EA Readiness Assessment, as well as a listing of each question that will be included in the on-line assessment.)
 - **NASCIO On-Site Visit.** A three- or four-person team will make an on-site visit to explain the assessment process and the NASCIO EA methodology. The team will include NASCIO staff and representatives of two states that have been using the NASCIO methodology.
 - **EA Assessment Summary Report.** The NASCIO team will review and analyze the results of the EA Assessment Preview and onsite visit. The NASCIO team will also prepare an EA Readiness Assessment Summary Report for Nebraska. The summary report will identify potential next steps for further development of the EA Program.

2. **NASCIO Enterprise Architecture Development Tool-Kit v2.0.** The Tool-Kit provides a comprehensive set of materials for developing the Enterprise Architecture. It includes a framework consisting of governance, business architecture, technology architecture, and standards and guidelines. These four areas provide the foundation for the Enterprise Architecture by identifying business needs, technological direction, and processes. A copy of the tool-kit is available at the NASCIO website: www.nascio.org.

Enterprise Benefits

A successful enterprise architecture will provide the following benefits:

- Lower costs;
- Easier interoperability among systems;
- Greater data sharing;
- Improved services.

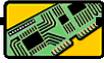


State Government Council and Technical Panel Action Item Recommend Technical Standards, Guidelines, Enterprise Solutions, and Best Practices

The State Government Council will recommend technical standards, guidelines, and enterprise solutions for state government. The Technical Panel, with input from the NITC councils and other coordinating entities, will recommend the adoption of technical standards, guidelines, and best practices.

Lead: State Government Council work group(s) to be created and Technical Panel work groups assigned by subject.

Timeframe: June, 2004 – July, 2005



State Government Council Action Item
Improve Planning Process and Project Management

In order to improve the information technology planning process for state agencies, the State Government Council will review, and revise as appropriate, the planning documents utilized by agencies, including: agency comprehensive information technology plans and agency project proposal forms for budget requests. The review will include recommendations for improving the cost-benefit analysis information provided with project proposals. The State Government Council will continue to provide guidance to agencies on best practices for project management. Areas of focus should include: management of IT related projects; measuring results; preparing project closure reports; and recommendations for a certification process for project managers.

Lead: Office of the CIO

Timeframe: 3rd Quarter 2004 - Review and revise project proposal form and review process documents in advance of the next biennial budget process.



Technical Panel Action Item
Investigate Opportunities for Collaboration

The Technical Panel will examine opportunities for collaboration and efficiencies to be gained by sharing resources and expertise.

Lead: To be determined

Timeframe: Ongoing

Strategic Initiative

E-Government

The State Government Council has adopted and annually updates the *E-Government Strategic Plan for Nebraska State Government*. The principles guiding the plan are:

- E-government should be considered a continuous process of using technology to serve citizens and improve agency operations;
- Internet technologies create new opportunities for major change, including self-service, integration of information and services, and elimination of time, distance and availability of staff as constraints to providing information and services;
- Agencies have responsibility for performing statutory functions, which means that agency directors must retain ownership of data, responsibility over the use of information technology, and prioritization of projects within the agency to achieve the greatest benefit;
- Cooperation is critical to achieving the goals of e-government, in order to integrate information and services and allow the easy exchange of information;
- An enterprise approach is essential to e-government, including the topics of accessibility for disabled persons, architecture, directories, funding, portal, privacy, security, and other issues; and
- E-government is defined as the use of technology to enhance information sharing, service delivery, constituency and client participation, and governance by transforming internal and external relationships.

The plan includes 26 specific actions and recommendations for implementing e-government. The current version of the plan is available on the NITC's Web site at <http://www.nitc.state.ne.us/>.

Components

The three goals for e-government are:

1. **Government-to-Citizen and Government-to-Business.** Anyone needing to do business with state government will be able to go to the state's Web site, easily find the information or service they need, and if they desire, complete all appropriate transactions electronically. The plan contains 17 action items in the following areas: citizen portal enhancement; business portal enhancements; education portal; and forms automation.
2. **Government-to-Government.** State agencies will improve services and increase the efficiency and effectiveness of government operations through collaboration, communication, and data sharing between government agencies at all levels.

3. **Government-to-Employee and Internal Operations.** Agencies will examine internal operations to determine cost-effective e-government applications and solutions. The purpose of these efforts is to improve efficiency and effectiveness by replacing manual operations with automated techniques.

Enterprise Benefits

The *E-Government Strategic Plan* includes a discussion of the benefits of e-government and a detailed list of actions and recommendations. The primary benefits are:

1. Improved services for citizens and businesses.
2. Increased efficiency and effectiveness for agencies.



State Government Action Item **Implement *E-Government Strategic Plan***

In March 2003, the State Government Council adopted a revised *E-Government Strategic Plan for Nebraska State Government*. The plan sets out specific actions and recommendations for this priority.

(http://www.nitc.state.ne.us/sgc/documents/egovstrategy_20030313.pdf)

Lead: Office of the CIO

Timeframe: Ongoing

Strategic Initiative**Security and Business Resumption**

This initiative will define and clarify policies, standards and guidelines, and responsibilities related to the security of the state's information technology resources. Information security will serve statutory goals pertaining to government operations and public records. These include:

1. Insure continuity of government operations (Article III, Section 29 of the Nebraska Constitution; Nebraska Revised Statutes Sections 28-901 and 84-1201);
2. Protect safety and integrity of public records (Nebraska Revised Sections 28-911, 29-2391, and 84-1201);
3. Prevent unauthorized access to public records (Nebraska Revised Statutes Sections 29-319, 81-1117.02, and 84-712.02);
4. Insure proper use of communications facilities (Nebraska Revised Statutes Section 81-1117.02); and
5. Protect privacy of citizens (Nebraska Revised Statutes Section 84, Article 7).

Components

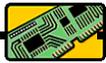
Major activities include:

1. Developing an overall security strategy, including policies, security awareness, and security infrastructure improvements;
2. Network security standards and guidelines;
3. Education and training;
4. Authentication (directory services project);
5. Disaster recovery for information technology systems (as part of a broader business continuity planning);
6. Compliance with federal privacy and security mandates;
7. Security assessments.

Enterprise Benefits

Benefits will include:

- Lower costs by addressing security from an enterprise perspective;
- Cost avoidance;
- Protecting the public trust.



Technical Panel Action Item Implement Security Policies

In January 2001, the NITC adopted the security policies developed by the Technical Panel's Security Architecture Work Group. These policies, guidelines, and best practices are intended to provide a framework for a secure computing environment, with a focus on state government. The State Government Council, in coordination with the Technical Panel, will work to implement these policies in state government. Security related issues to be addressed include directory services, security assessments, security awareness, disaster recovery, training, and incident response.

Lead: Office of the CIO (Technical Panel's Security Work Group)

Timeframe: June, 2004 through July, 2005

Nebraska Information Technology Commission Strategic Initiatives

Strategic Plan

Nebraska Statewide Telehealth Network

Objective

The Nebraska Statewide Telehealth Network will provide the opportunity for all hospitals and public health departments to connect, providing access to consultations with medical specialists, continuing medical education, transmission of digital clinical information, bioterrorism alerts and training for homeland security and other emergency management issues.

Benefits

The Nebraska Statewide Telehealth Network (NSTN) will implement the vision of a high-speed health video telecommunication information system capable of erasing distance as a barrier to access to high quality health care for all people in Nebraska. Research shows that telehealth telecommunications services will:

- Increase the ability to diagnose patients' illnesses;
- Improve the quality and administration of medical services;
- Strengthen rural physicians' ties to specialty care;
- Alleviate the isolation of rural providers;
- Enhance the ability to attract and retain primary care physicians, medical professionals and support staff;
- Facilitate the training of health professionals in rural communities; and
- Enable patients to stay close to home for their care.
- Improve access to consultations with mental health practitioners, radiologists, and other medical specialists.

In addition, the Nebraska Statewide Telehealth Network will enable the delivery of bioterrorism alerts and training to hospitals and public health departments across the state.

Current Status

- The Nebraska Hospital Association, in partnership with the Nebraska Public Service Commission, Nebraska Health and Human Services System, Nebraska Information

Technology Commission and Office of the Chief Information Officer, Nebraska Division of Communications, University of Nebraska, University of Nebraska Medical Center, Nebraska hospital telehealth hubs and hospitals, Central Nebraska Area Health Education Center, telecommunications providers, the Nebraska Information Network, and the Universal Services Administrative Company (Federal Universal Service Fund Administrator), is leading an effort to create a statewide telehealth network.

- In August 2004, connections between hub hospitals and their connecting rural hospitals were initiated; in addition other sites such as the Nebraska State Office Building were included. This initial test of the system is part of a systematic process for connecting all Nebraska hospitals, which are currently participating in Nebraska-based telehealth systems. Additionally, all hospitals that wish to participate will be incorporated into the system as they have the capability at their individual site.
- All rural hospitals have been offered the opportunity to purchase video conferencing equipment. This funding has been made available through various federal grant programs and through funding provided through the Nebraska Health and Human Services System. Additionally, options are being explored to fund endpoint video equipment in the public health departments. Currently, memorandums of understanding are being sought by the public health departments with their local hospitals to provide connectivity.
- The Public Service Commission is expected to approve plans for providing support for the Nebraska Statewide Telehealth Network through the Nebraska Universal Service Fund in September 2004. This funding will be part of a funding mechanism that includes the Universal Services Administrative Company, the Nebraska Public Service Commission and the individual hospitals.
- The Nebraska Office of Rural Health is planning a telehealth workshop on Sept. 10 in Kearney to help rural hospitals prepare to use the Nebraska Statewide Telehealth Network.

Future

- All Nebraska hospitals and health departments will be connected to the Nebraska Statewide Telehealth Network in 2005-2006.
- Additional telecommunications infrastructure will be deployed to enable the efficient operation of the Nebraska Statewide Telehealth Network. The plan submitted to the Nebraska Public Service Commission in July 2004 by the Nebraska Hospital Association includes the following components:
 - Connection routers at six hub sites;
 - Accord bridge added at one site;
 - Endpoint routers at 68 endpoint hospitals ;
 - Scheduling software;
 - Endpoint firewalls at 68 endpoint hospitals;

- Firewalls at 7 hub sites;
 - Gatekeeper technology;
 - Installation costs for T-1 lines and fiber for endpoint hospitals; and
 - Connectivity of the statewide network
- The plan submitted to the Public Service Commission plan envisions a network backbone connectivity scheme for 2004-2005 consisting of the following:
 - Scottsbluff to Grand Island --- 4 T-1 lines
 - North Platte --- Dark Fiber Solutions - 100 mbps line
 - Kearney to Grand Island --- 6 T-1 lines
 - Grand Island to Lincoln --- 4 T-1 lines
 - Grand Island to Omaha --- 6 T-1 lines
 - Grand Island (St. Francis Medical Center) to Central Nebraska AHEC --- 6 T-1 lines
 - Dark Fiber Solutions connection in Grand Island --- 100 mbps line
 - Lincoln (St. Elizabeth Regional Medical Center) to Omaha (UNMC) --- 1 T-1 line*
 - Lincoln (BryanLGH Medical Center) to Omaha (UNMC) --- 1 T-1 line*
 - Norfolk to Omaha --- 6 T-1 lines

*While this may initially be one T-1 line per location, an increase in subsequent years is likely.

- Rural hospitals that currently have multiple lines connecting them to two different hub hospitals will be able to access the services of any hub hospital in Nebraska through just one line in 2005-2006.
- Use of the network for consultations and continuing medical education will increase.

Recommended Actions

(NOTE: These recommendations are still subject to change, pending additional advice from those entities that are participating in this strategic initiative.)

- A. Integrate Nebraska Statewide Telehealth Network with statewide synchronous video network and Network Nebraska.** The value of a network increases as more connections are added. Connecting the Nebraska Statewide Telehealth Network with the proposed statewide synchronous video network creates more value than the sum of their values as independent networks. Integrating the Nebraska Statewide Telehealth Network with Network Nebraska may lead to more efficient use of state resources and potential cost savings or cost avoidance.

Actions include:

1. Identify options for integrating the Nebraska Telehealth Network with the statewide synchronous video network and Network Nebraska.
 - a. Lead Entity: Collaborative Aggregation Partnership

- b. Timeframe: May 31, 2004
- c. Funding: No funding required for this task

B. Provide continued support for telehealth through the Nebraska Universal Service Fund. On December 17, 2002, the Nebraska Public Service Commission approved the use of up to \$900,000 a year from the Nebraska Universal Service Fund to support telehealth. A detailed plan for support for the Nebraska Statewide Telehealth Network was submitted to the Commission by the Nebraska Hospital Association on July 9, 2004. The plan is expected to be approved in September. 2003-2004 support requested from the Nebraska Universal Service Funding is \$145,570. The total projected cost for the period July 1, 2004 through June 30, 2005 is \$813,766.23.

Actions include:

- 1. Report on any changes to legislation or regulations that would impact continued support of telehealth through the Nebraska Universal Service Fund to the Community Council and Nebraska Information Technology Commission at least annually.
 - a. Lead Entity: Telehealth Subcommittee
 - b. Timeframe: September 1, 2005
 - d. Funding: No funding required for this task

C. Ensure continued support for telehealth from the federal Universal Service Fund by monitoring federal legislation impacting the Universal Service Fund. The Rural Health Care Fund of the federal Universal Service Fund is a key funding component of the Nebraska Telehealth Network. Approximately \$536,000 of federal support will be provided for 2003-2004.

