

Digital Nebraska
Envisioning our Future
2008

Nebraska's Statewide Technology Plan

Nebraska Information Technology Commission

My Fellow Nebraskans:

The Nebraska Information Technology Commission's annual statewide technology plan presents a vision for the use of technology in education, economic development, all levels of government, and health care.

To achieve this vision, the NITC works with its advisory groups, state agencies, and other stakeholders to identify and support initiatives of strategic importance to the state. Through the efforts of the NITC and its many partners, the State of Nebraska is expanding access to services, reducing costs, increasing efficiency, and improving public safety through the use of technology.

I would like to thank the NITC Commissioners, members of the NITC's advisory groups, and the NITC staff for their contributions to the statewide technology plan.

Sincerely,

Rick Sheehy
Lieutenant Governor
and Chair, Nebraska Information Technology Commission

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Lieutenant Governor Rick Sheehy, Chair

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Executive Summary

Digital Nebraska: Envisioning Our Future 2008 sets forth the vision and goals for the use of information technology in Nebraska, building upon Nebraska's successes in using technology to expand access to services, reduce costs, increase efficiency, and improve public safety. The Nebraska Information Technology Commission (NITC) was established by the Legislature in 1998 to provide advice, strategic direction, and accountability on information technology investments in the state.

In accordance with the Legislature's directive (Neb. Rev. Stat. § 86-516) to "annually update a statewide technology plan," the NITC has prepared its eighth edition of the statewide technology plan for Nebraska. The development of the statewide technology plan is an iterative process. Each new edition of the statewide technology plan builds upon previous editions. On even-numbered years, the statewide technology plan undergoes a more extensive revision. On odd-numbered years, action items are updated, but only minor revisions are made to the rest of the 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 five goals:

- ◆ Support the development of a robust statewide telecommunications infrastructure that is scalable, reliable, and efficient;
- ◆ Support the use of information technology to enhance community and economic development;
- ◆ Promote the use of information technology to improve the efficiency and delivery of governmental and educational services, including homeland security;
- ◆ Ensure the security of the State's data and network resources and the continuity of business operations;
- ◆ Promote effective planning, management and accountability regarding the state's investments in information technology.

The development of a statewide technology plan is the primary mechanism by which the NITC addresses its goal of promoting effective planning, management and accountability regarding the state's investments in information technology.

LB 823, passed during the 2008 legislative session, strengthens the Commission's authority to address planning, management and accountability. The new legislation also more closely aligns the work of two existing advisory groups, the Geographical Information System Steering Committee and the Nebraska Intergovernmental Data Communications Advisory Council (NIDCAC) with the NITC.

Advisory Groups

Much of the NITC's work is conducted through its advisory groups:

- The **Technical Panel** provides analysis and recommendations to the NITC on technical issues.
- The **Community Council** is composed of representatives from business and economic development, work force development, public libraries and local government. It was formed to identify, prioritize, and coordinate user needs with respect to community information technology.
- The **Education Council** is a 16-member advisory committee composed of representatives from K-12 and postsecondary education. It identifies, prioritizes, and coordinates user needs with respect to educational information technology.
- The **State Government Council** is a 25-member advisory committee composed of agency directors, state IT professionals, and two representatives of the private sector. It provides direction and oversight for state government information technology vision, goals, and policy.
- The **eHealth Council** is composed of representatives from public health, consumers, state and federal government, employers, eHealth initiative groups, health care providers, and other resource providers. It was formed to identify, prioritize, and coordinate issues within the realm of healthcare and technology.
- With the enactment of LB 823, the **GIS Steering Committee** will become an advisory council to the NITC. It is composed of representatives from state and local government and provides statewide coordination of GIS initiatives and enhanced collaboration between municipal, county, state, and federal government entities.

Strategic Initiatives

The NITC has identified eight strategic initiatives which materially advance the Commission's vision and goals. These strategic initiatives are projects 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. The statewide technology plan includes a set of action items for each strategic initiative. These action items guide the work of the Nebraska Information Technology Commission (NITC) and its advisory groups.

