Nebraska Information Technology Commission

Progress Report
to the
Governor and Legislature

November 15, 2004

Contents

NITC 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

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

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 86-518 directs the NITC to submit a progress report to the Governor and Legislature by November 15 of each even-numbered year. This report is offered in fulfillment of that requirement.

As part of the 2004 Statewide Technology Plan, the NITC identified eight strategic initiatives, which will become part of the NITC's recommendations on technology investments. The strategic plans provide policy makers with information about how to achieve progress toward attaining statewide information technology goals. **The eight strategic initiatives are:**

- **Network Nebraska**
- **Statewide Synchronous Video Network**
- **Nebraska Statewide Telehealth Network**
- **Community IT Planning and Development**
- **E-Government**
- **eLearning**
- **Enterprise Architecture**
- **Security and Business Resumption**

The NITC has met all of the review criteria set forth in Section 86-524(2):

- The NITC's vision has been realized and short-term and long-term strategies have been articulated and employed. The past two years have brought significant progress in the following areas: Network Nebraska; Nebraska Statewide Telehealth Network; Statewide Synchronous Video Network; community IT planning and development; e-government; eLearning; and security and business resumption.

- The statewide technology plan and other activities of the commission have improved coordination and assisted policymakers. In addition to the statewide technology plan, the use of Agency Comprehensive Information Technology Plans, Project Proposals for information technology budget requests, and Project Status Reports for major projects, and development of standards and guidelines have improved planning and coordination of information technology.

- Recommendations made by the commission to the Governor and Legislature have assisted policy and funding decisions. The review process and prioritization of new IT projects provides policy makers with information about the objectives, justification, technical impact, costs, and risks of proposed systems.

- The NITC has adopted fourteen policies, standards, and guidelines.

- The NITC Web site and monthly newsletter serve as an information technology clearinghouse.   Information on technology-related development for communities is disseminated in partnership with Technologies Across Nebraska.

- Input and involvement of all interested parties has been encouraged and facilitated. The NITC engages in collaborative processes, involving three advisory councils, the Technical Panel, and numerous workgroups and subcommittees. Additionally information is publicly distributed and public input is encouraged

- Long-term infrastructure innovation, improvement, and coordination has been planned for, facilitated, and achieved.   Network Nebraska has aggregated statewide telecommunications to a common infrastructure, generated considerable cost savings to public entities, and decreased the unit cost of Internet service by leveraging the consolidated demand of all participating entities. Additionally, the NITC has facilitated the development of a statewide telehealth network and a statewide distance learning network.

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. The NITC consists of nine members, including one member representing elementary and secondary education, one member representing postsecondary education, one member representing communities, one member representing the Governor, and five members representing the general public who have experience in developing strategic plans and making high-level business decisions. The Lieutenant Governor serves as the Governor's designee and is the chair of the NITC.

Pursuant to Section 86-516 (7) and 86-521, the NITC conducts most of its work through the Community Council, Education Council, State Government Council, and Technical Panel. Each council establishes ad hoc work groups to prepare recommendations on specific topics.

The Office of the Chief Information Officer provides support for the NITC, its Councils, the Technical Panel and ad hoc groups.   The Governor appoints the Chief Information Officer, who reports directly to the Lieutenant Governor.

Vision, Goals, and Strategic Initiatives

Vision Statement

The NITC vision statement is to "promote the use of information technology in education, health care, economic development, and all levels of government services to improve the quality of life of all Nebraskans."

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

In creating the NITC, the Legislature recognized the need for "developing a statewide vision and strategic plan to guide investments in information technology." As part of the 2004 Statewide Technology Plan, the NITC identified eight strategic initiatives, which will become part of the NITC's recommendations on technology investments. The NITC adopted the list of strategic initiatives at its March 2004 meeting. Since then, agencies have had the opportunity to address their potential role in these strategic initiatives in their Agency Comprehensive Information Technology Plans and biennial budget requests. NITC staff has coordinated development of strategic plans for each initiative. The strategic plans identify the objectives, benefits, current status, and next steps for each initiative. The NITC also has the opportunity to develop recommendations regarding those initiatives for consideration by the Governor and Legislature.