Actions include:

- 1. Monitor legislation, regulations, or other threats to the continued support of telehealth through the Nebraska Universal Service Fund and update the Community Council and Nebraska Information Technology Commission at least annually.
 - a. Lead Entity: Telehealth Subcommittee
 - b. Timeframe: September 1, 2005
 - c. Funding: No funding required for this task

D. Encourage continued cooperation of all entities involved in the development and management of the Nebraska Statewide Telehealth Network by facilitating meetings on specific issues as needed. Partners include hospitals across the state of Nebraska, the Nebraska Hospital Association, the Nebraska Health and Human Services System; the Nebraska Information Technology Commission/Office of the Chief Information Officer; the Nebraska Division of Communications; The University of Nebraska, the Nebraska Public Service Commission, and telecommunications providers.

Actions include:

- 1. Report on any issues or problems, and if necessary facilitate meetings to bring interested parties together to discuss and resolve the issue.
 - a. Lead Entity: Telehealth Subcommittee

- b. Timeframe: September 1, 2005
- c. Funding: No funding required for this task

E. Provide assistance to hospitals and to the Nebraska Hospital Association to address issues pertaining to centralized administration and network management. Members of CAP, the entity responsible for the development and administration of Network Nebraska, have provided technical assistance to the Nebraska Statewide Telehealth Network. As both Network Nebraska and the Nebraska Statewide Telehealth Network develop and address administration and network management, CAP may be able to provide assistance to the Nebraska Statewide Telehealth Network. Opportunities to leverage resources should be explored.

Actions include:

1. Meet with the Technical Subcommittee of the Nebraska Statewide Telehealth Network to discuss issues related to centralized administration and network management.
 - a. Lead Entity: Collaborative Aggregation Partnership
 - b. Timeframe: May 31, 2005
 - c. Funding: No funding required for this task

F. Provide assistance in promoting the use of the network to doctors, administrators, and health care providers. A workshop on telehealth targeting hospital technical staff and administrators was held in Grand Island on April 27, 2004. Another workshop is scheduled for September 10 in Kearney. Sponsors of the workshops have included the Nebraska Office of Rural Health and Central Nebraska Area Health Education Center. Another workshop is planned on September 10, 2004 in Kearney as part of the Nebraska Rural Health Association's annual conference. The event is sponsored by the Nebraska Rural Health Association and co-sponsored by the Nebraska Office of Rural Health and the University of Nebraska Medical Center. Many of the entities involved in health and medical education participate in the NITC's Telehealth Subcommittee. The NITC Telehealth subcommittee should serve as a vehicle for encouraging and coordinating educational and promotional programming to advance the use of telehealth.

Actions include:

1. Form a subcommittee to develop a plan for future educational programming.
 - a. Lead Entity: Telehealth Subcommittee
 - b. Timeframe: November 15, 2004
2. Organize at least one educational program on an issue related to the delivery and expansion of telehealth.
 - a. Lead Entity: Telehealth Subcommittee
 - b. Timeframe: September 1, 2005

Nebraska Information Technology Commission Strategic Initiatives

Strategic Plan For Network Nebraska

Objectives

The primary objective of this initiative is to develop a broadband, scalable telecommunications infrastructure that optimizes the quality of network services to every public entity in the State of Nebraska.

Benefits

Through aggregation of demand, adoption of common standards, and collaboration with network services and applications, participants can achieve many benefits, including:

- Lower network costs;
- Greater efficiency for participating entities;
- Interoperability of systems providing video courses and conferencing;
- Increased collaboration among all K-20 educational entities;
- New educational opportunities;
- Competitiveness with surrounding states; and
- Better use of public investments.

Current Status

The Division of Communications, the University of Nebraska, Nebraska Educational Telecommunications Commission, Department of Education, Public Service Commission, and the Nebraska Information Technology Commission have formed the Collaborative Aggregation Partnership (CAP) to guide and implement Network Nebraska. The Division of Communications and University of Nebraska have entered into a memorandum of agreement to formalize their participation in this joint effort.

Using existing resources and aggregating existing demand from state government and the University of Nebraska, CAP has developed a multipurpose core backbone extending from Norfolk, Omaha, Lincoln, Grand Island, Kearney, North Platte, and Alliance. A shared circuit also connects Scottsbluff to the backbone at Grand Island.

State and University circuits have been moved to the backbone to take advantage of the economies and efficiencies offered by aggregation. The K-20 community has started to

migrate to this service as contracts have allowed. Project 42 (consisting of ESUs 10, 11, 15 and 16) has purchased services from Network Nebraska to serve the schools in their areas.

A contract has been signed for Internet 1 service that will allow Network Nebraska to begin to offer lower rates to network participants. This could significantly increase participation in Network Nebraska. Internet 2 service is also available to educational participants through the University of Nebraska.

Future

The major components of this initiative include:

1. Development of a scalable, reliable, and secure telecommunications infrastructure that enables any type of eligible entity (i.e. local and state government, public and private K-12 and higher education, health care institutions) to purchase the amount of service that the entities need, when they need it, on an annual basis;
2. Establishment of a catalog of value-added applications that enables eligible entities to pick and choose services that are pertinent to them (e.g. Internet1, Internet2, and videoconferencing);
3. Investigate possible implementation of a network operations center that offers a helpdesk, network diagnostics, and engineering assistance in order to ensure acceptable qualities of service;
4. Investigate establishment of a billing or accounting center to accept service orders, extend service agreements, provide consolidated billing, and to maintain customer accounts.

Recommended Actions

(NOTE: These recommendations are still subject to change, pending additional advice from those entities that are participating in this strategic initiative.)

Goals for Network Nebraska for the remainder of FY 2005.

- 1) Develop and offer Internet I services to eligible network participants by January 10, 2005
 - a. University of Nebraska signs contract with provider for Internet I services no later than August 31, 2004.
 - b. Division of Communications purchases Internet I services from the University no later than September 15, 2004.
 - c. Collaborative Aggregation Partnership (CAP) agrees on rates to be charged to eligible network participants for Internet I services no later than September 15, 2004.
 - d. Working through the NITC and the various Councils, CAP will distribute information related to the new Internet I charges to eligible network participants during the months of October, November and December 2004.

- e. Orders will be taken by CAP for new service and the circuits will be provisioned during the months of October, November and December, 2004.
 - f. Internet I service turned up the first working day of January, 2005 for initial orders.
- 2) Identify Tier II communities that offer opportunities for aggregation for services onto the network – ongoing.
- a. Both the University and the State will begin by providing a list to CAP of the communities where service is currently being provisioned that indicates the total amount of bandwidth currently being consumed no later than September 15, 2004.
 - b. CAP will analyze the listings for opportunities to aggregate the existing service when coupled with other opportunities within the community no later than November 15, 2004.
 - c. CAP will order service for the next Tier II community aggregation no later than January 15, 2005.
 - d. New service will be provisioned by the provider and the move of existing service will be coordinated by CAP with the customer between January and March of 2005.
 - e. Opportunities for the next Tier II community will be explored and started over again no later than May 15, 2005.
- 3) Create a Service Level Agreement for use by CAP and the eligible network participants no later than November 1, 2004.
- a. CAP will work with appropriate legal counsel to establish a Service Level Agreement that will detail the service that is being provided to the client. These meetings will take place thru August and September with a final draft document due September 30, 2004.
 - b. CAP will review the document with agency and university leadership, as well as the Chair of the NITC with final approval no later than October 15, 2004.
 - c. CAP will make the final adjustments to the document and the document will be ready for distribution to eligible network participants by November 1, 2004.
- 4) Create a Network Nebraska Level 1 Helpdesk no later than November 1, 2004.
- a. Members of CAP will estimate the numbers of calls that they are currently taking regarding information about Network Nebraska over the months of July and August 2004. That information will be collected by the CAP chair at the September 2004 meeting.
 - b. A subcommittee of CAP consisting of the technical people will conduct a review of help desk software during the months of August and September. A recommendation will be brought to the CAP group at the October 2004 meeting.
 - c. CAP has determined that the Level 1 Helpdesk will reside at NET. In order to transfer calls between the members of CAP, the NET telephone system will need an upgrade. This upgrade will be accomplished no later than October 31, 2004.

- d. An 800 number will be installed for use by the Level 1 Helpdesk and eligible clients. The 800 number will be ordered by September 15, 2004 and turned up for service no later than November 1, 2004.
- 5) Create a Network Nebraska Website no later than December 15, 2004.
- a. CAP will identify url for website no later than August 15, 2004.
 - b. The office of the NITC will identify initial information for the web site and present the information to CAP at the September 2004 CAP meeting.
 - c. After approval from CAP, a “test” web site will be developed by and hosted at Nebraska On-Line no later than October 15, 2004.
 - d. CAP members will test the web site and make suggestions to the NITC staff through November 30, 2004.
 - e. Final changes will be made to the web site and the site will be unveiled to the users no later than December 15, 2004.
- 6) Coordinate with the network requirements for the Nebraska Statewide Telehealth Network and the proposed statewide synchronous video network.
- a. CAP will identify options for integrating the Nebraska Statewide Telehealth Network and statewide synchronous video network with Network Nebraska by May 31, 2005.
- 7) Assess the capacity of existing arrangements for administration, billing, and technical support to accommodate additional services and customers.
- a. CAP will conduct a planning session to estimate potential growth in the future and its impact on existing arrangements, no later than March 31, 2005.

Nebraska Information Technology Commission Strategic Initiatives

Strategic Plan for the Statewide Synchronous Video Network

Objective

The objective of this initiative is to achieve a statewide synchronous video network capable of enhancing educational opportunities and citizen services through the exchange of interactive video between and among various sectors.

In order to accomplish this, a number of tasks must be completed.

- Identification of a single audio and video standard for low-bandwidth distance learning and videoconferencing;
- Acquisition of upgrade or replacement equipment and/or software that ensures compliance with the audio and video standard;
- Development or purchase of a scheduling system or enterprise resource management program that allows potential users to A) know the location and availability of resources, and B) set up or reserve ad hoc or regularly scheduled events with other entities;
- Development of a network bandwidth management system or network operations center that assures pre-determined qualities of service, depending upon the type of video traffic;
- Development of an event clearinghouse that allows promotion, marketing, and registration for interactive video events;
- Development of training modules for new users;
- Development of a cost and funding algorithm to allow shared use of the statewide backbone for interstate distance education and videoconferencing.

Benefits

Since 1992, various entities within the State of Nebraska have spent an estimated 20 million dollars on interactive video capture and display equipment, fiber connectivity, and engineering design charges to provide for distance learning and videoconferencing. Considered cutting edge technology in the early years of operation, this investment resulted in over 300 high-quality, videoconferencing classrooms using multiple, incompatible video protocols spread over numerous separate political subdivisions. These service regions were established when groups partnered together to set up

interlocal agreements in order to receive grant funds, enter into contracts and hire staff to exchange high school and college classes. Other smaller videoconferencing networks were set up by other state agencies and hospitals but were not interoperable with the school and college sites.

In order for Nebraska to maximize the potential of its investment in interactive videoconferencing and to create unprecedented educational opportunities, all videoconferencing sites in this State must be in compliance with the State video compression standard and stakeholders must agree to work collaboratively to enhance the benefit for all end users.

Current Status

Currently, Nebraska enjoys one of the most robust collections of local connectivity and bandwidth among any of its rural neighbors. This equates to 192 DS-3 (45 megabit per second, JPEG and MPEG2 video) circuits to high schools served by telephone companies and 112 high school sites that are served by cable companies with 100 megabit per second, full duplex, fiber circuits with H.263 video. Only about 10 high schools are left in rural areas of the State without high bandwidth connections, many at their own choosing. Other state agency and telehealth videoconferencing circuits consist of single or double dedicated T-1 (1.55 megabit per second) lines.

Nebraska high school distance learning classrooms are some of the busiest in the country, with each classroom being used about 50% of the school day across the entire system. Taking high school credit courses and higher education dual credit and college credit courses at a distance, students are able to fulfill graduation requirements and expand their high school experiences with opportunities that are unavailable at their local high school. Some high schools permit community and adult education classes in the evening hours.

Distance learning consortia (interlocal agreements between neighboring districts) often are able to share the talents of one qualified instructor across several schools and sections of students each semester.

Unfortunately, due to the high costs of transporting high bandwidth (JPEG) video signals, distance learning consortia have been unable to afford course exchange with consortia in other parts of the State, thus limiting their credit course offerings and educational opportunities.

The original 10-year contracts between the distance learning consortia and the telephone company providers for JPEG video service will begin expiring in the Spring of 2006. With no chance of contract extensions for JPEG video service, the schools will need to upgrade to an H.323 Internet Protocol communication standard, new codecs (Coder-Decoders) to accommodate the H.263/H.264 video standards, and switch/router technology at the school site to manage the resulting data network. The later of the JPEG consortium contracts are not due to expire until 2009 but the industry has chosen to no longer manufacture nor repair JPEG video equipment, thus prompting an early conversion of these contracts to IP video.