The NITC's current strategic initiatives are:

- ◆ Network Nebraska
- ◆ Community IT Planning and Development
- ◆ eHealth
- ◆ Public Safety Communications System
- ◆ Digital Education
- ◆ State Government Efficiency
- ◆ E-Government
- ◆ Security and Business Resumption

A brief description of each strategic initiative, listed as supporting the NITC goals, follows:

Development of a Robust Telecommunications Infrastructure

Network Nebraska. In order to develop a broadband, scalable telecommunications infrastructure that optimizes the quality of service to every public entity in the state of Nebraska, the Office of the CIO 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 to public entities through aggregation. Benefits of Network Nebraska include lower network costs, greater efficiency, interoperability of systems providing video courses and conferencing, increased collaboration among educational entities, new educational opportunities, more affordable Internet access, and better use of public investments. Network Nebraska will begin to shift its focus from technical upgrades and implementation to utilization and application development. To facilitate this shift, five continued and eight new action items are included in this new version of the Statewide Technology Plan. E-rate eligibility issues and network input and governance are featured among the new action items.

Community and Economic Development

Community IT Planning and Development. In order to foster community and economic development in Nebraska through the effective use of information technology, the NITC Community Council has built partnerships with other organizations to develop and deliver outreach programs. In 2006-2007, the NITC Community Council partnered with the University of Nebraska, Nebraska Department of Economic Development, Network Nebraska, Technologies Across Nebraska, Nebraska Lied Main Street program, and Apple Computer to help community and regional groups produce podcasts

to promote local tourism attractions and events. Over 25 podcasts were produced during the initial year of the program. This year's action plan focuses on helping communities develop content-rich Web sites in order to better promote the community and to recruit people to the area. The Community Council will also focus on identifying best practices and conducting an assessment of the technology-related needs of communities.

Efficient Delivery of Services

eHealth. eHealth technologies include telehealth, electronic health records, e-prescribing, computerized physician order entry, and health information exchange. The widespread adoption of electronic health records and other eHealth technologies is expected to reduce medical errors, improve quality of care, and reduce health care costs for payers. Nebraska is already a leader in telehealth. The Nebraska Statewide Telehealth Network connects nearly all of Nebraska's hospitals and public health departments in one of the country's most extensive telehealth networks. The adoption of many other eHealth technologies, however, remains low in the state.

The Nebraska Information Technology Commission formed an eHealth Council last year to make recommendations on how the State of Nebraska can effectively and efficiently promote the adoption of interoperable health technologies. The plan includes seven action items which focus on assessing and prioritizing health IT activities, addressing health information security and privacy issues, addressing policy and regulatory issues related to universal service funding for telehealth, and exploring the optimal method for identifying clients in health information exchange.

Public Safety Communications System. The objective of this initiative is to consolidate the communications systems of state law enforcement agencies and to integrate statewide communications interoperability for public safety into the Nebraska Wireless Integrated Network of Systems (N-WINS). N-WINS is a network of networks, connecting regional networks as well as state public safety agencies and other partners, including the federal Department of the Interior. When completed in 2010, the system will position Nebraska as a leader in public safety wireless communications.

Digital Education. The primary objective of the Digital Education Initiative is to promote the effective and efficient integration of technology into the instructional, learning, and administrative processes and to utilize technology to deliver enhanced digital educational opportunities to students at all levels throughout Nebraska on an equitable and affordable basis. This initiative will involve the coordination and promotion of several major systems and applications that have either been developed mostly at the local level or have not been replicated statewide. A new action item encourages higher education entities to list all dual enrollment and concurrent enrollment course listings on the statewide clearinghouse and scheduling software system. This initiative also includes three previous action items for continuation. The Distance Education Council/ESU Coordinating Council is recognized as a lead entity to assist in moving these actions forward.

State Government Efficiency. The State Government Council will address multiple items improving efficiency in state government, including implementing shared services and adopting standards and guidelines. The council has identified and is working to

implement five shared services for state government agencies. Also, the council will continue to develop standards and guidelines to better coordinate state agency technology efforts. A new action item addresses statewide geospatial infrastructure strategic planning. Benefits of these activities 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. In 2008, efforts will focus on the online business registration project, a continuation of the One-Stop Business Registration Information System Web site completed in 2007 (<https://www.nebraska.gov/osbr/>).