The strategic plans provide policy makers with information about how to achieve progress toward attaining statewide information technology goals.

Telecommunications Infrastructure Development

Goal 1. Support the development of a robust statewide tele-ommunications infrastructure that is scalable, reliable and efficient

Network Nebraska Strategic Plan. 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. 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.

Statewide Synchronous Video Network Strategic Plan. The objective of this initiative is to achieve a statewide synchronous video network capably of enhancing educational opportunities and citizen services through the exchange of interactive video between and among various sectors.

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 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. 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.

Community and Economic Development

Goal 2. Support the use of information technology to enhance community and economic development

Nebraska Statewide Telehealth Network Strategic Plan. 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.

The Nebraska Statewide Telehealth Network 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;
- Enable patients to stay close to home for their care; and
- 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 bio-terrorism alerts and training to hospitals and public health departments across the state.

Community IT Planning and Development Strategic Plan. To remain competitive in the global economy, Nebraska communities need to effectively 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.

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;
- Accelerating the deployment of advanced services;
- Providing public access to computers and the Internet;
- Using technology to provide government and community services;
- Expanding educational opportunities;
- Improving access to health care through information technology; and
- Incorporating technology-related development in to local development plans.

Efficient Delivery of Services

Goal 3. Promote the use of information technology to improve the efficiency and delivery of governmental and educational services, including Homeland Security

E-Government Strategic Plan. 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. The primary benefits of e-government are:

- Improved services for citizens and businesses; and.
- Increased efficiency and effectiveness for agencies.

In a memo to all agencies dated November 19, 2003, 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.

eLearning Strategic Plan. 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 postsecondary 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.

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).

Planning, Management, and Accountability

Goal 4. Promote effective planning, management and accountability regarding the state's investments in information technology

Enterprise Architecture Strategic Plan. 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).

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. Enterprise architecture accomplishes these objectives by establishing a governance process for enterprise architecture 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.

Security and Business Resumption Strategic Plan. This initiative will define and clarify policies, standards and guidelines, and responsibilities related to the protection of the state's information technology resources. Information security refers to policies and procedures that are aimed at preventing problems that would threaten the safety and integrity of information resources. Business resumption refers to plans and activities aimed at responding to an event in a manner that mitigates the severity of problems and accelerates recovery.

Information security and business resumption 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, 29-3519, and 84-1201);
3. Prevent unauthorized access to public records (Nebraska Revised Statutes Sections 29-3519, 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).

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).

Accomplishments in Meeting Review Criteria

Over the past two years, the NITC has realized many significant achievements.   These achievements are described under the seven criteria to be considered in the legislative review as set forth in Section 86-524 (2).

Realization of Vision and Employment of Strategies

The vision has been realized and short-term and long-term strategies have been articulated and employed;

The NITC uses the annual Statewide Technology Plan (www.nitc.state.ne.us/stp) as the primary means to document the vision and strategies of the NITC. This year, the NITC innovated with specific strategic plans on eight priority topics as a more effective means to communicate short and long-term strategies. Developing the strategic plans was a collaborative effort involving many individuals and entities. These efforts have been successful in gaining cooperation of many stakeholders.

The vision of using technology to improve the quality of life of all Nebraskans is being achieved. The past two years have brought significant progress in the following areas: Network Nebraska; Nebraska Statewide Telehealth Network; Statewide Synchronous Video Network; community IT planning and development; e-government; eLearning; and security and business resumption.