Whereas Nebraska's (telco provided) interactive video efforts have been mostly localized with high bandwidth video, most other States have converted or are converting to IP video and have been trying to realize further educational programming through ad hoc enrichment activities and use of Internet2.

The current network will not be able to meet the future distance learning applications and the bandwidth needs for the Internet and Internet2. Therefore it is necessary to convert to the next generation distance learning (data) network.

Future

Nebraska has enormous potential to assemble one of the country's best telecommunications networks for education, health care, and government. The Nebraska Information Technology Commission and its advisory groups have fostered a collaborative environment for participative decision making among several major subsectors. The Collaborative Aggregation Partnership, a team of University of Nebraska, Division of Communications, and Nebraska Educational Telecommunications staff have been successful in negotiating statewide backbone contracts for scalable bandwidth for public entities. Technological developments and breakthroughs in routing technology in the past two years have greatly enhanced the quality of service related to IP-based, H.26X video compression.

The new Statewide Synchronous Video Network design incorporates the requirements established by the Statewide Synchronous Video Network Work Group of the Nebraska Information Technology Commission. This network design has the flexibility to support both proprietary and standard protocols, and allows the school full access to the available bandwidth. The network can grow to meet any bandwidth or application requirements, and has any optical interface available from Ethernet to OC192.

This network design is consistent with the goals of the Nebraska Information Technology Commission and will integrate into Network Nebraska. Most importantly for those who qualify, this network is eligible for E-rate discounts. All consortiums and member schools benefit because this is a plan toward statewide services and interconnectivity. Not only is video bandwidth available, but also data applications such as the Internet and Internet2. Asynchronous distance learning applications such as Blackboard, WebCT or Angel become a reality with the bandwidth that will be made available, and multiple classrooms become much more affordable.

The contracts for the current distance learning networks begin to expire in the next two years. This network is leading edge technology, is of carrier grade quality, and is scalable to meet any growth demands.

The vision of the future statewide synchronous video network includes the umbrella capacity for any interactive video unit to be able to interconnect with any other interactive video unit, regardless of location. The vision of the future also includes assurances for network security and quality of service within a particular sub-network (i.e. telehealth, State Patrol, K-12 distance learning). Most end users are in agreement that the State should purchase or contract for a single software scheduling system that can remotely

turn on a specific video unit, log system usage statistics, allow promotion of ad hoc education events, and secure permission for usage from local site coordinators.

Recommended Actions

(NOTE: These recommendations are still subject to change, pending additional advice from those entities that are participating in this strategic initiative.)

A. Identification of a single audio and video standard for low-bandwidth distance learning and videoconferencing.

Actions include:

1. Approval of the H.263/H.264 video compression protocol and G.722, G.722.1, and G.728 audio compression protocols by the Nebraska Information Technology Commission.
 - a. Lead Entity: NITC Technical Panel
 - b. Timeframe: September 9, 2004
 - c. Funding: No funding required for this task

B. Acquisition of upgrade or replacement equipment and/or software that ensures compliance with the audio and video standard.

Actions include:

1. Development and submission of a Congressional funding request to fund upgrade of classroom and networking resources necessary to bring K-12 and higher education distance learning facilities into compliance.
 - a. Lead Entity: NITC Technical Panel's Statewide Synchronous Video Work Group
 - b. Timeframe: September 3, 2004
 - c. Funding: Actual request estimated at \$13 million; no funding required to develop the request.
2. Designation of a fiscal entity to oversee bidding, ordering, delivery and installation of equipment.
 - a. Lead Entity: To be named.
 - b. Timeframe: March, 2005
 - c. Funding: No funding required for this task.
3. Equipment RFP, bidding, ordering, delivery and installation of equipment
 - a. Lead Entity: To be named
 - b. Timeframe: August 2005-July 2006
 - c. Funding: Funding to oversee this task included in Congressional request.

C. Development or purchase of a scheduling system or enterprise resource management program that allows potential users to know the

location and availability of resources, and/or set up or reserve ad hoc or regularly scheduled events with other entities.

Actions include:

1. Research scheduling systems and enterprise resource management programs.
 - a. Lead Agency: NITC Technical Panel's Statewide Synchronous Video Work Group
 - b. Timeframe: September 2004-December 2004
 - c. Funding: No funding required for this task.
2. Purchase or develop a scheduling system and/or enterprise resource management program.
 - a. Lead Entity: To be named.
 - b. Timeframe: Summer, 2005
 - c. Funding: Funding to complete this task included in Congressional request.

D. Development of a network bandwidth management system or network operations center that assures pre-determined qualities of service, depending upon the type of video traffic.

Actions include:

1. Implementation of a network operations center that assures particular qualities of service.
 - a. Lead Entity: Network Nebraska (Collaborative Aggregation Partnership)
 - b. Timeframe: Ongoing
 - c. Funding: Funding to complete this task will likely be derived from Network Nebraska overhead charges.

E. Development of an event clearinghouse that allows promotion, marketing, and registration for interactive video events.

Actions include:

1. Development of a web-based clearinghouse that allows originators to post events and users to register for or view the date, time and frequency of individual events.
 - a. Lead Entity: To be named.
 - b. Timeframe: Fall, 2006
 - c. Funding: To be determined.

F. Development of training modules for new users.

Actions include:

1. Development of training modules to accompany equipment orientation.
 - a. Lead Entity: NITC Technical Panel's Statewide Synchronous Video Work Group, in cooperation with commercial equipment manufacturer.
 - b. Timeframe: June-August, 2006 (Corresponding with equipment deployment)

c. Funding: To be determined.

G. Development of a cost and funding algorithm to allow shared use of the statewide backbone for interstate distance learning and videoconferencing.

Actions include:

1. Research models from other States' education networks.
 - a. Lead Entity: NITC Technical Panel's Statewide Synchronous Video Work Group, in conjunction with Network Nebraska (Collaborative Aggregation Partnership)
 - b. Timeframe: Ongoing
 - c. Funding: No funding required for this task.

Nebraska Information Technology Commission Strategic Initiatives

Strategic Plan

Community IT Planning and Development

Objective

As one strategy to remain competitive in the global economy, Nebraska communities can use information technology to enhance economic development opportunities and quality of life. Nebraska businesses can utilize information technology to expand markets, reduce costs, and improve efficiency.

Benefits

Information technology is transforming the economy and society, creating a completely new paradigm. Businesses are using telecommunications to speed up transactions, reduce costs, and expand their markets. Consumers are buying books, CDs, food, gifts, and clothing online. Families are exchanging photos via e-mail. Students at all levels are taking courses via distance learning technologies. Telemedicine is making mental health services and other specialist services available in remote, underserved areas of the state.

A coordinated effort to address the need for information technology training and development for citizens, businesses, communities, and local governments is needed to help Nebraska meet the challenges of the Information Age. These challenges include:

Encouraging the adoption of technology by citizens. According to a number of indicators and polls, however, Nebraskans are slower to adopt technology than the U.S. as a whole. In September 2001, approximately 45% of Nebraska households were online. In comparison, approximately 50% of U.S. households were online. Nearly half (49%) of Nebraska households with children (ages 3-17) had Internet access at home, ranking Nebraska 31 out of the 50 states in 2001.

Rural areas have historically lagged behind urban and suburban areas in Internet use. A study by the Pew Internet & American Life Project found that only 52% of rural residents use the Internet, compared to 67% of urban residents, and 66% of suburban residents. The difference in Internet use among urban areas can be in part explained by the demographic make-up of rural areas. Rural areas have a higher proportion of older,

less wealthy, and less educated residents than urban and suburban areas. These groups are less likely to be online.

Although Internet use by African Americans and Hispanics is increasing, both African Americans and Hispanics are also less likely to use the Internet than whites. English-speaking Asian-Americans are the most likely to use the Internet.

Women and girls are as likely to use the Internet as men and boys, but are less likely to take advanced computer classes in high school and to major in computer science or engineering in college. The Nebraska Girls and Technology Status Report sponsored by the American Association of University Women (AAUW) of Nebraska in collaboration with the Nebraska Commission on the Status of Women found that although girls and boys enroll in computer introduction and application courses in equal numbers, boys outnumber girls by more than 3 to 1 in most of the more technology-oriented courses: computer languages, computer science and computer-aided drafting. Girls are even outnumbered by more than 2 to 1 in web design and development courses.

Accelerating the deployment of advanced services. In 2003, 86% of the state's population had access to broadband either through cable modem, DSL, or fixed wireless broadband services. These services typically provide speeds of one to two megabits per second. In four to five years, some experts estimate that broadband with speeds of 25 to 40 megabits per second will be needed. In the future, mobile wireless data networks and Voice Over IP services will become increasingly important.

Providing public access to computers and the Internet. Most libraries in Nebraska provide public access to computers and the Internet. However, in some communities access is restricted by the number of computers available and by limited library hours.

Using technology to provide government and community services. Local governments can use technology to more efficiently and effectively deliver community services.

Expanding educational opportunities. Distance learning technologies are expanding educational opportunities at all levels.

Improving access to health care through information technology. Through telehealth technologies, residents of rural areas can have better access to mental health and other specialist services. Home telehealth is one of the fastest growing applications of telemedicine, but is not yet widely used in Nebraska.

Incorporating technology-related development in to local development plans. While Nebraska's larger communities are using information technology to enhance economic development opportunities, many of Nebraska's smaller communities are just beginning to realize the importance of information technology to their economic viability.

Current Status

Community information technology development is currently addressed by several organizations including the University of Nebraska, Nebraska Information Technology Commission, the Center for Rural Affairs' REAP program, the AIM Institute, and the Nebraska Department of Economic development. Some of these efforts are loosely coordinated under the umbrella of Technologies Across Nebraska, a partnership of over 40 organizations led by the University of Nebraska and the Nebraska Information Technology Commission.

- Technologies Across Nebraska, a partnership of over 40 organizations led by the University of Nebraska and the Nebraska Information Technology Commission, has worked with 15 communities or regional groups over the past two years to develop technology plans. The impact of the IT Planning and Mini Grant program has been significant. Two communities received federal grants totaling over \$400,000 to implement their plans. A new business has started in a third community. Several communities now have broadband services available. Other communities are focusing on the technology needs of small businesses, offering e-commerce and technology training. One community has developed a video conferencing center available to local businesses and residents. Efforts are made to connect participating communities with resources offered by Technologies Across Nebraska Partners, including the University of Nebraska Rural Initiative's internship program. Technologies Across Nebraska will expand the program to six additional communities this year.
- Technologies Across Nebraska has developed nationally recognized resources to help communities effectively use technology to enhance economic development, including the Community IT Planning workbook and the Community IT Toolkit. Technologies Across Nebraska's quarterly newsletter, *TANgents*, reaches 1,500 individuals.
- The University of Nebraska Rural Initiative has partnered with Congressman Osborne's office and the J. D. Edwards program to place interns in rural communities. Now in its second year, the program placed 12 interns in rural communities last summer. Many of the interns are helping local businesses and organizations effectively utilize information technology.
- Several entities currently offer e-commerce training. The University of Nebraska's Communities of the Future Team offers e-commerce training in communities. Community colleges and the Center for Rural Affairs' Reap program also offer e-commerce training. Through a federal grant, the AIM Institute is working with businesses in Fremont, Norfolk, and Columbus to develop or enhance Web sites. The Department of Economic Development has begun providing e-commerce training upon request to communities which have participated in the Business Expansion and Retention program. The Department of Economic Development's new Interasset program promises to provide technical assistance to rural businesses form strategic and growth objectives highlighting technology and international business relationships. The University of Nebraska Rural Initiative, Nebraska Rural Development Commission, and the Nebraska Information Technology Commission

are working together to promote and coordinate e-commerce training across the state.

- University of Nebraska's Communities of the Future Team offers e-government training in communities. The e-government program provides Internet training to local government officials and helps them understand how e-government can be used to more efficiently and effectively provide services and information to citizens.
- Through funding from the Secretary of State, Nebraska Online is assisting counties in developing Web. All but twenty-two counties in Nebraska now have Web sites. A number of additional counties are expected to develop Web sites within the next year.
- The Public Service Commission's Nebraska Internet Enhancement fund will provide assistance to communities, in partnership with telecommunications providers, to enhance advanced telecommunications services.
- Introductory computer and Internet training are offered by many entities including community colleges, the University of Nebraska's Communities of the Future Team, and public libraries.
- Public libraries also play an important role in providing public access to computers and the Internet. The Nebraska Library Commission maintains a database of public access sites in Nebraska available at http://www.nol.org/home/CIO/public_access/.
- The Nebraska Hospital Association is heading up an effort to develop a statewide telehealth network, which will connect all hospitals in Nebraska. Other partners in this effort include the University of Nebraska, the Nebraska Division of Communications, the Nebraska Health and Human Services System, the Office of the Chief Information Officer and the Nebraska Information Technology Commission, Nebraska hospitals, and the Nebraska Public Service Commission.

Future

Technology-related development is a continuous process, with significant progress being made. In the vision for the future, Nebraska communities will make even more effective use information technology, as evidenced by the following indicators:

- The number of cities and counties providing electronic access to information and services will increase.
- The number of communities developing local technology plans will increase.
- The number of businesses using e-commerce in Nebraska will increase.
- The number of households using the Internet will increase.