Security of Data and Network Resources and Continuity of Business Operations

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. A new action item involves evaluating and recommending options for a Network Operations Center that will provide real-time monitoring of all critical assets.

Introduction

“Technology can provide a link that further unites our state — a link that bridges our vast prairies and sandhills. Technology has revolutionized farming, it is helping to bring health care services to the smallest of our communities, and it has opened new doors of learning in our schools. We must build on the superb progress that has been made.”

—Governor Dave Heineman, State of the State Address, January 26, 2005

Information technology is expanding access to services, reducing costs, increasing efficiency, and improving public safety. Through the Nebraska Statewide Telehealth Network, a new mother in Gothenburg recovering from a Caesarean section is able to see her newborn baby in the neonatal unit at Good Samaritan Hospital in Kearney.

The Nebraska Distance Education Statewide Network is enhancing educational opportunities for Nebraska students. Classes in foreign languages and advanced mathematics are being offered across the state. The network is also providing opportunities for students to virtually visit authors, scientists, and experts across the United States.

Citizens can access over 300 services from the State’s Web portal, www.nebraska.gov. Popular services include tax information and access to the Department of Revenue, those associated with Nebraska courts, links to state maps, the Department of Motor Vehicles (DMV) driver license exam and other DMV services, information on local government, searches for rules and regulations, and the Secretary of State’s Web site. The Nebraska Game and Parks Commission site for buying big game hunting permits drew over 2 million hits in one day.

Emergency responders from multiple jurisdictions can now better communicate due to the state’s regional interoperability approach to public safety wireless communications. Local governments and state agencies are also reducing costs by collaboratively purchasing new aerial imagery.

Communities are using technology to provide services and enhance development opportunities. Four communities and regional groups are using video and audio clips to provide information and market tourism attractions and events. Citizens can use the City of Lincoln-Lancaster County Web site to buy season swimming pool passes, renew pet licenses, buy Husker parking, reload parking garage cards, conduct local criminal history checks and pay water bills and parking tickets.

Building upon these and other successes, *Digital Nebraska: Envisioning Our Future 2008* sets forth the vision and goals for the use of information technology in Nebraska.

The Nebraska Information Technology Commission (NITC) was established by the Legislature in 1998 to provide advice, strategic direction, and accountability on

information technology investments in the state. *Digital Nebraska: Envisioning Our Future 2008 Update* is the eighth statewide technology plan.

To achieve its mandate, the NITC relies on coordination and collaboration to influence a wide range of information technology issues. LB 823, passed during the 2008 legislative session, strengthens the Commission's authority to address planning, management and accountability. The new legislation will enhance the NITC's ability to meet the legislative directive in Neb. Rev. Stat. § 86-513 to "coordinate the state's investment in information technology in an efficient and expeditious manner."

NITC 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 five goals:

- ◆ Support the development of a robust statewide telecommunications infrastructure that is scalable, reliable, and efficient;
- ◆ Support the use of information technology to enhance community and economic development;
- ◆ Promote the use of information technology to improve the efficiency and delivery of governmental and educational services, including homeland security;
- ◆ Ensure the security of the State's data and network resources and the continuity of business operations.
- ◆ Promote effective planning, management and accountability regarding the state's investments in information technology.

In order to further these goals, the NITC has identified 8 key initiatives on which to focus. The eight strategic initiatives directly support the first four goals listed.

Although no strategic initiatives are specifically identified for the fifth goal of promoting effective planning, management and accountability regarding the state's investments in information technology, much work is also being done in this area. The development of this statewide technology plan is perhaps the most visible evidence of planning for the effective use of information technology. Other activities which support effective planning, management and accountability include the development of standards and guidelines and the review of technology-related budget requests. LB 823, passed during the 2008 legislative session, strengthens the Commission's authority to address planning, management, and accountability.

Role of Advisory Groups

The NITC conducts the majority of its work through its advisory groups.

Community Council. The Community Council has 18-24 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 16 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.

eHealth Council. On Feb. 22, 2007, the NITC approved the creation of an eHealth Council to address issues related to the adoption of interoperable healthcare information technology by the healthcare delivery system in Nebraska. Members represent healthcare providers, eHealth initiatives, public health, consumers, payers and employers, and the State of Nebraska.