Network Nebraska

The statewide multipurpose backbone project known as Network Nebraska has succeeded in aggregating statewide telecommunications to a common infrastructure, generating considerable cost savings to public entities, and decreasing the unit cost of Internet service by leveraging the consolidated demand of all participating entities. Network Nebraska has been made possible through a cooperative effort of the Collaborative Aggregation Partnership (CAP). CAP was established by Lieutenant. Governor Dave Heineman and former University of Nebraska President L. Dennis

Smith. CAP is composed of several operational entities: DAS-Division of Communications, University of Nebraska, and Nebraska Educational Telecommunications with policy assistance from the Nebraska Department of Education, Public Service Commission, and the NITC.

The first phase of the multipurpose backbone became operational in September 2003 serving Omaha, Lincoln, and Grand Island with the second phase followiing in February 2004 extending service to Norfolk, Kearney, North Platte, and the Panhandle. Since September 2003, Network Nebraska has grown to serve the data and Internet service needs of all state agencies with outstate circuits; the University of Nebraska's four campuses; five of the Educational Service Units; three of the state's community colleges; one state college; and two independent colleges.

Discussions have occurred with the remaining public and education entities as well as a number of community aggregation projects. The number of customers is expected to continue growing due to the favorable Internet rates and the high quality of service offered by Network Nebraska.

Nebraska Statewide Telehealth Network

The support of existing telehealth networks and the expansion of telehealth in Nebraska have been included as an action item in each of the annual statewide technology plans developed by the NITC.   Over the past two years, the NITC has facilitated efforts to develop a statewide telehealth network.   The Nebraska Statewide Telehealth Network is a collaborative effort to connect all rural and critical access hospitals, as well as urban hospitals, regional medical centers, public health departments, and state agencies in Nebraska in order to provide patient consultations, to deliver medical and community education, and to facilitate emergency communications.   The scope of the network and the level of collaboration is unmatched, making Nebraska a leader in telehealth and bioterrorism preparedness.

The Nebraska Statewide Telehealth Network is a collaborative effort led by the Nebraska Hospital Association.   Partners include:

- Nebraska Hospital Association
- Nebraska State Government
    - Governor Mike Johanns
    - Lieutenant Governor Dave Heineman
    - Nebraska Legislature
    - Nebraska Public Service Commission
    - Nebraska Division of Communications
    - Nebraska Health and Human Services Section
        - Bioterrorism Preparedness and Response Section
        - Office of Rural Health
    - Nebraska Information Technology Commission
    - Nebraska Office of the Chief Information Officer

- o   Nebraska Department of Education
- Nebraska Public Health Departments
- University of Nebraska Medical Center
- University of Nebraska System
- Universal Service Administrative Company
- Nebraska Information Network
- Nebraska telecommunications providers
- Nebraska hospitals
- Central Nebraska Area Health Education Center
- Northern Nebraska Area Health Education Center
- Nebraska Medical Association

Initial connections between existing telehealth systems were made in October, 2004, enhancing interconnectivity among hospitals participating in existing telehealth networks. By the middle of 2005, all rural hospitals, regional medical centers, and urban hospitals are expected to be connected. Public health departments are in the process of obtaining equipment and will be connected to the Nebraska Statewide Telehealth Network as well.

On Oct. 27, 2004 Governor Mike Johanns announced the development of the Nebraska Statewide Telehealth Network. Over 40 videoconferencing sites in hospitals and other facilities across the state were connected for the news conference.

Funding for the Nebraska Statewide Telehealth Network is provided by a number of sources including the Nebraska Universal Service Fund, Federal Universal Service Fund, Nebraska Health and Human Services System grants utilizing monies made possible by the Centers for Disease Control and the National Emergency Management Association grants, USDA Rural Utility Service grants, Office for the Advancement of Telehealth grants (including Congressionally mandated grants), investment by Nebraska hospitals, Central Nebraska Area Health Education Center funding, and Northern Nebraska Area Health Education Center funding.