- The number of households and businesses subscribing to broadband Internet access will increase.
- All Nebraska hospitals will be connected through a statewide telehealth network.

Recommended Actions

(NOTE: These recommendations are still subject to change, pending additional advice from those entities that are participating in this strategic initiative.)

- **Support community IT development by working with the University of Nebraska and other Technologies Across Nebraska Partners.**
 Actions include:
 1. Work with at least 6 community or regional technology committees to develop IT plans through the IT Planning and Mini Grant program
 - a. Lead Entity: Technologies Across Nebraska
 - b. Timeframe: September 1, 2004- September 1, 2005
 - c. Funding: \$20,000 from the NITC Community Technology Fund
 2. Provide continuing support for the 17 community and regional technology committees which have participated in the 2002-2003 and 2003-2004 IT Planning and Mini Grant programs.
 - a. Lead Entity: Technologies Across Nebraska
 - b. Timeframe: ongoing
 - c. Funding: No funding required for this task.
 3. Promote technology-related development through the quarterly newsletter, TANgents.
 - a. Lead Entity: Technologies Across Nebraska
 - b. Timeframe: fall 2004, winter 2005, spring 2005, summer 2005
 - c. Funding: No funding required for this task.
 4. Work with the Nebraska Rural Initiative to identify options for the expanded use of youth to assist in IT development activities.
 - a. Lead Entity: Technologies Across Nebraska and Nebraska Rural Initiative
 - b. Timeframe: January 31, 2005
 - c. Funding: No funding required for this task.
- **Strengthen efforts to coordinate technology-related development programs and to better incorporate technology-related development into traditional economic development efforts.** Technology-related development is just one component of a successful economic development plan. Initial efforts in this area will focus on e-commerce training coordination.
 Actions include:
 1. Complete an inventory of e-commerce training programs, gap analysis and recommendations for coordinating e-commerce training.

- a. Lead Entity: Nebraska Information Technology Commission, Nebraska Rural Development Commission, and Nebraska Rural Initiative
 - b. Timeframe: November 1, 2004
 2. Develop a handout with tips for choosing a Web designer.
 - a. Lead Entity: University of Nebraska Rural Initiative and University of Nebraska Cooperative Extension
 - b. Timeframe: November 1, 2004
 3. Develop an implementation plan for e-commerce coordination.
 - a. Lead Entity: Nebraska Information Technology Commission, Nebraska Rural Development Commission, and Nebraska Rural Initiative
 - b. Timeframe: February 1, 2005
- **Reinstate funding for the Nebraska Information Technology Commission's Community Technology Fund.** If fully funded, the Community Technology Fund would provide \$200,000 in funding for community technology projects.

Nebraska Information Technology Commission Strategic Initiatives

Strategic Plan for the Nebraska eLearning Initiative

Objective

The primary objective of this initiative is to promote the effective and efficient integration of technology into the instructional process and to utilize technology to deliver enhanced educational opportunities to students at all levels throughout Nebraska on an equitable and affordable basis.

This initiative also involves the establishment of a Nebraska eLearning Consortium to organize and facilitate the development and execution of a Pre-Kindergarten-Adult Education statewide eLearning strategy to:

- Connect eLearning innovators and leverage their expertise and experience;
- Build collaborative relationships between K-12 and Higher Ed educators;
- Develop discipline-specific and age-specific instructional design models;
- Encourage the development and sharing of instructional content; and
- Ensure the infrastructure required to support the deployment and ongoing support of eLearning is in place and available.

The eLearning Consortium would also be responsible for providing administrative and technical support to include:

- The negotiation of required hardware and software purchasing and licensing agreements;
- Development and implementation of deployment strategies; and
- Providing hosting, training, and technical support services as necessary.

The primary components of eLearning encompasses:

- **Course Management Software.** This technology supports the development and delivery of instructional content, assessment and grading, lesson planning, and provides learners with instructional support features to include interactive chat and threaded discussion groups, linkage to reference materials, etc.
- **Content Management Software.** This technology would serve as the basis for the establishment of a Nebraska eLearning Knowledge Repository to facilitate the sharing of educational content. This Knowledge Repository would provide the ability

to store, organize, classify, categorize, control access to, share, retrieve, and present digital content of all forms to include audio, video, graphical, and textual.

- Infrastructure. This includes the network, organizational, administrative, and support resources required to deploy and support eLearning statewide.

Benefits

Establishing a statewide eLearning strategy will provide students and teachers all over Nebraska access to rich instructional resources that are not currently available.

The benefits of a statewide eLearning system would include:

- The sharing of learning objects and other educational content and reference materials that would significantly enrich and deepen the learning experiences offered to Nebraska students, particularly those in the K-12 sector;
- Greater collaboration among educators at all levels;
- The building of extended educational communities of learning and support for ongoing professional development and lifelong learning opportunities;
- Creation of a dual-use training engine for other state agencies, political subdivisions, and adult continuing education;
- Development of diverse instructional and training modules ranging from the simple (how to operate a piece of machinery) to the complex (a web-based course to achieve technician certification).

Current Status

Higher education institutions have made significant investments and deployments of this technology. Survey data collected in 2002 by the staff of the Nebraska Information Technology Commission revealed that eight of 15 Nebraska independent colleges and universities were using some type of course management software. From the same data, all six community colleges, all three state colleges, and all four campuses of the University of Nebraska system were also using some commercial version of the software, ranging from Blackboard to WebCT to Jones eKnowledge. Course usage by students and faculty involvement has reportedly grown by over 10% per year.

In the 2002 data, K-12 schools were just beginning to explore the software using open source or single-district contracts. As of August 2004, a consortium of ESUs (the Nebraska Web-based Staff Development Affiliated Consortium -- NWSDAC) had contracted with CyberLearning Lab's Angel software to replace their 2003-04 contract with Blackboard. NWSDAC reports 15 of 18 Educational Service Units involved with the NWSDAC purchase agreement.

This report should also mention the early development of Class.com, which has continued to offer eLearning services to the present. Class.com has formed strategic partnerships with the Plano ISD eSchool (Texas), Virtual Greenbush AEA (Kansas), and Westside Virtual High School (Nebraska).

Nationally, 14 states have reported the creation of statewide virtual high schools with 25 more states with some type of statewide eLearning involvement.

Future

The ultimate future state of Nebraska's eLearning initiative is largely unknown. Higher education institutions still have potential for additional software penetration with additional seat licenses and also additional options for portals and enterprise versions.

If higher education growth is any indication, Nebraska K-12 schools are on the edge of a tremendous growth period with eLearning. There is unmet needs in rural areas of the State to achieve educational equity of opportunity and eLearning is one tool to assist. Nebraska's 300+ interactive video, distance learning classrooms could immediately adopt course management software for course organization, electronic assessments, and teacher-student and student-student communications.

Nebraska citizens and students would enjoy a much greater access to more flexible lifelong learning opportunities, should a statewide eLearning strategy be adopted. Additional educational opportunity often results in workforce development and enhanced economic vitality. Nebraska's economic engine will be improved through greater retention of high school and college graduates.

Recommended Actions

(NOTE: These recommendations are still subject to change, pending additional advice from those entities that are participating in this strategic initiative.)

A statewide eLearning Consortium to advance the Nebraska eLearning Initiative and improve coordination between K-12, higher education, and adult/continuing education will be established using the following action steps:

A. Organize a series of September 2004 Planning Workshops to bring together participants who have a stake in improving educational and training opportunities for Nebraska citizens through eLearning.

Actions include:

1. Planning Workshop Products:
 - An assessment of current 2004 Course management tool software usage among higher education and K-12 schools;
 - Synthesis of planning workshop contributions to reach a common vision statement for eLearning in Nebraska;
 - Perform a gap analysis between current usage and the future vision of eLearning in Nebraska.
- a. Lead Entity: Staff of the Nebraska Information Technology Commission, working in concert with the NITC Education Council, and staff of the University of Nebraska Computer Services Network.

- b. Timeframe: September 20-28, 2004
- c. Funding: Travel expenses of \$750.

B. Develop a design document detailing the technology components, standards, costs and administration of a Nebraska eLearning Knowledge Repository for the sharing of educational content.

Actions include:

- 1. Development of an eLearning Knowledge Repository design document.
 - a. Lead Entity: Staff of the Nebraska Information Technology Commission, working in concert with the NITC Education Council, and staff of the University of Nebraska Computer Services Network.
 - b. Timeframe: June 30, 2005
 - c. Funding: No funding required for this task.

C. Work with education and staff development professionals to document strategies, techniques and tools used in course management and create a clearinghouse of eLearning best practices and training modules.

Actions include:

- 1. Creation of a clearinghouse of eLearning best practices and training modules.
 - a. Lead Entity: Staff of the Nebraska Information Technology Commission, working in concert with the NITC Education Council, and staff of the University of Nebraska Computer Services Network.
 - b. Timeframe: December 31, 2005
 - c. Funding: No funding required for this task.

Nebraska Information Technology Commission Strategic Initiatives

Strategic Plan For Enterprise Architecture for State Government

Objectives

Enterprise Architecture is a structured process for deciding what information technology is needed for the enterprise and how to provide information technology services within the organization.

The objectives of enterprise architecture include:

1. Focusing attention on the strategic use of information technology to support the functions of state government (business needs);
2. Providing quality data to those who need it (data sharing);
3. Achieving compatibility among various systems (interoperability);
4. Improving savings and value from expenditures on information technology (efficiency).

Benefits

State government is complex. Its numerous operational units provide a wide range of products and services. Its many functions require relationships with federal agencies, other state agencies, local governments, and private partners. Authority is fragmented among three branches of government, independent agencies and political subdivisions.

Optimizing investments in information technology requires solutions that transcend organizational and jurisdictional boundaries. Enterprise architecture provides disciplined procedures for incorporating enterprise-wide considerations into decisions regarding information technology.

The purpose of Enterprise Architecture is to meet business needs, enhance data sharing, insure interoperability, and improve efficiency. EA accomplishes these objectives by establishing a governance process for EA decisions, documenting business drivers affecting the enterprise, identifying the principles that should guide IT investments, developing technical standards and guidelines, establishing a means for exceptions, and providing enforcement.

Current Status

Some aspects of Enterprise Architecture are in place. In particular, the NITC has a well-established process for developing, reviewing and adopting technical standards and guidelines. The Technical Panel (<http://www.nitc.state.ne.us/tp/>) of the NITC has sponsored several workgroups to prepare elements of a technical architecture. This includes accessibility standards and guidelines, a draft e-government architecture document, network architecture, video standards, and security policies and standards. A copy of existing documents is available at: <http://www.nitc.state.ne.us/standards/index.html>.

Several efforts are also underway that promote integration of information technology systems across the enterprise. These include:

1. Network Nebraska: An initiative sponsored by the NITC for consolidating data and video communications networks across the state.
2. CJIS Advisory Committee: Established by the Nebraska Crime Commission to promote data sharing across all elements of the criminal justice system. (<http://www.nol.org/home/crimecom/>)
3. GIS Steering Committee: Established by the Legislature to coordinate investments in GIS technology and databases. (<http://www.calmit.unl.edu/gis/>)
4. Juvenile Data Sharing Study: A joint effort by the State Government Council and the CJIS Advisory Committee to identify the need and opportunity for data sharing among state and local entities providing services to juveniles.
5. Steering Committee on Child Abuse and Neglect Information Exchanges: State and local agencies are developing solutions to improve data sharing relating to child abuse and neglect investigation and prosecution.

In addition, several agencies are making progress in developing enterprise architecture to guide decisions regarding internal IT systems. HHS' NFOCUS system is the product of an enterprise architecture that now encompasses 26 programs, with linkages to several external systems. The Department of Environmental Quality developed an agency-wide view of information requirements as the foundation for future systems development. The Department of Labor recently completed a "Strategic Technology Architecture Roadmap" before embarking on major changes to its applications. The State Patrol is evaluating its applications and technology in order to achieve better integration and reduce support requirements.

Although important, the sum of these activities falls short of being an enterprise architecture for state government.

In December 2003, the State Government Council (SGC) adopted a strategy for Enterprise Architecture, Shared Services and Standardization. As part of this strategy, the State Government Council will serve as a "committee-of-the-whole" to develop the enterprise architecture. The State Government Council looked at several approaches for enterprise architecture. There was consensus to investigate the tools and resources developed by the National Association of State CIOs (NASCIO), because they were designed for state government and reflect the need for a high level perspective, rather than one that is too detailed. There is also the advantage of getting assistance from

staff at NASCIO and working with other states that are using the NASCIO tools and resources.

Future

One of the tools available from NASCIO is a readiness self-assessment and maturity model. Based on answers to the EA Readiness Assessment, Nebraska state government has at least some of its Business and IT goals defined, and the EA Program is in the planning stages. There is some commitment to the EA process by executives, and the State Government Council (SGC) is serving as the impetus for developing an Enterprise Architecture. However, no budget exists for EA Program development.

Based on the NASCIO self-assessment and maturity model, Nebraska must undertake substantial work in eight categories. There are five levels in the maturity model. Only those steps necessary to achieve Level 3 in each category are reported here.

Administration – Governance Roles & Responsibilities. The purpose of architecture governance is to direct or guide architecture initiatives, ensure that organizational performance aligns with the strategic intent of the business, ensure IT resources are used responsibly and Technology Architecture-related risks are managed appropriately.