State Government Council. The State Government Council has 25 members representing state agencies and two members with experience in managing major information technology systems chosen from the private sector. 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 five 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.

With the enactment of LB 823 in 2008, the **GIS Steering Committee** will become an advisory council to the NITC. 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. It is

composed of representatives from federal, state, and local government and provides statewide coordination of GIS initiatives and enhanced collaboration between municipal, county, state, and federal government entities.

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. 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/>.

LB 1208 (2006) created the Distance Education Council, composed of the administrators from all 17 Educational Service Units. The Distance Education Council will evolve into the ESU Coordinating Council (N.R.S. 79-1245) on July 1, 2008 and will be responsible for planning and delivering the most cost-effective approach to statewide distance learning and other statewide initiatives. More information about the ESU Coordinating Council is available at <http://www.nebdec.org/> .

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

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; promoting the efficient delivery of government and educational services; and ensuring the security of data and network resources and the continuity of business operations. 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 NITC's current strategic initiatives are:

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A brief description of each strategic initiative, listed as supporting the NITC goals, follows:

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Community and Economic Development

Community IT Planning and Development. In order to foster community and economic development in Nebraska through the effective use of information technology, the NITC Community Council has built partnerships with other organizations to develop and deliver outreach programs. In 2006-2007, the NITC Community Council partnered with the University of Nebraska, Nebraska Department of Economic Development, Network Nebraska, Technologies Across Nebraska, Nebraska Lied Main Street program, and Apple Computer to help community and regional groups produce podcasts to promote local tourism attractions and events. Over 25 podcasts were produced during the initial year of the program. This year's action plan focuses on helping communities develop content-rich Web sites in order to better promote the community and to recruit people to the area. The Community Council will also focus on identifying best practices and conducting an assessment of the technology-related needs of communities.

Efficient Delivery of Services

eHealth. eHealth technologies include telehealth, electronic health records, e-prescribing, computerized physician order entry, and health information exchange. The widespread adoption of electronic health records and other eHealth technologies is expected to reduce medical errors, improve quality of care, and reduce health care costs for payers. Nebraska is already a leader in telehealth. The Nebraska Statewide Telehealth Network connects nearly all of Nebraska's hospitals and public health departments and is unrivaled in scope by any other state telehealth network. The adoption of many other eHealth technologies, however, remains low in the state.

The Nebraska Information Technology Commission formed an eHealth Council last year to make recommendations on how the State of Nebraska can effectively and efficiently promote the adoption of interoperable health technologies. The plan includes seven action items which focus on assessing and prioritizing health IT activities, addressing health information security and privacy issues, addressing policy and regulatory issues related to universal service funding for telehealth, and exploring the optimal method for identifying clients in health information exchange.

Public Safety Communications System. The objective of this initiative is to consolidate the communications systems of state law enforcement agencies and to integrate statewide communications interoperability for public safety into the Nebraska Wireless Integrated Network of Systems (N-WINS). N-WINS is a network of networks, connecting regional networks as well as state public safety agencies and other partners, including the federal Department of the Interior. When completed in 2010, the system will position Nebraska as a leader in public safety wireless communications.

Digital Education. The primary objective of the Digital Education Initiative is to promote the effective and efficient integration of technology into the instructional, learning, and administrative processes and to utilize technology to deliver enhanced digital educational opportunities to students at all levels throughout Nebraska on an equitable and affordable basis. This initiative will involve the coordination and promotion of several major systems and applications that have either been developed mostly at the local level or have not been replicated statewide. A new action item encourages higher education

entities to list all dual enrollment and concurrent enrollment course listings on the statewide clearinghouse and scheduling software system. This initiative also includes three previous action items for continuation. The Distance Education Council/ESU Coordinating Council is recognized as a lead entity to assist in moving these actions forward.

State Government Efficiency. The State Government Council will address multiple items improving efficiency in state government, including implementing shared services and adopting standards and guidelines. The council has identified and is working to implement five shared services for state government agencies. Also, the council will continue to develop standards and guidelines to better coordinate state agency technology efforts. A new action item addresses statewide geospatial infrastructure strategic planning. Benefits of these activities 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. In 2008, efforts will focus on the online business registration project, a continuation of the One-Stop Business Registration Information System Web site completed in 2007 (<https://www.nebraska.gov/osbr/>).