Statewide Synchronous Video Network

The NITC Technical Panel chartered two work groups that have made decisive progress with respect to interconnecting the state's 400+ videoconferencing sites with a single video standard. The Video Standards Work Group, chaired by staff of Nebraska Educational Telecommunications, succeeded in reducing the number of recognized video standards from four in 2001 to two in 2002 with a further reduction to one recognized video and audio compression standard in 2004. The Statewide Synchronous Video Work Group, chaired by staff of Nebraska Educational Telecommunications and comprised of members of over 20 different entities, has met six times to discuss such issues as technology migration, business case, event scheduling and clearinghouse, traffic prioritization, security, quality assurance, cost-sharing, and existing contractual arrangements of regional networks.

Nine distance learning consortia serving K-12 high schools and their higher education partners are directly affected by this technology upgrade. Over 160 high schools are currently tied to Commercial Video Data Service (JPEG) interactive video that was contracted starting in 1996. These school districts are approaching the useful end of the technology and the end of their contracts. The Statewide Synchronous Video Work Group has been instrumental in working with the distance learning directors and telecommunications providers to explore various networking options, contracting alternatives, alternative funding sources, and total project costs.

Providing additional funding can be found, the JPEG videoconferencing high schools should be able to convert to high bandwidth, wide area networking using Internet Protocol videoconferencing in the time frame of 2006-07. Higher education partners, MPEG2 high schools, and other IP-based videoconferencing schools will be able to interconnect as each region migrates to the new video standard.

Community IT Planning and Development

The NITC has addressed community information technology planning and development through a partnership effort. Technologies Across Nebraska is a partnership of over 40 organizations led by the University of Nebraska Cooperative Extension, the Nebraska Rural Initiative, and the Nebraska Information Technology Commission. Technologies Across Nebraska facilitates technology-related development by building partnerships, leveraging resources, and strengthening community capacity.

Technologies Across Nebraska provides direct assistance to communities through the IT Planning and Mini Grant program.   The program helps communities understand the importance of information technology and helps them develop plans to utilize technology more effectively. Through the program, participating communities and regional groups receive a $2,500 mini grant and assistance from the Nebraska Rural Initiative's Communities of the Future Team and the Nebraska Information Technology Commission.

To date, 21 communities have participated in the program, ranging in size from Maskell which has a population of 67 to Hastings with a population of 24,000.   In 2002-2003—the first year in which the program was offered—participating communities and counties included Alliance, Custer County, Crawford-Harrison, Edgar, Fillmore County, Keya Paha/Brown/Rock Counties, and the West Point area.   These communities and counties have developed technology plans and have begun to implement their plans.   In 2003-2004, participating communities and counties included Dakota City, Hastings, Homer, Lexington, Maskell, Valley County, and Seward.   These communities are finishing up their technology plans and will begin implementing their plans over the next year. Chappell, Sidney, Cuming County, Nemaha County, Kearney, and Hartington have begun participating in the program this fall.

The impact of the program has been significant.   Last summer, Edgar, received a $250,000 Community Development Block Grant to build a community center which will include a technology center. Crawford now has a community technology learning center and wireless broadband service thanks to a $154,000 grant from the USDA Rural Utilities Service.   In Keya Paha, Brown, and Rock Counties, the region now has more class offerings, two community Web sites, and a new technology retail store.   In West Point a videoconferencing system has been installed for use by area businesses.   As more communities finish their plans and move into the implementation phase, the number of success stories is expected to increase.

Technologies Across Nebraska also produces a quarterly newsletter on technology-related development. *TANgents* reaches approximately 1,500 individuals and is helping Nebraskans understand the importance of IT-related community and economic development.   Respondents to a reader survey this summer indicated that *TANgents* was a useful source of information and helped them learn about available resources.

One reader commented, "*TANgents* plays an important role in keeping Nebraskans aware of development and new opportunities to improve IT options for rural citizens in the State.   I hope you will continue to provide this service."

"This has been very helpful in a number of ways not to mention showing us granting opportunities," commented another reader. "I read every one of these I get and have explored the related material often. Thanks."