Current Level Summary – Based on the responses provided in the EA Assessment, the EA maturity level that most closely identifies your organization’s current state for EA Administration is Level 2 – Repeatable Program. At Level 2, a need for Architecture "Governance" has been identified. The EA Program has begun to develop clear roles and responsibilities. Governance committees are starting to form.

Next Level Summary – The next level is Level 3 – Well-defined Program. At Level 3, Architecture "Governance" committees are established, and have well-defined roles and responsibilities. Authority of the governance committees is also aligned to work together smoothly.

Steps for Progressing to Level 3

- Formalize EA Administration roles and responsibilities
- Formally follow EA deliverables through processes to ensure committees are aligned and working smoothly together
- Verify that all responsibilities, aligned to an individual or group, are being done.
- Develop and conduct educational sessions for the EA Blueprint development teams (Domain committees)

Planning – EA program road map and implementation plan. Architecture Planning ensures the program is managed to assure the goals for implementation are realistic and achievable and the program is kept within scope.

Current Level Summary – Based on the responses provided in the EA Assessment, the EA maturity level that most closely identifies your organization’s current state for EA

Planning is Level 2 – Repeatable Program. At Level 2, the organization has begun to develop a vision for Enterprise Architecture (EA) and has begun to identify EA tasks and resource requirements. The organization has also decided upon a methodology and begun to develop a plan for their EA Program.

Next Level Summary – The next level is Level 3 - Well-defined Program. At Level 3, EA Program plans are well defined and documented, including governance roles & responsibilities, the architecture lifecycle processes, a structured framework and timeline for developing the EA, and financial & staffing resource requirements. EA activities are also carried out according to the defined plan.

Steps for Progressing to Level 3:

- Create EA Program Plan
- Execute EA activities based on defined EA Program Plan
- Update plans based on changes to any of the plan criteria previously mentioned

Framework – processes and templates used for Enterprise Architecture. Architecture Framework consists of the processes, templates and forms used by those documenting the operations and standards of the organization.

Current Level Summary – Based on the responses provided in the EA Assessment, the EA maturity level that most closely identifies your organization’s current state for EA Framework is Level 1 – Informal program. At Level 1, the organization is beginning to understand the need to create processes and templates to capture business drivers and technical standards. However, processes are ad hoc and informal, processes followed may not be consistent. There is no unified architecture process across technologies and lines of business.

Next Level Summary – The next level is Level 2 - Repeatable Program. At Level 2, the basic EA Program is documented. Processes are planned and tracked. The organization is beginning to reuse methods for capturing critical EA information.

Steps for Progressing to Level 3:

- Document the basic EA Program processes and templates
- Begin to track EA Program plan processes
- Track EA processes, actuals against planned
- Encourage reuse of basic EA Program templates
- Formally document Architecture Lifecycle Processes.
- Formally document EA Program Tools (Architecture Lifecycle Templates, Migration Strategy Templates, Classification Criteria Decision Tools)
- Produce Education Materials for the Architecture Lifecycle Processes and Tools
- Conduct Education Sessions for the Architecture Lifecycle Processes and Tools

Blueprint – collection of the actual standards and specifications. Architecture Blueprint refers to the completed documents that are prepared using the Architecture Framework processes, templates and forms. The Blueprint refers to the documented products and standards, together with their detail, classifications, impact statements, and migration strategies.

Current Level Summary – Based on the responses provided in the EA Assessment, the EA maturity level that most closely identifies your organization’s current state for EA Blueprint is Level 0 – No Program. At Level 0, Business functionality is not documented and IT technology standards are not documented.

Next Level Summary – The next level is Level 1 - Informal Program. At Level 1, documentation of business drivers, technical standards, etc. is beginning to happen.

Steps for Progressing to Level 3:

- Research how other organizations capture business drivers and technology standards.
- Informally begin to document Business Drivers
- Informally begin to document Technology Standards
- Identify documented Business Drivers and strategic information
- Identify documented Technology Standards
- Determine ways to capture the various pieces of EA information in a consistent format and storage medium
- Consistently document Technology Standards and Guidelines using the EA Program Tools provided

Communication –education and distribution of EA and Blueprint detail. Communication is the element that ensures standards and processes are established and readily available to team members for reference and use. As an organization changes and programs evolve the continued communication ensures the EA program remains vital and operates optimally.

Current Level Summary – Based on the responses provided in the EA Assessment, the EA maturity level that most closely identifies your organization’s current state for EA Communication is Level 0 – No Program. At Level 0, Senior Management and agencies are not aware of what enterprise architecture is, or the benefits.

Next Level Summary – The next level is Level 1 - Informal Program. At Level 1, the need to create greater awareness about EA has been identified.

Steps for Progressing to Level 3:

- Begin to talk to Senior Management groups regarding the benefits of Enterprise Architecture
- Create Enterprise Architecture Marketing Materials
- Conduct an Enterprise Architecture Marketing Campaign to Senior Management and Legislators
- Prepare and conduct workshops on sharing ideas, standards, and technology configuration specifications
- Share EA Blueprint information captured in reusable formats
- Develop a formal Communication process to ensure the EA Program is communicated and known throughout the organization
- Conduct EA Senior EA presentation showing actual results from EA Program
- Develop and conduct training sessions to educate committee members on the EA roles and responsibilities, processes and templates
- EA Blueprint is available to all stakeholders for analysis and review
- EA Variances are communicated out to all stakeholders

Compliance – adherence to published standards, processes and other EA elements, and the processes to document and track variances from those standards. Compliance must be reviewed periodically to be sure the business and IT programs and services are operating effectively.

Current Level Summary – Based on the responses provided in the EA Assessment, the EA maturity level that most closely identifies your organization’s current state for EA Compliance is Level 0 – No Program. At Level 0, no compliance process exists within the organization.

Next Level Summary – The next level is Level 1 - Informal Program. At Level 1, the need for compliance to standards has been identified.

Steps for Progressing to Level 3:

- On a "target action" list, identify the need to comply with the developed guidelines, standards and legislation
- Identify the various ways that compliance is currently accomplished within your organization and document them.
- Document a consistent compliance process to ensure that changes in the enterprise are in line with the documented guidelines, standards, and legislation.
- Choose a pilot project to take through the compliance process. Ensure that the compliance process takes into account all of the steps required to ensure compliance and brings benefit to the team seeking information from the EA Program
- Observe the development of a business case to seek a variance from the guidelines, standards, and legislation.
- Document issues that came up regarding the development process and/or difficulties encountered
- Fully integrate the EA compliance process with the other EA Program Architecture Lifecycle Processes to ensure interoperability of the EA Program overall
- To keep the EA Blueprint vital, ensure that the various help requests and variances are tracked and feed into the Architecture Vitality processes
- Use the information documented during the observation of the Business Case development process to further define and improve the process
- Provide a business case template to aid in the development of consistent business cases across the enterprise

Integration – touch-points of management processes to the EA. Integration addresses the ability of the various entities (internal or external to the organization) to coordinate their efforts to the greatest benefit of the organization. This is a key factor, as great efficiencies are gained by identifying similar functions or operations, both inside and outside of an organization.

Current Level Summary – Based on the responses provided in the EA Assessment, the EA maturity level that most closely identifies your organization’s current state for EA Integration is Level 1 – Informal program. At Level 1, the need for integration to the EA Program Framework (Architecture Lifecycle Processes) has been identified. The various

touch-points between the Management Processes and the EA Program Framework have been mapped, however, no details exists to how the integration will work. Projects and purchases may be costly because they are done in isolation.

Next Level Summary – The next level is Level 2 - Repeatable Program. At Level 2, the organization has begun to identify common Business and system functions, which allows touch-points to be identified earlier in the project development life cycle.

Steps for Progressing to Level 3:

- Determine the benefits that the EA Program can bring to the other Management Processes
- Meet with the owners/stakeholders of other Management Processes. Talk to them about the benefits that can be received by integrating various processes
- Brainstorm various options for integrating their Management Processes with the EA Program Framework
- Determine next steps to help the integration to move forward
- Document the EA Program integration points:
- The documented integration points should be completed for all of the following Management Processes that exist in your organization, including strategic planning, capital planning, project management, change management, procurement, and budgeting.
- Make Architecture Compliance Review part of the project methodology

Involvement – support of the EA Program throughout the organization. Involvement must be part of an EA Program. Without the support of managers and employees who are expected to utilize and follow the defined process, the program is sure to fail.

Current Level Summary – Based on the responses provided in the EA Assessment, the EA maturity level that most closely identifies your organization’s current state for EA Involvement is Level 0 – No Program. At Level 0, there is no program in place for Enterprise Architecture awareness. Several independent groups or individuals will be typically working to solve a single issue.

Next Level Summary – The next level is Level 1 - Informal Program. At Level 1 the organization has identified a need to make staff throughout the enterprise aware of the benefits and concepts of Enterprise Architecture.

Steps for Progressing to Level 3:

- Document the advantages of having Enterprise Architecture that are specific to your organization. If you have EA benefit statements or charters already developed, these can help in documenting the advantages.
- In the document, discuss the concept that all organizations have an architecture, however, having a successful, Enterprise Architecture is a matter of having the details of that Architecture explicitly defined and documented, rather than implicitly done based on everyone’s Agencyal inclinations or understanding
- Speak to various management groups throughout the organization about the concepts of EA.
- Set-up web site to increase understanding of EA and solicit involvement
- As EA roles and responsibilities are identified, solicit volunteers and choose individuals to assist in the EA Program.

- Continue to provide the EA Blueprint information to the various organizational groups within your enterprise. Communicate to the members of these groups the benefits of having the EA Blueprint information for the critical decision-making process
- Continue to involve additional organizational individuals/groups in the EA roles and responsibilities. As people get involved they become proponents of the program

Recommended Actions

(NOTE: These recommendations are still subject to change, pending additional advice from those entities that are participating in this strategic initiative.)

The NASCIO methodology recognizes that developing Enterprise Architecture is a gradual, iterative process. Each version of the Enterprise Architecture builds on previous work. This section sets forth the detailed work plan for the next 6 months. Timeframes reflect high-level estimates without perfect knowledge of the tasks to be accomplished or the resources that will be available.

Actions Include:

1. Governance and Planning
 - a. Lead Entity: CIO
 - b. Tasks and Timeframes:
 - i. Prepare draft roles and responsibilities for EA (September 16, 2004)
 - ii. Prepare draft EA Program Plan (September 16, 2004)
 - iii. Prepare draft changes to SGC Charter, if necessary (October 2004)
 - iv. Publish version 1.0 of the EA (January 31, 2004)
 - c. Funding: No funding required for this task
2. Compliance Plan
 - a. Lead Entity: CIO
 - b. Tasks and Timeframes:
 - i. Document current compliance process (September 16, 2004)
 - ii. Prepare draft of proposed changes to compliance process (October 2004)
 - iii. Prepare draft of process and criteria for justifying a variance to the EA (October 31, 2004)
 - c. Funding: No funding required for this task
3. Integration Plan
 - a. Lead Entity: CIO
 - b. Tasks and Timeframes:
 - i. Prepare draft documentation of relationship of EA to project management (November 30, 2004)
 - ii. Prepare draft documentation of relationship of EA to strategic planning and budgeting (December 31, 2004)

- c. Funding: No funding required for this task
- 4. Technical Architecture Framework
 - a. Lead Entity: CIO
 - b. Tasks and Timeframes:
 - i. Document EA program process and templates (December 31, 2004)
 - ii. Document Architecture Lifecycle Process (December 31, 2004)
 - c. Funding: No funding required for this task
- 5. Technical Architecture Blueprint
 - a. Lead Entity: CIO
 - b. Tasks and Timeframes:
 - i. Research and document business drivers (December 31, 2004)
 - ii. Research and document existing technical standards (target date?)
 - c. Funding: No funding required for this task
- 6. Enterprise licensing
 - a. Lead Entity: Tom Conroy
 - b. Tasks and Timeframes:
 - i. Solicit enterprise pricing for anti-virus software (August 31, 2004)
 - ii. Prepare strategy, work plan, and timetable for enterprise licensing (September 31, 2004)
 - c. Funding: No funding required for this task
- 7. Shared services
 - a. Lead Entity: TBD
 - b. Tasks and Timeframes:
 - i. Research opportunities for shared services, including criteria for deciding whether a service should be centralized or distributed (target date?)
 - ii. Prepare an inventory of existing shared services (target date?)
 - c. Funding: No funding required for this task

Nebraska Information Technology Commission Strategic Initiatives

Strategic Plan For E-Government

Objectives

In a memo to all agencies dated November 19, 2003 (<http://www.cio.state.ne.us/e-gov/Automation.pdf>), the Governor identified four management principles for e-government:

1. It should be easy for citizens and businesses to find information regarding government;
2. The administrative burden of complying with government requirements should be as minimal as possible;
3. Self-service should be an option, if at all feasible; and
4. Government should present an integrated view of government information and services.

E-government is a continuous process of using technology to serve citizens and improve agency operations. Technology creates new opportunities for major change, including self-service, integration of information and services, and elimination of time, distance and availability of staff as constraint to providing information and services. An enterprise approach and cooperation of multiple jurisdictions are critical to achieving the goals of e-government, in order to integrate information and services and allow the easy exchange of information.