Security of Data and Network Resources and Continuity of Business Operations

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. A new action item involves evaluating and recommending options for a Network Operations Center that will provide real-time monitoring of all critical assets.

Each strategic initiative is discussed in greater detail in the following section. A set of action items is included for each strategic initiative. These action items guide the work of the Nebraska Information Technology Commission (NITC) and its advisory groups.

Network Nebraska

Objective

- To develop a broadband, scalable telecommunications infrastructure that optimizes the quality of service to every public entity in the State of Nebraska.

Description

Network Nebraska aggregates disparate networks into a multipurpose core backbone extending from Omaha to Lincoln to Grand Island, with Ethernet clouds extending out to the furthest corners of the state. The State of Nebraska Office of the CIO, 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 next phase of this initiative is to formalize business relationships and agreements and to enhance rural bandwidth through local aggregation.

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, 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 services that enables eligible entities to pick and choose applications 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.

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.

Action Plan

Current Action Items

1. Identify Tier II communities that offer opportunities for aggregation for services onto the network.

Action: The CAP will work with communities that express an interest in aggregating their public sector transport.

Lead: Network Nebraska (CAP)

Participating Entities: Specific communities, NITC Community Council, Nebraska League of Municipalities, Nebraska Association of County Officials, and public libraries

Timeframe: 2008

Funding: No funding required for this action item.

Status: Continuation

Action: The CAP will use the Network Nebraska Web site to showcase examples of successful public sector network and/or Internet service cooperation. CAP will encourage interaction and sharing between public entities.

Lead: Network Nebraska (CAP)

Participating Entities: NITC Community Council, ESU-NOC, Nebraska League of Municipalities, Nebraska Association of County Officials, public libraries

Timeframe: 2008

Funding: No funding required for this action item.

Status: Continuation

2. The Chief Information Officer will continue the LB 1208 implementation by annually bidding infrastructure and connectivity for new regions of participants and developing the most cost-effective and efficient support structure possible for the statewide network.

Action: The network design/support team of Network Nebraska will develop a memorandum of agreement with local and regional education entities in order to develop a cooperative support system for the statewide network that will mitigate data transport and synchronous video problems.

Lead: Network Nebraska (CAP)

Participating Entities: Network Nebraska (CAP), ESU-NOC, Higher education entities, NITC Education Council

Timeframe: 2008

Funding: No funding required for this action item.

Status: Continuation – Revised

Action: The Chief Information Officer will annually update the State master purchase contracts for edge devices and codec equipment and monitor the local site purchases of such equipment in order to promote and encourage network equipment and codec equipment standardization.

Lead: Chief Information Officer

Participating Entities: Network Nebraska (CAP)

Timeframe: 2008-2009

Funding: No funding required for this action item.

Status: Continuation

3. Offer Internet I services to eligible network participants.

Action: The CAP will accept new orders for Internet service and continue to aggregate purchasing demand to secure a more economical price for statewide Internet service.

Lead: Network Nebraska (CAP)

Participating Entities: NITC Education Council

Timeframe: 2008-2009

Funding: No funding required for this action item.

Status: Continuation

4. Prepare for the future of Network Nebraska as a statewide, multipurpose network.

Action: Develop an appropriate catalog of services and bandwidth thresholds for Network Nebraska to serve nonpublic K-12 and nonpublic higher education entities.

Lead: Network Nebraska (CAP)

Participating Entities: NITC Education Council, Association of Independent Colleges and Universities of Nebraska, Nonpublic Schools of Nebraska

Timeframe: 2008-09

Funding: No funding required for this action item.

Status: New

Action: Charter a work group to research advanced network services for Network Nebraska customers.

Lead: Network Nebraska (CAP)

Participating Entities: NITC Education Council

Timeframe: 2008-09

Funding: No funding required for this action item.

Status: New

Action: Implement a statewide online presentation and meeting software solution.