A summary of the survey results are listed below:

- 89% of respondents indicated that reading *TANgents* has helped them learn about available resources.

- 87% would recommend *TANgents* to others.

- 86% found *TANgents* a useful source of information.

- 79% indicated that reading *TANgents* has helped them better understand the importance of IT-related community and economic development.

- 70% indicated that reading *TANgents* has helped them learn about available sources of funding.

- 69% indicated that reading *TANgents* has helped them understand how to better incorporate information technology into my community's community and economic development processes.

E-Government

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.

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 redesigned site was nationally recognized in 2001, 2002, and 2004 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. 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.

Nebrask@ Online 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, Nebrask@ Online 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 Web sites. A few examples include:

- Game and Parks Commission – Online campground and lodging reservations
- 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
- Department of Labor – UIConnect for unemployment insurance taxes
- Public Employees Retirement System – Access to Pension-Related Information
- State Treasurer – Child Support Web site
- Nebraska Supreme Court – Court Records Retrieval System
- Nebraska Workers' Compensation Court - Claims Administrator's Extranet First Report of Injury Search Application

eLearning Initiative

Beginning in August 2002, a collaborative effort was launched to coordinate the growth, implementation, and investment of learning management systems by K-12 and Higher Education across the State of Nebraska. The NITC staff, in cooperation with the Department of Education, University of Nebraska and the Nebraska Web-based Staff Development Affiliated Consortium (NWSDAC) conducted several meetings to measure the amount of usage and growth by the public and private education entities. Another objective was to prepare a comprehensive analysis of the eLearning Initiative components and to increase awareness of eLearning and the potential it has for improving the instruction and learning processes.

The Education Council named eLearning as one of three important initiatives affecting education through the FY 2005-07 biennium and recommended a series of eLearning Planning Workshops be held across the state. The NITC approved the eLearning Workshop series and six full-day planning sessions were held in Norfolk, Omaha, Lincoln, Scottsbluff, North Platte, and Grand Island during October 2004. Sixteen essential elements of a statewide eLearning Initiative were prioritized at each workshop and consensus was reached on the prioritization.

Security and Business Resumption

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. 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).

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 1,989 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;

- o Updating the disaster recovery plan for Information Management Services Division;
- o Distributing security notices from the Multi-State Information Sharing and Analysis Center to agency security contacts.
- Health and Human Services
  - o Designated a security officer for information technology;
  - o Implemented HIPAA Privacy and Security regulations;
  - o Developing agency security policies and procedures;
- Department of Roads
  - o Designated a security officer for information technology;
  - o Updating the disaster recovery plan for information technology services;
  - o Developing agency security policies and procedures.
- University of Nebraska
  - o 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.
  - o Hired a University Information Security Officer
  - o Work is progressing on the design and implementation of a Directory Service / Identify Management System.
  - o Disaster recovery plan is going through major revisions to update and incorporate new options.
  - o UN has implemented various firewalls in locations where it is needed.
  - o Implemented a University-wide security focus group to share information, patch management, awareness training, incident reporting, and other educational opportunities.
  - o University-wide licensing for McAffee Anti-Virus Software
  - o Implemented various federally mandated regulations (HIPAA, GLBA, FERPA).
- Multiple Agencies
  - o Implementing recommendations stemming from the March 2004 Network Perimeter Security Sweep.

Improved Coordination
and Assistance to Policymakers

The statewide technology plan and other activities of the commission have improved coordination and assisted policymakers;

Recommendations made by the commission to the Governor and Legislature have assisted policy and funding decisions;

Because of the interrelated nature of these two criteria, this report addresses them together.

The statewide technology plan forms the apex of the NITC's efforts to provide strategic direction and coordination of information technology investments in Nebraska.   The NITC has also established other requirements that improve planning and coordination of information technology. These include Agency Comprehensive Information Technology Plans, Project Proposals for information technology budget requests, Project Status Reports for major projects, and development of standards and guidelines.