The three goals for e-government, as adopted by the State Government Council, are:

Goal 1: Government-to-Citizen and Government-to-Business

Anyone needing to do business with state government will be able to go to the state's Web site, easily find the information or service they need, and if they desire, complete all appropriate transactions electronically.

Goal 2: Government-to-Government

State agencies will improve services and increase the efficiency and effectiveness of government operations through collaboration, communication, and data sharing between government agencies at all levels.

Goal 3: Government-to-Employee and Internal Operations

Agencies will examine internal operations to determine cost-effective e-government applications and solutions. The purpose of these efforts is to improve efficiency and effectiveness by replacing manual operations with automated techniques.

Benefits

The primary benefits of e-government are:

1. Improved services for citizens and businesses.
2. Increased efficiency and effectiveness for agencies.

Current Status

Where we are...

Since the adoption of the first *E-government Strategic Plan* in 2000, state agencies have continued to make progress toward the vision of having Nebraska government be open for business from any place and at any time through the use of e-government. The two major sources of this progress have been, first, from individual and collaborative agency initiatives and second, from enhancements to the state's Web portal, Nebrask@ Online (NOL). The following is a look at where we are in development of e-government services in state government. It is not intended to be a comprehensive list of all efforts but a general overview of the progress made since the first adoption of a strategic plan.

Looking at improvements in the state's Web portal, Nebrask@ Online, is a good starting point for this review because the portal is the front door for e-government in Nebraska. In 2000 the portal was redesigned to better serve citizens and businesses. The redesigned site presents information in categories which reflected how users would most likely look for information and services. The idea behind the redesign was that users should be able to find the information they were seeking without having to know which specific agency or division of state government was responsible for that information or service. The goal was to get the user to the information they needed within two mouse clicks. The redesigned site was nationally recognized in 2001 and 2002 as a finalist in the "Best of the Web" competition, meaning the state's Web portal was in the top ten of state Web portals.

Building on the theme of categorizing information by topic, the next major revision to Nebrask@ Online involved creating "sub-portals" or "second-level portals." Each sub-portal provides a specific user group with information and value-added services of interest to that group. Sub-portals have been created for the following areas: business, citizen, education, and state employees.

Nebraska@ Online for Business was the first operational sub-portal, launched in May 2002. The site offers a number of features of value to the business community, two of which are a database of business forms and a customizable portfolio. The database contains information and links to more than 1200 state government forms that are used to regulate or otherwise interact with businesses. This database can be searched in a variety of ways, and can retrieve information without regard for the responsible agency.

In this way, the user does not have to be familiar with which agency handles a form in order to obtain the information. The portfolio feature, called "My Portfolio," allows a user to set up their own password-protected account to store and retrieve links to frequently used forms and online services. An upgrade to Nebrask@ Online for Business and the forms inventory began in August 2004.

The other sub-portals -- Nebrask@ Online for Education, Nebrask@ Online for Citizens, and Nebrask@ Online for State Employees -- each provide the user group with an enhanced presentation and delivery of e-government information and services.

NOL has also implemented a "Payment Portal." This portal provides an enterprise approach to payment processing for e-government services. All online services can use a single payment portal to collect funds associated with the various e-government services provided. The portal will eliminate the need to recreate a payment system for each online application. The payment portal can process credit card, debit card or electronic check payments.

In addition to work on the state portal and sub-portals, NOL has developed and launched several specific e-government applications, including interactive electrical permits; water well registrations, more than 80 online professional license renewals for nine different agencies; and tax filing applications for income, sales and withholding taxes. Work is underway on a one-stop business registration system that will provide a single Web interface for several agency registration processes.

Since publication of the first e-government strategic plan, state agencies have added considerable content and many interactive services to their websites. A few examples include:

- Game and Parks Commission – Online campground and lodging reservations (<http://www.ngpc.state.ne.us/parks/permits/reserve.asp>)
- Department of Revenue – Tax Forms and online tax filing options such as Individual Income Tax forms 1040NS, 1040N; Sales and Use Tax Form 10; and the 941N for withholding payments (<http://www.revenue.state.ne.us/electron/e-file.htm>)
- Department of Labor – UIConnect for unemployment insurance taxes (<http://www.dol.state.ne.us/>)
- Public Employees Retirement System – Access to Pension-Related Information (<http://www.npers.ne.gov/home.jsp>)
- State Treasurer – Child Support Website (<https://www.nebraskachildsupport.state.ne.us/>)
- Nebraska Supreme Court – Court Records Retrieval System
- Nebraska Workers' Compensation Court - Claims Administrator's Extranet First Report of Injury Search Application

This background information is intended to show the basic direction of e-government activities since 2000. A more complete listing of e-government services is available at: <http://www.state.ne.us/egov.html>.

Digital State Survey

One measure of the progress we have made in implementing e-government is to look to national reports on e-government. The Center for Digital Government, The Progress &

Freedom Foundation, and Government Technology Magazine have conducted a detailed survey of digital government in all 50 states, called the “Digital State Survey.”¹ Looking at how Nebraska has scored provides a tool for measuring our progress. However, as with all surveys, there are elements of subjectivity in this survey -- what is deemed an important aspect of e-government for those conducting the survey may not necessarily align with our focus in Nebraska. With that note, here is table showing how Nebraska has scored:

Digital State Survey Results				
Category	2000 Ranking	2001 Ranking	2002 Ranking	2004 Ranking
Electronic Commerce / Business Regulation	28	25	Unranked (>25 th)	Not Available
Taxation / Revenue	29	9 (tie)	1 (tied)	Not Available
Law Enforcement / Courts	12	Unranked (> 25 th)	Unranked (> 25 th)	Not Available
Social Services	9	5 (tie)	7 (tie)	Not Available
Digital Democracy	13	3	17	Not Available
Management / Admin.	10	22	Unranked (>25 th)	Not Available
Education	K-12: 31st Higher Ed: 17th	20	14 (tied)	Not Available
GIS / Transportation	(New category in 2001)	Unranked (> 25 th)	21 (tied)	Not Available
Aggregate Ranking	14 th	17 th	Unranked (>25 th)	22

To move into the top ten, Nebraska must accomplish the following:

- Prepare a comprehensive strategy for online licensing;
- Develop an online business registration system;
- Provide online criminal history background checks;
- Establish a marketing strategy to improve adoption rates;
- Require testing and management tools for accessibility;
- Require online privacy statements;
- Provide an online system where constituents can request services, report problems, complain about services, and complete citizen satisfaction surveys about state services;
- Develop and implement an enterprise architecture for information technology;
- Provide an enterprise approach for knowledge resource management (including content management, business process automation, directory services, registries and repositories, and digital archive), and
- Provide an enterprise approach to security services.

Future

Where we are going...

This plan is the State Government Council’s communication of where Nebraska state government needs to direct its efforts to achieve the greatest benefits from e-government. The vision and goals for e-government are:

¹ <http://www.centerdigitalgov.com/>

Vision: The State of Nebraska will be open for business from any place and at any time through the use of e-government.

- Goal 1: Government-to-Citizen and Government-to-Business
Anyone needing to do business with state government will be able to go to the state's Web site, easily find the information or service they need, and if they desire, complete all appropriate transactions electronically.
- Goal 2: Government-to-Government
State agencies will improve services and increase the efficiency and effectiveness of government operations through collaboration, communication, and data sharing between government agencies at all levels.
- Goal 3: Government-to-Employee and Internal Operations
Agencies will examine internal operations to determine cost-effective e-government applications and solutions. The purpose of these efforts is to improve efficiency and effectiveness by replacing manual operations with automated techniques.

How citizens and businesses use e-government.

These goals are consistent with the expectations of citizens and businesses. A recent survey found that approximately 71 million Americans had sought information from a government Web site. This same survey also showed that 82% of Internet users "expect" to get the information or service they need from the agency's Web site.²

If you need information from a government agency, would you expect to be able to get the information or service from the agency's Web site?			
	All	Internet Users	Non-Internet Users
Yes, would expect	65%	82%	39%
No, wouldn't expect	28	15	48
Don't know	8	4	14

Source: Pew Internet & American Life Project Survey, September 2002.
Sample=2,092 adults, 1,318 Internet users. Margin of error is ±2% for full sample and ±3% for Internet users.

When businesses were surveyed about which activities they would like to perform online, 43% reported they would like to use the Internet to obtain or renew professional licenses and 39% wanted access to one-stop shopping to apply for all new business licenses and permits. Other services sought by business users, as reported by the survey, included: 38% access to criminal history background checks; 36% apply for a business permit; 34% obtain a limited criminal history report. Businesses cited the benefits of participating in e-government as: speed (51%); convenience - no line (43%); and better hours (22%).³

² Horrigan, J., *Counting on the Internet*, Pew Internet & American Life Project, <http://www.pewinternet.org/>, December 29, 2002

³ *Benchmarking the eGovernment Revolution*, Momentum Research Group of Cunningham Communications (Commissioned by NIC), July 26, 2000.

Citizens also reported improved interactions with government when using government Internet sites. Overall, 60% of government Web site users say such sites had improved their interaction with at least one level of government, and 45% said it had improved the way they interact with state government.⁴

How much does the Internet improve your interactions with government?				
<i>The percent who say it improves their interactions</i>				
	<i>A lot</i>	<i>Some</i>	<i>Only a little</i>	<i>Not at all</i>
Federal government	20%	29%	25%	23%
State government	18%	27%	27%	26%
Local government	11%	19%	18%	48%

Source: Pew Internet & American Life Project Government Web Sites Survey, September 5-27, 2001 date. N=815. Margin of error is ±4%.

The following table shows what government site users do at agency Web sites⁵:

What government site users do at agency Web sites	
<i>The percentage of those who use government Web sites who have ever done these activities at government sites...</i>	
Get tourism and recreational information	77%
Do research for work or school	70%
Download government forms	63%
Find out what services a government agency provides	63%
Seek information about a public policy or issue of interest to you	62%
Get advice or information about a health or safety issue	49%
Get information about potential business opportunities relevant to you or your place of employment	34%
Send comments about an issue to a government official	34%
Get information or apply for a government job	24%
Get information about elections, such as where to vote	22%
Get information that helped you decide how to vote in an election	21%
Get information about a lottery	21%
Get information about or apply for government benefits	20%
File your taxes	16%
Renew a driver's license or auto registration	12%
Renew a professional license	7%
Get a fishing, hunting or other recreational license	4%
Pay a fine	2%

Source: Pew Internet & American Life Project Government Web Site Survey, September 5-27, 2001. N=815. Margin of error is ±4%.

Best practices in other states.

As part of the Digital State Survey, the Center for Digital Government also looks at “best practices” in other states. The following is a list of some of these e-government best practices:

URL	Project Title	Category
http://www.michigan.gov/doingbusiness	Michigan Doing Business with the State (e-procurement system)	Architecture
http://www.oit.state.pa.us/oaioit/site/default.asp	Pennsylvania PA-Dynamic Site Framework (web content management tool)	Architecture
http://www.access.wa.gov	Washington Ask George (user friendly search tool)	Architecture
http://www.truckingks.org	Kansas E-Truck Stop (online access for motor carriers)	Business Portal
http://www.choosemaryland.org	Maryland ChooseMaryland.org (business portal and site)	Business Portal

⁴ Larsen, E., *The rise of the e-citizen*, Pew Internet & American Life Project, <http://www.pewinternet.org/>, April 3, 2002.

⁵ Ibid.

URL	Project Title	Category
	selection tool)	
http://www.etides.state.pa.us/	Pennsylvania E-TIDES (common tax filing system for Revenue and Labor)	Business Portal
http://www.paopen4business.state.pa.us/	Pennsylvania Open for Business (online access for businesses)	Business Portal
http://www.townhall.state.va.us	Virginia Regulatory Town Hall (tracking rules and regulations)	Business Portal
http://www.sbe.state.va.us	Virginia Absentee Ballot Tracking	Citizen Portal
http://www.sots.state.ct.us/	Connecticut Campaign Finance Information System (electronic campaign filing system)	Citizens Portal
http://www.cyberdriveIllinois.com	Illinois Online Services for Motorists (central access to all MV-related services)	Citizens Portal
http://www.state.in.us/apps/lisa/session/billwatch/	Indiana BillWatch (bill tracking and e-mail updates)	Citizens Portal
http://legis.state.sd.us/mylrc/index.cfm	South Dakota My Legislative Research (customized bill tracking and e-mail notification)	Citizens Portal
http://www.coloradomentor.org/	Colorado Mentor Program (online resources for university admissions)	Education Portal
http://www.umuc.edu/	University of Maryland University College (online education model)	Education Portal
http://www.gis.state.ar.us/defaultIE.htm	Arkansas GeoStar (Internet-based GIS data clearinghouse)	GIS
http://www.sscgis.state.or.us/	Oregon Geospatial Data Clearinghouse	GIS
http://www.eva.state.va.us/	Virginia eVA (procurement system for state and local government)	Procurement
http://www.wa.gov/dis/academy/index.htm	Washington Digital Government Applications Academy	Training

Recommended Actions

(NOTE: These recommendations are still subject to change, pending additional advice from those entities that are participating in this strategic initiative.)