Lead: Network Nebraska (CAP), Technical Panel for needs assessment

Participating Entities: All NITC groups and sub groups

Timeframe: 2008-09

Funding: No funding required for this action item to initiate needs assessment phase, funding and cost recovery schedule needed for future implementation and service support

Status: New

Action: Develop a formula for E-rate cost allocation that allows affordable fees for adult education and other ineligible population services to take place in K-12 settings.

Lead: Distance Education Council

Participating Entities: DEC Advisory Committee/ESU Coordinating Council, NITC Education Council

Timeframe: 2008-09

Funding: No funding required for this action item.

Status: New

Action: Work to amend Nebraska Department of Education policies to include Pre-K as an eligible population for Universal Service Fund (E-rate) purposes.

Lead: Nebraska E-rate Coordinator

Participating Entities: Educational Service Units, State Board of Education, Nebraska Legislature

Timeframe: 2008-09

Funding: No funding required for this action item.

Status: New

Action: Work to change the federal E-rate policies that create impediments and financial disincentives for collaborative usage of networks and videoconferencing by ineligible populations (Pre-K, adults, telehealth, etc...).

Lead: Nebraska E-rate Coordinator

Participating Entities: Educational Service Units, NITC Education Council

Timeframe: 2008-09

Funding: No funding required for this action item.

Status: New

Action: Create a Network Advisory Group and meeting structure for education entities to provide input to Network Nebraska (CAP).

Lead: Network Nebraska (CAP)

Participating Entities: NITC Education Council, Educational Service Units, public and nonpublic higher education entities

Timeframe: 2008-09

Funding: No funding required for this action item.

Status: New

Action: Review the Network Nebraska governance and leadership structure.

Lead: Network Nebraska (CAP)

Participating Entities: NITC Education Council, Educational Service Units, public and nonpublic higher education entities.

Timeframe: 2008-09

Funding: No funding required for this action item.

Status: New

IT Planning and Development

Objective

- To foster community and economic development in Nebraska communities through the effective use of information technology.

Description

Technology is an important economic development tool for communities. Telecommunications infrastructure is often compared to roads and water in its importance to communities. As important as infrastructure is the ability of community leaders to utilize technology effectively to enhance economic development opportunities. The Community Council has been addressing technology-related development in Nebraska's communities since its formation in 1998. As technologies and the needs of communities have changed, programming and areas of emphasis have shifted.

The Community Council recognizes the importance of building partnerships, leveraging resources, and building community capacity in addressing technology-related development. In 2001, the NITC Community Council partnered with the University of Nebraska Cooperative Extension and Rural Initiative to form the Technologies Across Nebraska partnership. Technologies Across Nebraska is a partnership of over 40 organizations working to help communities utilize information technology to enhance development opportunities. Technologies Across Nebraska facilitates technology-related development by building partnerships, leveraging resources, and strengthening community capacity. Other partnerships have been forged to address specific projects.

Current efforts will focus on helping communities develop content-rich Web sites in order to better promote the community and to recruit people to the area. The council will also focus on identifying best practices and conducting an assessment of the technology-related needs of communities.

Past projects include the Podcasting Across Nebraska program (2006-2007) and the IT Planning and Mini Grant Program (2002-2005). Through the Podcasting Across Nebraska program, the City of South Sioux City and South Sioux City Public Schools, the Highway 14 Association, the North Platte/Lincoln County Convention and Visitors Bureau, and Panhandle Public Health District and Panhandle Podcasting Partners received hardware and software as well as training on how to create and produce podcasts. Participants produced 25 podcast episodes in year one of the program. The podcasts are having a positive effect on the promotional and information dissemination efforts of participating communities. Project partners included Technologies Across Nebraska, the Nebraska Information Technology Commission; University of Nebraska (including the New Media Center, Computer Services Network, Communications and Information Technology, and UNL Extension); Nebraska Department of Economic Development; Division of Travel and Tourism; Network Nebraska; Nebraska Lied Main Street; and Apple Computer.

Technologies Across Nebraska worked with 21 communities or regional groups from 2002 to 2005 to develop technology plans. The impact of the program was significant. Two communities received 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. Two communities developed a video conferencing center available to local businesses and residents. One community created an online mall. Another focused on making the county Web site more accessible and user-friendly.