The following section on policies, standards, guidelines and architectures provides additional information about these important tools for encouraging coordination.

In addition, the Chief Information Officer chairs several steering committees that coordinate technology efforts on specific topics. These include:

CHARTS Steering Committee. This group provided oversight to the task of implementing changes to the HHSS computer system for child support and enforcement in order to meet federal certification requirements. Key participants included HHSS, State Treasurer, State Court Administrator, and DAS. The system achieved certification in January 2004, and the CHARTS Steering Committee disbanded at that time.

HIPAA Steering Committee. This group is providing oversight and coordinating efforts within HHSS to comply with federal privacy and security standards for health-related information of individuals.

SACWIS Compliance Steering Committee. The purpose of the Steering Committee is to coordinate and facilitate efforts to integrate the automation system requirements of the Foster Care Review Board (FCRB) and the system used by HHSS Protection and Safety (N-FOCUS). This change is required to meet a federal mandate and avoid substantial financial penalties.

Steering Committee On Child Abuse and Neglect Information Exchanges. The overriding goal of the steering committee is to implement Recommendation 3.4 of the Governor's Children's Task Force, regarding the exchange of information among entities responsible for the investigation and prosecution of child abuse or neglect.

The Chief Information Officer serves as co-chair of the Juvenile Data Sharing Work Group, vice-chair of the Geographic Information Systems Steering Committee, and is a member of the Criminal Justice Information Systems (CJIS) Steering Committee and the State Records Board. Participation in these groups helps to coordinate their activities with those of the NITC.

The NITC provides direct assistance to policy makers in several areas. The agency comprehensive information technology plans and the project proposal forms for budget requests of new IT spending provide policy makers with far more information in a consistent format than before. The review process and prioritization of new IT projects provides policy makers with information about the objectives, justification, technical impact, costs, and risks of proposed systems.

Pursuant to NITC policy and state statute, the Chief Information Officer prepares a semi-annual report for the Governor and Legislature that summarizes the status of major information technology projects.

The NITC also provides briefings to legislative committees on request. Briefings over the past two years include:

- Joint briefing for members of the Appropriations Committee, Education Committee, and the Government, Military and Veterans Affairs Committee – January 14, 2004;
- Briefing for the Transportation and Telecommunications Committee – November 13, 2003.

Policies, Standards, Guidelines, and Architectures

Policies, standards, guidelines, and architectures have been developed and observed;

The NITC has adopted the following policies, standards, and guidelines:

- Accessibility Policy and Technology Access Clause (2001)
- E-mail Standard for State Government Agencies (2004)
- Blocking E-mail attachments and Unsolicited Bulk E-mail (SPAM) (2004)
- Best Practices for Management of Lotus Notes E-mail Records (2003)
- Workstation Guidelines (2003)
- IP Communication Protocol Standard for Synchronous Distance Learning and Video Conferencing (2003)
- Contracting Guidelines for Upgrade of Distance Learning Services (200X)
- Video and Audio Compression Standard for Synchronous Distance Learning and Video Conferencing (2004)
- Accessible Use Policy for State Data Communications Network (2004)
- Security Policies (2001)
- Disaster Planning Recovery Procedures (2002)
- Incident Response and Reporting Procedure for State Government (2002)
- Wireless Local Area Network Guidelines (2003)
- Remote Access Guidelines (2003)

One of the 2004 NITC strategic initiatives is to develop an enterprise architecture for state government. Enterprise architecture is a comprehensive approach to developing policies and standards to guide technology investments.

In addition to developing standards and guidelines, the NITC funded a limited security audit of the state's computer network in 2003 and 2004. The security audits identified

potential vulnerabilities and prompted changes in network configuration and practices in order to improve security. A third security audit is planned for the spring of 2005.