Goal 1: Government-to-Citizen and Government-to-Business

Citizen Portal Enhancements

The citizen portal, Nebrask@ Online for Citizens (<http://www.nebraska.gov/citizen/>), was launched in 2003. The following are specific actions and recommendations for value-added enhancements to this portal.

- 1.1 Work with the Secretary of State's Office to provide enhancements to election related information and services.
 - a. Lead Entity: Nebrask@ Online Manager ("NOL") and Secretary of State's Office
 - b. Timeframe: TBD
 - c. Funding: Secretary of State / NOL
- 1.2 Work with the Accountability and Disclosure Commission to provide for secure online filings and improved access to information.
 - a. Lead Entity: NOL and Accountability and Disclosure Commission
 - b. Timeframe: January 31, 2005
 - c. Funding: State Records Board Grant
- 1.3 Work with the Legislature to provide additional tools to track legislative information. The Nebrask@ Online Manager is pursuing the possibility of

providing additional features, including the ability to track multiple bills from one location and the use of e-mail "push" technology.

- a. Lead Entity: NOL and Legislature
- b. Timeframe: November 1, 2004
- c. Funding: State Records Board Grant

1.4 Work with the Department of Motor Vehicles to provide for online vehicle registration and drivers license renewal. DMV is in the process of implementing two systems -- insured motorists database and digital drivers license system -- which will allow for the future deployment of these online services.

- a. Lead Entity: Department of Motor Vehicles
- b. Timeframe: TBD
- c. Funding: DMV

1.5 Work with The Nebrask@ Online Manager and county officials to provide the means for online payment of property taxes and other local fees.

- a. Lead Entity: NOL
- b. Target Completion Date: TBD
- c. Funding: NOL (Reinvested Revenue)

1.6 Provide for online licensing of regulated professionals.

- a. Lead Entity: Office of the CIO
- b. Target Completion Date: TBD
- c. Funding: TBD

Business Portal Enhancements

The business portal, Nebrask@ Online for Business (<http://www.nebraska.gov/business/>), was launched in May 2002. The following are specific actions and recommendations for value-added enhancements to this portal.

1.7 Working with the various agencies involved in business registration -- including the Secretary of State, Department of Revenue, and Department of Labor -- create an online system for business registration.

- a. Lead Entity: Office of the CIO
- b. Timeframe: TBD
- c. Funding: NOL (Reinvested Revenue)

1.8 Provide online access to certain, limited, criminal history information.

- a. Lead Entity: Nebraska State Patrol
- b. Timeframe: TBD
- c. Funding: NOL (Reinvested or Enhanced Revenue)

1.9 Develop an online application for use by businesses attempting to find a suitable site for business development.

- a. Lead Entity: Office of the CIO
- b. Timeframe: TBD
- c. Funding: State Records Board Grant or NOL (Reinvested or Enhanced Revenue)

1.10 Improve the business forms database maintained by NOL and enhance the search capabilities.

- a. Lead Entity: NOL and Office of the CIO
- b. Timeframe: October 31, 2004
- c. Funding: State Records Board Grant

Education Portal

The Education Portal (<http://www.nebraska.gov/education/>) first became available to the general public in February 2003. The following are specific actions and recommendations for value-added enhancements.

- 1.11 Under sponsorship of the Education Council of the NTIC, The Nebrask@ Online Manager will work with the Education Council educational institutions to provide enhancements to the Education Portal, including but not limited to:
 - Information Technology Training Calendar;
 - Searchable database of educational courses, degrees, and programs;
 - Statewide application for admission to higher education institutions.
 - a. Lead Entity: Office of the CIO / Education Council
 - b. Timeframe: TBD
 - c. Funding: State Records Board Grant
- 1.12 The Department of Education is developing online teacher/administrator certification.
 - a. Lead Entity: Department of Education
 - b. Timeframe: TBD
 - c. Funding: NDE

Goal 2: Government-to-Government

- 2.1 Develop strategies to address the following government-to-government activities:
 - Intergovernmental Cooperation Groups. Expand upon current intergovernmental cooperative efforts like the CJIS Advisory Committee and GIS Steering Committee; and develop new cooperative groups for those agencies that have specific, shared interests.
 - Integration of Government Information and Services. Develop strategies for using Internet technologies to provide integrated access to information and services to citizens, businesses, employees, and other governmental entities.
 - Local Government Portal. Provide a one-stop Web site for information and services used by local governments.
 - Forms Automation. Work with state agencies and political subdivisions to identify and prioritize opportunities for automating forms that local government uses to interact with state government.
 - a. Lead Entity: State Government Council
 - b. Timeframe: July 2005
 - c. Funding: None

Goal 3: Government-to-Employee and Internal Operations

- 3.1 State Employee Portal Enhancements. The State Government Council will identify specific improvements and value-added services to be incorporated into

the state employee portal, Nebrask@ Online for State Employees (www.nebraska.gov/employee/).

- a. Lead Entity: State Government Council
- b. Timeframe: July 2005
- c. Funding: None

Other Actions and Recommendations

- 4.1 Develop a marketing strategy to increase public awareness and the use of e-government services.
 - a. Lead Entity: NOL
 - b. Timeframe: TBD
 - c. Funding: NOL (Reinvested Revenue)

- 4.2 Require all agency home pages to include privacy and security statements.
 - a. Lead Entity: Webmasters Work Group
 - b. Timeframe: December 2004
 - c. Funding: None

- 4.3 The SGC will work with other entities to investigate ways of providing authentication, especially for first time encounters with users.
 - a. Lead Entity: Office of the CIO
 - b. Timeframe: December 2004
 - c. Funding: TBD

Nebraska Information Technology Commission Strategic Initiatives

Strategic Plan For Security and Business Resumption

Objectives

This initiative will define and clarify policies, standards and guidelines, and responsibilities related to the security of the state's information technology resources. Information security will serve statutory goals pertaining to government operations and public records. These include:

1. Insure continuity of government operations (Article III, Section 29 of the Nebraska Constitution; Nebraska Revised Statutes Sections 28-901 and 84-1201);
2. Protect safety and integrity of public records (Nebraska Revised Sections 28-911, 29-2391, and 84-1201);
3. Prevent unauthorized access to public records (Nebraska Revised Statutes Sections 29-319, 81-1117.02, and 84-712.02);
4. Insure proper use of communications facilities (Nebraska Revised Statutes Section 81-1117.02); and
5. Protect privacy of citizens (Nebraska Revised Statutes Section 84, Article 7).

Benefits

A strategy for security and business resumption of information technology systems is essential for meeting the statutory objectives listed above. In addition, there are several federal laws and regulations regarding privacy and security of information. These include HIPAA (Health Insurance Portability and Accountability Act), IT Requirements for Public Health Preparedness and Response for Bioterrorism (Center for Disease Control), Sarbanes-Oxley Act of 2002, Help America Vote Act of 2002 (HAVA), Graham-Leach-Bliley Act (GLBA), and the Family Education Rights and Privacy Act (FERPA).

Some of the federal laws carry substantial penalties. In particular, HIPAA imposes civil penalties of up to \$25,000 per person, per year, per standard as well as criminal penalties from \$50,000 and one year in prison to \$250,000 and 10 years in prison (when malice, commercial advantage and personal gain are involved).

Security is also important for protecting critical systems that impact large numbers of people in the state. A few examples include:

- Unemployment assistance (\$2.2 million paid out per week to 18,000 people)
- Child support (\$4.4 million paid per week to 20,000 recipients)
- Medicaid claims (156,000 claims per week; \$21.4 million payments per week)
- NFOCUS payments for multiple human services programs (\$26 million paid each month for 185,000 cases)
- State accounting and payroll system
- Law enforcement
- Tax collection
- Homeland Security functions

The FBI conducts an annual survey of computer security issues affecting U.S. corporations, government agencies, financial institutions, medical institutions, and universities. The 2004 CSI/FBI Computer Crime and Security Survey included the following findings:

- 79% of survey participants reported one or more security incidents;
- 78% reported virus attacks;
- 59% reported insider abuse of Net access;
- 49% reported laptop/mobile theft;
- 39% reported system penetration;
- 37% reported unauthorized access to information;
- 15% reported abuse of wireless networks;
- 10% reported misuse of public web applications, and
- 7% reported web site defacement.

The 2004 survey is available at: http://i.cmpnet.com/gocsi/db_area/pdfs/fbi/FBI2004.pdf.

An additional justification for attention to computer security issues is the National Strategy to Secure Cyberspace, published by the Department of Homeland Security in February 2003. One of the priorities of the national cyberstrategy is "Securing Governments' Cyberspace." The foundation for the federal government's cybersecurity includes:

- Assigning clear and unambiguous authority and responsibility for security priorities;
- Holding officials accountable for fulfilling those responsibilities, and
- Integrating security requirements into budget and capital planning processes.

The national cyberstrategy encourages state and local governments to "establish IT security programs for their departments and agencies, including awareness, audits, and standards; and to participate in the established ISACs (Information Sharing and Analysis Centers) with similar governments."

Adequate security is also essential to expansion of e-government. Surveys show that concerns about security is one reason that the public is cautious about using on-line services, especially for conducting financial transactions or providing personal information.

Current Status

Every version of the Statewide Technology Plan of the NITC has included one or more action items pertaining to security for information technology systems. Past achievements include:

- Establishing the Security Work Group, with broad representation from state government and education sectors, to provide a forum for sharing information and developing standards and guidelines. Agendas and minutes are located at: <http://www.nitc.state.ne.us/tp/workgroups/security/index.htm>.
- Adopting a comprehensive set of security policies in January 2001 by the NITC. These policies include: Information Security Management, Access Control, Disaster Recovery, Education, Training and Awareness, Individual Use, Network Security, and Security Breaches and Incident Reporting.
- Publishing three security handbooks tailored to security officers, IS technical staff, and the general user.
- Offering training on the use of the security handbooks.
- Developing detailed information on:
 - Incident Response and Reporting Procedures;
 - Disaster Recovery Planning Procedures;
 - Wireless Local Area Network Guidelines;
 - Remote Access Guidelines.
- Sponsoring a Security Awareness Day (July 15, 2002).

All NITC policies, handbooks, procedures and guidelines are available at: <http://www.nitc.state.ne.us/standards/index.html> (under Security Architecture).

In 2002, the Nebraska Emergency Management Agency (NEMA) added a provision to the State Emergency Operations Plan that requires “Each state agency and local government (to develop) a continuity of operations plan and a disaster plan for information technology.” In 2003, NEMA awarded \$75,000 to the Department of Administrative Services (DAS) for a “Continuity of Operations Study”. DAS has contracted with a company specializing in developing business continuity plans. The outcome will be a complete business continuity plan for all divisions of DAS. It will also provide a template that can be used for other agencies. By including a ‘train-the-trainer’ concept as well as involving multiple agencies in the project, DAS intends to encourage development of business continuity plans in all agencies.

The NITC has also funded two security audits. In March 2004, Omnitech conducted a limited security assessment of the state’s network. The external vulnerability scan identified a total of 2,720 potential vulnerabilities with the following breakdown: 91 high-risk, 640 medium risk, and 2,989 low risk. Twelve agencies had one or more high-risk vulnerabilities. Agencies are in the process of evaluating the assessments and what steps they need to take. Not all of the potential vulnerabilities can or should be removed but all of the high and medium risk vulnerabilities will be accounted for by the agency responsible for the host that is vulnerable. In 2003, the results were 3,262 potential vulnerabilities (136 high risk, 1,182 medium risk, and 1,944 low risk). Seventeen agencies last year had one or more high-risk vulnerabilities.

These summary statistics indicate some progress in reducing the number of potential vulnerabilities, but the March 2004 results underscore the need for more attention on

securing our information assets. These potential vulnerabilities may expose state government to the risk of disruption of services, legal liability, and financial loss.

Several agencies have undertaken special projects and initiatives to improve security of information technology systems. These include:

- Department of Administrative Services
 - Implemented layered security and firewall management of the state's network;
 - Developed directory services capability for better authentication and identity management;
 - Updating the disaster recovery plan for Information Management Services Division;
 - Distributing security notices from the Multi-State Information Sharing and Analysis Center to agency security contacts.
- Health and Human Services
 - Designated a security officer for information technology;
 - Implemented HIPAA Privacy and Security regulations;
 - Developing agency security policies and procedures;
- Department of Roads
 - Designated a security officer for information technology;
 - Updating the disaster recovery plan for information technology services;
 - Developing agency security policies and procedures.
- University of Nebraska
 - In collaboration with DAS-IMServices, NU is developing a shared, fast recovery capability, through mutual assistance of physically distant data centers. Fiber optic cable has been installed between the State and University.
 - Hired a University Information Security Officer
 - Work is progressing on the design and implementation of a Directory Service / Identity Management System.
 - Disaster recovery plan is going through major revisions to update and incorporate new options.
 - UN has implemented various firewalls in locations where it is needed.
 - Implemented a University-wide security focus group to share information, patch management, awareness training, incident reporting, and other educational opportunities.
 - University-wide licensing for McAfee Anti-Virus Software
 - Implemented various federally mandated regulations (HIPAA, GLBA, FERPA).
- Multiple Agencies
 - Implementing recommendations stemming from the March 2004 Network Perimeter Security Sweep.