Technologies Across Nebraska's quarterly newsletter, *TANgents*, reaches over 1,000 individuals with an interest in technology-related development. Articles from *TANgents* have been reprinted by several organizations including *Government Technology*.

Benefits

The potential benefits of information technology to communities, businesses, local government, and residents are numerous:

- Communities can use their Web sites to publicize community events, communicate with former residents and prospective newcomers, and advertise available commercial sites.
- Communities can enhance promotional and informational activities through the use of newer technologies such as social networking or video content delivered through youTube or podcasts.
- Businesses can use information technology to decrease costs, increase sales, and provide better customer service.
- Local governments can use information technology to more efficiently deliver services and provide information to citizens.
- Residents can update their skills through continuing education, search for employment, network with others who share their interests, and share photos or videos with distant family members or Internet users worldwide.

Action Plan

Current Action Items

1. Identify and address technology-related needs in communities.

Action: Conduct a statewide assessment of technology-related needs in communities through a Web-based survey and by using existing sources of information (i.e., the Department of Economic Development's Business Expansion and Retention surveys).

Action: Compile an inventory of existing programs and resources which address technology-related needs in communities.

Action: Develop recommendations and lists of resources for communities to address the needs identified through the needs assessment.

Lead: Nebraska Department of Economic Development & Community Council

Participating Entities: Community Council, Nebraska Department of Economic Development, Nebraska Department of Education, and others

Timeframe: 2008

Funding: Existing funding and staff

Status: New

2. Monitor technology trends that affect Nebraska communities and play a leadership role in presenting these new technologies in a timely manner.

Action: Identify one or two technology-related issues on which to focus.

Action: Develop presentations and resources which highlight best practices and give step by step directions for addressing these issues.

Lead: Community Council

Participating Entities: Community Council and other partners

Timeframe: 2008

Funding: Existing funding and staff

Status: New

3. Help Nebraska communities improve their Web sites.

Action: Work with the Nebraska Department of Economic Development, University of Nebraska Extension, and NPPD to develop a plan to help communities improve their Web sites.

Lead: Nebraska Department of Economic Development

Participating Entities: Community Council, Nebraska Department of Economic Development, University of Nebraska Extension, and NPPD and other public power districts, and educational entities

Timeframe: Beginning in spring, 2008

Funding: Existing funding and staff

Status: New

Completed Action Items (2007)

- 1. Support community IT development by working with the University of Nebraska and other Technologies Across Nebraska Partners, including the following action steps:**
 - 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 NITC Web sites, including adding information on podcasting.
 - 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.

- 2. Promote the use of podcasting by communities and regional groups through the Podcasting Across Nebraska program.**

eHealth

Objective

- To foster the collaborative and innovative use of eHealth technologies through partnerships between public and private sectors, and to encourage communication and coordination among eHealth initiatives in Nebraska.

Description

Health information technology (Health IT), often referred to as eHealth, promises to improve individual patient care and public health while reducing costs and improving efficiencies. eHealth technologies include electronic health records, electronic medical records, personal health records, electronic prescribing, clinical decision support, computerized provider order entry, health information exchange, and telehealth.

- ◆ **An Electronic Health Record (EHR)** is a longitudinal electronic record of patient health information generated in one or more care settings. EHR data includes patient demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data, and radiology reports. (Health Information and Management System Society)
- ◆ **An Electronic Medical Record (EMR)** is a computer-based medical record. The EMR is the source of information for the electronic health record (EHR). (Health Information and Management System Society)
- ◆ **Personal Health Record (PHR)** is the version of the health/medical record owned by the patient. (Health Information and Management System Society)
- ◆ **Electronic Prescribing (eRx)** is a type of computer technology whereby physicians use handheld or personal computer devices to review drug and formulary coverage and to transmit prescriptions to a printer or to a local pharmacy. (Office of the National Coordinator Glossary of Selected Terms)
- ◆ **A Decision-Support System (DSS)** consists of computer tools or applications to assist physicians in clinical decisions by providing evidence-based knowledge in the context of patient-specific data. (Office of the National Coordinator Glossary of Selected Terms)
- ◆ **Computerized Provider Order Entry (CPOE)** is a computer application that allows a physician's orders for diagnostic and treatment services (such as medications, laboratory, and other tests) to be entered electronically instead of being recorded on order sheets or prescription pads. (Office of the National Coordinator Glossary of Selected Terms)