Information Technology Clearinghouse

An information technology clearinghouse has been established, maintained, and utilized of Nebraska's information technology infrastructure and of activities taking place in the state involving information technology, and the information flow between and among individuals and organizations has been facilitated as a result of the information technology clearinghouse;

The NITC's Web site (www.nitc.state.ne.us) serves as an information technology clearinghouse. It provides access to an extensive amount of information including resources for communities, educational entities, and state government.

The NITC Web site is the official repository for agenda, minutes, and documents for the NITC, its councils and their workgroups. The section on "Technical Architecture" provides access to all technical standards and guidelines adopted by the NITC or under development.

In addition to the clearinghouse, the NITC has published a monthly electronic newsletter, *NITC.news*, since June, 2000.   *NITC.news* provides current information on information technology issues and developments. The current readership is approximately 900. It includes public officials, community leaders, educational personnel, and interested persons.   Past copies of *NITC.news* are available on the NITC Web site.

Information on technology-related development for communities is included in a special section called the Information Technology Toolkit. In addition, Technologies Across Nebraska's produces a quarterly electronic newsletter, *TANgents*, which helps Nebraskans understand the importance of IT-related community and economic development.   As cited in an earlier section, respondents to a reader survey this summer indicated that *TANgents* was a useful source of information and helped them learn about available resources.

Additionally, the NITC has worked with Nebraska Online to develop portals for business, citizens, education, and employees.   The portals are accessible from the State's Web site (www.nebraska.gov).

Input and Involvement of Interested Parties

Input and involvement of all interested parties has been encouraged and facilitated;

The NITC engages in collaborative processes, involving three advisory councils, the Technical Panel, and numerous workgroups and subcommittees. Additionally information is publicly distributed and public input is encouraged through the NITC's Web site, through e-mail distribution, and through publication of the NITC's monthly news letter, *NITC.news*.   NITC staff also present information on NITC initiatives at conferences, workshops, and meetings across the state.   The list of NITC Commissioners, council members, and Technical Panel members is included in this document.

Active work groups and subcommittees over the past two years include:

- Telehealth Subcommittee
- Technologies Across Nebraska
- Internet2 Steering Committee
- Synchronous Video Work Group
- eLearning Initiative Work Group
- Directory Services Work Group
- E-Government Strategy Work Group
- Lotus Notes Collaboration Work Group
- Records Retention Work Group
- Juvenile Data Sharing Work Group
- Accessibility Work Group
- Security Standards Work Group
- Statewide Synchronous Video Work Group

In addition, the Chief Information Officer chairs several steering committees that coordinate technology efforts on specific topics. These include the CHARTS Steering Committee, HIPAA Steering Committee, SACWIS Compliance Steering Committee, and the Steering Committee On Child Abuse and Neglect Information Exchanges.   The Chief Information Officer also serves as co-chair of the Juvenile Data Sharing Work Group, vice-chair of the Geographic Information Systems Steering Committee, and is a member of the Criminal Justice Information Systems (CJIS) Steering Committee and the State Records Board. Participation in these groups helps to coordinate their activities with those of the NITC.

The process used in the development of synchronous video standards is illustrative of the level of input and involvement which is encouraged by the NITC.   In order to develop standards, a work group representative of major constituent groups was formed.   After researching existing industry standards, the work group solicited constituent involvement in testing the standards.   The standards document and background report were made available on the NITC Web site. Public comment was

solicited through the NITC Web site, *NITC.news*, e-mail messages to constituent groups. The work group responded to all public comments, incorporating some comments into the documents.   The video standards were approved by the Technical Panel and the NITC in open meetings.

Another example of soliciting input and involving interested parties is the recent series of meetings sponsored by the Nebraska Information Technology Commission in partnership with the University of Nebraska to solicit input from 150 educators in six locations across the state on the prioritization of essential elements of a statewide eLearning initiative.

Infrastructure Innovation, Improvement and Coordination

Long-term infrastructure innovation, improvement, and coordination has been planned for, facilitated, and achieved with minimal barriers and impediments.