Future

Security is a continuous effort to manage the risk to information systems. The expense of security safeguards must be cost effective and commensurate with the value of the assets being protected. Security must be balanced against other business needs, such as providing public access or remote access to information.

The previous section demonstrates the progress that is being made. Further improvement in security and disaster recovery is needed in several areas:

- Monitor and reduce the number of vulnerabilities of computer systems;
- Provide better patch management, including enforcement of patch management policies;
- Promote survivability of systems as a security strategy;
- Demonstrate the ability to recovery critical computer systems following a disaster, including table top exercises of disaster recovery plans;
- Improve awareness on the part of users regarding security policies and sound security practices;
- Insure adequate security for wireless systems through encryption capabilities and other means;
- Deploy intrusion detection and protection technologies to protect critical infrastructure;
- Provide redundant services for critical infrastructure such as additional Internet access points;
- Plan for additional infrastructure to extend the distances for shared disaster recovery facilities.

Finding cost effective and workable solutions to these problems is essential to a good security program for state government.

Recommended Actions

(NOTE: These recommendations are still subject to change, pending additional advice from those entities that are participating in this strategic initiative.)

A. Promote disaster planning for information technology systems, in conjunction with agency business continuity plans

Disaster recovery plans for information technology must be linked to an overall agency business continuity plan. A strategy for security and business resumption must encourage completion of agency business continuity plans in order for disaster recovery plans for information technology to be effective. Because many agencies depend on DAS for networking and computing services, it is essential that DAS develop a disaster recovery plan for its facilities and services.

Actions include:

1. Conduct an “executive overview” briefing (orientation exercise) explaining the progress and current and future activities in the development of disaster recovery plans.
 - a. Lead Entity: DAS – IMServices, DAS Division of Communications, and CIO
 - b. Timeframe: December 31, 2004
 - c. Funding: No funding required for this task

2. Encourage agencies to develop agency business continuity plans and disaster plans for information technology by seeking funding sources, providing training on developing plans, and providing technical assistance. The focus should be at the business level.
 - a. Task: Identify funding sources
 - (1) Lead Entity: DAS Risk Management and CIO (subject to approval by DAS)
 - (2) Timeframe: November 30, 2004
 - (3) Funding: No funding required for this task
 - b. Task: Identify next set of agencies for developing business continuity plans
 - (1) Lead Entity: DAS Risk Management and CIO (subject to approval by DAS)
 - (2) Timeframe: February 1, 2004
 - (3) Funding: The cost of preparing business continuity plans by agency is itemized in the DAS contract. Sources of funding have not been identified.

3. Identify and develop procedures for common elements that should be addressed in all or most business continuity plans and disaster recovery plans for information technology.
 - a. Task: Investigate and communicate the availability of insurance to cover costs relating to replacement, repair and recovery services
 - (1) Lead Entity: DAS Risk Management (subject to approval by DAS)
 - (2) Timeframe: December 31, 2004
 - (3) Funding: No funding required for this task
 - b. Task: Develop and communicate policy and procedures for expedited purchasing of goods and services related to a disaster
 - (1) Lead Entity: DAS Materiel with DAS IMServices as a critical stakeholder (subject to approval by DAS)
 - (2) Timeframe: March 31, 2005
 - (3) Funding: No funding required for this task
 - c. Task: Investigate and document arrangements with major vendors for rapid response in replacing information technology equipment and software
 - (1) Lead Entity: DAS IMServices
 - (2) Timeframe: June 30, 2005
 - (3) Funding: No funding required for this task

B. Implement shared disaster recovery facilities

Mission critical systems have three common requirements. Recovery times must be measured in hours, not days or weeks. Recovery facilities should be physically separated so that they will not be affected by a single disaster. There must be staff available to assist with the recovery efforts. Achieving these requirements is very expensive. Sharing disaster recovery facilities, and establishing a collaborative approach to disaster recovery is one strategy for managing costs. DAS IMServices and the University of Nebraska are jointly developing a fast recovery capability using mutual assistance of physically separated data centers

Actions include:

1. Develop a shared recovery capacity serving state government and the University of Nebraska.
 - a. Lead Entity: DAS IMServices and NU
 - b. Timeframe: ongoing
 - c. Funding: The cost and source of funding have not been determined.
2. Evaluate feasibility of additional infrastructure to extend the distances for shared disaster recovery facilities.
 - a. Lead Entity: DAS IMServices and NU
 - b. Timeframe: ongoing
 - c. Funding: The cost and source of funding have not been determined.
3. Conduct a briefing for state agency information technology staff (orientation exercise) describing the disaster recovery activities that will be performed by IMServices and the disaster recovery testing that has been completed.
 - a. Lead Entity: DAS IMServices
 - b. Timeframe: March 31, 2005
 - c. Funding: No funding required for this task.

C. Encourage testing and updating of disaster plans

Testing is the only way to insure that a disaster recovery plan is adequate and the organization is able to implement its plan.

Actions include:

1. Evaluate current status of testing and recommend testing strategies for different kinds of systems
 - a. Lead Entity: CIO
 - b. Timeframe: June 30, 2005
 - c. Funding: No funding required for this task.

D. Conduct annual independent security audits

In the latest computer crime survey by the FBI, 82 percent of respondents indicated that their organizations conduct security audits. Multiple federal programs require periodic computer security audits, including HIPAA, HAVA, and Bioterrorism grants from the Center for Disease Control. Computer security audits are a widely accepted best practice across the public and private sector.

Actions include:

1. Request funding for the CIO to contract for security audits.
 - a. Lead Entity: CIO
 - b. Timeframe: September 1, 2004
 - c. Funding: No funding required for this task
2. Investigate opportunities for aggregating efforts of several state agencies that face federal requirements for security audits.
 - a. Lead Entity: CIO
 - b. Timeframe: November 1, 2004 (and on-going)
 - c. Funding: No funding required for this task
3. Prepare RFP and Scope of Work

- a. Lead Entity: CIO (with assistance from Security Work Group)
 - b. Timeframe: January 31, 2005
 - c. Funding: If technical assistance is required for preparing the RFP, the cost will be paid either from the NITC grant or the budget of the Office of the CIO.
4. Conduct 2005 Security Audit
- a. Lead Entity: CIO
 - b. Timeframe: April 30, 2005
 - c. Funding: A grant application is pending before the NITC. The CIO is requesting funding for annual security audits as part of the FY2006 / FY2007 budget request.

E. Implement centralized directory services

An analysis of security risks identified the need for an Enterprise Directory that provides identity management, single sign on, and role-based/policy-based authorization. In response to this need, IMServices is now implementing a directory services system that will be available to all agencies. Under the direction of the CIO and the NITC, a Work Group was established to make recommendations regarding business rules, policies and procedures for implementation. The system will provide single (or reduced) sign-on using role based authentication and authorization

Actions include:

- 1) Establish an authentication standard to be submitted to the NITC to seek approval by the March 2005 meeting
 - a) Propose standard to State Government Council
 - Lead Entity: IMServices
 - Timeframe: September 16, 2004 meeting
 - Funding: No funding required for this task
 - b) Propose standard to NITC Technical Panel
 - Lead Entity: IMServices
 - Timeframe: December 14, 2004 meeting
 - Funding: No funding required for this task
- 2) Content Management offerings to customers
 - a) Provide Role-based content management based upon folders (for IMS pilot)
 - Lead Entity: IMServices
 - Timeframe: October 31, 2004
 - Funding: IMServices
 - b) Provide full search capabilities to IMS folders
 - Lead Entity: IMServices
 - Timeframe: October 31, 2004
 - Funding: IMServices
 - c) Expand the Content Management taxonomy to other agencies -
 - Lead Entity: IMServices
 - Timeframe: January 31, 2005
 - Funding: IMServices
 - d) Provide integration between content management and Microsoft Office products (Word, Excel, and PowerPoint)

- Lead Entity: IMServices
 - Timeframe: January 31, 2005
 - Funding: IMServices
- e) Provide customized search engines based upon agency/application specific criteria
- Lead Entity: IMServices
 - Timeframe: May 31, 2005
 - Funding: IMServices
- 3) Two-factor authentication
- a) Propose standard to NITC Directory Workgroup
- Lead Entity: IMServices
 - Timeframe: September 31, 2004 meeting
 - Funding: No funding required for this task
- b) Propose standard to SGC
- Lead Entity: IMServices
 - Timeframe: November 18, 2004 meeting
 - Funding: No funding required for this task
- 4) Pilot single sign-on
- a) Provide Web-Based Single sign-on (WSSO) guideline to any client/application that desires it.
- Lead Entity: IMServices
 - Timeframe: September 31, 2004
 - Funding: IMServices

F. Implement incident reporting requirements

Very few agencies are complying with the NITC's incident reporting requirements. Centralized reporting serves the goal of increasing awareness of vulnerabilities and threats to state government as a whole. In particular, centralized reporting is necessary to discern patterns, identify areas of vulnerability, allocate resources, and develop statewide solutions. Centralized reporting does not substitute for internal reporting to management, reporting to law enforcement, or mobilizing a computer security incident response team (CSIRT). Agencies should develop procedures for internal and external reporting that will meet the needs of centralized reporting with little or no additional work.

Actions include:

1. Review incident reporting procedures to determine need for changes in what is reported and the reporting requirements.
 - a. Lead Entity: CIO
 - b. Timeframe: December 31, 2004
 - c. Funding: No funding required for this task
2. Communicate reporting requirements to agencies.
 - a. Lead Entity: CIO
 - b. Timeframe: March 31, 2005
 - c. Funding: No funding required for this task

G. Network Security and Network Management

DAS Division of Communications (DOC) has made changes to implement a layered approach to network security. DOC and many agencies have focused more attention on network management, including patch management, virus protection, and intrusion detection.

Actions include:

1. Configure all assets behind the state's firewall system
 - a. Lead Entity: DOC
 - b. Timeframe: December 31, 2004
 - c. Funding: DOC
2. Implement intrusion detection and prevention
 - a. Lead Entity: DOC
 - b. Timeframe: March 31, 2005
 - c. Funding: DOC
3. Improve VPN capabilities
 - a. Lead Entity: DOC
 - b. Timeframe: March 31, 2005
 - c. Funding: DOC
4. Provide encryption across the state's Wide Area Network
 - a. Lead Entity: DOC
 - b. Timeframe: December 31, 2004
 - c. Funding: DOC

**Nebraska Information Technology Commission
FY2005-2007 Biennial Budget Review Timeline**

	Task	Assigned	Due Date
1	Project Proposal Forms Due		09/15/2004
2	Post PPFs on Web	RB	09/17/2004
3	Divide projects - Education and State Government	RB/TR	09/17/2004
4	Send list of projects received to Budget and LFO	RB	09/17/2004
5	Assign reviewers	RB/TR	09/17/2004
6	List of reviewers to Technical Panel for comment	RB	09/17/2004
7	Send reviewers PPFs and scoring sheets by e-mail	RB/TR	09/20/2004
8	Prepare summary sheets	RB/TR	09/30/2004
9	Completed scoring sheets due from reviewers	Reviewers	10/04/2004
10	Compile scores from reviewers. Add scores and reviewer comments to summary sheets	RB/TR	10/07/2004
11	Distribute summary sheets to TP; SGC; and EC members	RB/TR	10/08/2004
12	Technical Panel meeting	RB/TR	10/12/2004
13	State Government Council meeting	RB	10/14/2004
14	Education Council meeting	TR	TBD
15	Community Council review	AB	
16	Add TP and Council comments to summary sheets	RB/TR	10/18/2004
17	Distribute prioritized lists from SGC and EC with revised summary sheets to Joint Committee members	RB	10/19/2004
18	Joint Committee meeting		10/25/2004 - 10/29/2004
19	Recommended prioritized list and summary sheets to NITC	LLU	11/03/2004
20	NITC meeting		11/10/2004

September 1, 2004

TO: NITC Commissioners
FROM: Rick Becker
SUBJECT: **Unified E-mail System Update**

1. Update on Implementation of Basic E-mail

Activity since adoption of the revised e-mail standard in June:

- Prepared a **service level agreement** (SLA) for agencies using basic e-mail.
- Documented e-mail **administrator tasks** for setting up new accounts.
- Created spreadsheet for documenting new users and incorporating new accounts into the **secure directory services** environment.
- Created **documentation for agencies** to aid in setting up new accounts and migrating users.
- Contacted agencies to take part in **pilot testing**. Representatives of two of these agencies were added to the work group (Department of Agriculture and Supreme Court).
- Identified list of agencies to be transitioned during **first phase of migration**.
- **Software**. Due to a delay by the vendor, the latest version of the e-mail software was not available until the middle of August. After receiving the software, administrators set up a test environment at IMServices, including integration with the directory. Test accounts were created for technical staff in the pilot agencies.
- **Hardware**. The production e-mail server was delivered on August 31. Server setup expected to be completed the second week of September.

2. Next Steps

- September 13, 2004: Basic e-mail hardware and software installation completed and in production.
- September - October 2004: Pilot testing with 5 agencies (Department of Agriculture; Supreme Court; Office of the CIO; Board of Engineers and Architects; and IMServices)
- October 2004 through February 2005: Conversion of agencies currently on DOC and NOL servers; and OfficeVision users
- After February 2005: Conversion of agencies with their own POP mail servers.
- Migration of Microsoft Exchange agencies.