The Collaborative Aggregation Partnership (CAP) has provided leadership in planning, facilitating, and achieving long-term infrastructure, improvement, and coordination. CAP consists of the DAS-Division of Communications, University of Nebraska, and Nebraska Educational Telecommunications with policy assistance from the Nebraska Department of Education, Public Service Commission, and the NITC.

Network Nebraska, the statewide multipurpose backbone, has been made possible through a cooperative effort of the CAP. Network Nebraska has aggregated statewide telecommunications to a common infrastructure, generated considerable cost savings to public entities, and decreased the unit cost of Internet service by leveraging the consolidated demand of all participating entities.

The first phase of the multipurpose backbone became operational in September 2003 serving Omaha, Lincoln, and Grand Island with the second phase following in February 2004 extending service to Norfolk, Kearney, North Platte, and the Panhandle. Since September 2003, Network Nebraska has grown to serve the data and Internet service needs of all state agencies with outstate circuits; the University of Nebraska's four campuses; five of the Educational Service Units; three of the state's community colleges; one state college; and two independent colleges.

Discussions have occurred with the remaining public and education entities as well as a number of community aggregation projects. The number of customers is expected to continue growing due to the favorable Internet rates and the high quality of service offered by Network Nebraska.

Additionally, the NITC has facilitated the coordination and development of a statewide telehealth network and a statewide synchronous video network.

The State of Nebraska has stimulated private investment in telecommunications infrastructure in the state by leasing telecommunications facilities from the private sector and acting as an anchor tenant.   Members of CAP have provided technical assistance in the development of the Nebraska Statewide Telehealth Network.   The telehealth network will also be able to obtain telecommunications services at the same rate negotiated by the Division of Communications for Network Nebraska.

Through the efforts of the NITC Technical Panel and two work groups, decisive progress with respect to interconnecting the State's 400+ videoconferencing sites with a single video standard. The Video Standards Work Group succeeded in reducing the number of recognized video standards from four in 2001 to two in 2002 with a further reduction to one recognized video and audio compression standard in 2004. Providing additional funding can be found, Nebraska K-12 schools and higher education partners will be able to interconnect using the new video standard.

Appendix

Policy Objectives and Review Criteria

Section 86-518 directs the NITC to submit a progress report to the Governor and Legislature by November 15 of each even-numbered year. This report is offered in fulfillment of that requirement.

Section 86-524 further directs the Appropriations Committee and Transportation and Telecommunications Committee to conduct a joint review of the activities of the NITC by the end of the calendar year of every even-numbered year. Section 86-524 also provides three objectives and a list of criteria for evaluating progress. This report is intended to provide information to assist the Legislature in conducting its review.

Policy Objectives

Section 86-524 states: "It shall be the policy of the state to:

1. Use information technology in education, communities, including health care and economic development, and every level of government service to improve economic opportunities and quality of life for all Nebraskans regardless of location or income;
2. Stimulate the demand to encourage and enable long-term infrastructure innovation and improvement; and
3. Organize technology planning in new ways to aggregate demand, reduce costs, and create support networks; encourage collaboration between communities of interest; and encourage competition among technology and service providers."

Review Criteria

Section 86-524 states: "In the review, the committees shall determine the extent to which:

1. The vision has been realized and short-term and long-term strategies have been articulated and employed;
2. The statewide technology plan and other activities of the commission have improved coordination and assisted policymakers;
3. An information technology clearinghouse has been established, maintained, and utilized of Nebraska's information technology infrastructure and of activities taking place in the state involving information technology, and the information

flow between and among individuals and organizations has been facilitated as a result of the information technology clearinghouse;

4. Policies, standards, guidelines, and architectures have been developed and observed;

5. Recommendations made by the commission to the Governor and Legislature have assisted policy and funding decisions;

6. Input and involvement of all interested parties has been encouraged and facilitated; and

7. Long-term infrastructure innovation, improvement, and coordination has been planned for, facilitated, and achieved with minimal barriers and impediments."