- ◆ **Health Information Exchange (HIE)** facilitates access to and retrieval of clinical data from multiple providers to provide safer, more timely, efficient, effective, equitable, patient-centered care. (eHealth Initiative Glossary)
- ◆ **Telehealth** is the use of telecommunications and information technologies to provide healthcare services over distance and/or time, to include diagnosis, treatment, public health, consumer health information, and health professions education. (Minnesota e-Health Glossary of Selected Terms)

Electronic medical records provide the foundation for interoperable health information exchange. President Bush has called for most Americans to have electronic medical records by 2014. A survey conducted by researchers at Creighton Health Services Research Program in the summer of 2007 found that 30% of physicians in Nebraska and South Dakota used electronic medical records. The survey results are similar to national surveys, indicating that much progress still needs to be made.

The biggest barrier to the widespread adoption of eHealth technologies is the misalignment of benefits and costs. Providers bear the brunt of the costs for implementing eHealth technologies into their practices, but payers reap most of the benefits. Other barriers to eHealth adoption include implementation costs, impact on workflow processes, concerns about privacy and security, and a lack of a quantifiable return on investment.

Current Initiatives

Several eHealth initiatives are currently underway in Nebraska, including the Nebraska Statewide Telehealth Network, NeHII, Western Nebraska Health Information Exchange, Southeast Nebraska Health Information Exchange, and Southeast Nebraska Behavioral Health Information Network.

Nebraska Statewide Telehealth Network. One of the nation's most extensive telehealth networks, the Nebraska Statewide Telehealth Network (NSTN) connects nearly all of the state's hospitals and public health departments. The major functions of the Network are to improve quality and access to care, particularly in rural Nebraska; to provide patient, provider and community education; and to provide another communication source in the event of a natural, man-made or terrorist emergency. The Nebraska Statewide Telehealth Network is governed by the NSTN Governing Board.

The network is a collaborative effort of many entities including:

- ◆ Nebraska Hospital Association
- ◆ Nebraska hospitals
- ◆ Nebraska Public Health Departments
- ◆ University of Nebraska Medical Center
- ◆ Universal Service Administrative Company
- ◆ University of Nebraska System
- ◆ Nebraska Information Network
- ◆ Nebraska telecommunications companies
- ◆ Central Nebraska Area Health Education Center
- ◆ Northern Nebraska Area Health Education Center

- ◆ Nebraska Panhandle Area Health Education Center
- ◆ Nebraska Medical Association
- ◆ Nebraska State Government
 - Lieutenant Governor's Office
 - Nebraska Public Service Commission
 - Nebraska Health and Human Services System
 - Bioterrorism Preparedness and Response Section
 - Office of Rural Health
 - Nebraska Information Technology Commission
 - Nebraska Office of the Chief Information Officer
 - Nebraska Educational Telecommunications Commission

Western Nebraska Health Information Exchange. Partners in Western Nebraska have completed a plan and are beginning to implement a regional health information exchange. Partial funding has been provided through a planning grant from the U.S. Department of Health and Human Services Agency for Healthcare Research and Quality (AHRQ), an AHRQ implementation grant, and a Rural Network Development grant from the U.S. Department of Health and Human Services Health Resources and Service Administration. Partners in the project received a three-year grant from the FCC Rural Health Care Pilot Program for \$19,256,942 to upgrade a patchwork of T-1 lines with an advanced fiber network connecting with National LambdaRail.

Nebraska Health Information Initiative (NeHII). The Nebraska Health Information Initiative (NeHII) is a collaboration of Nebraska health care organizations, hospitals, physicians, and Blue Cross and Blue Shield of Nebraska. The vision of NeHII is to be a leader in the secure exchange of health information enabling a healthier Nebraska. NeHII initially plans to pilot to evaluate connectivity, functionality, and usability. The pilot will also identify benefits for each user group. Commitment to participate in the pilot has been secured from various health care providers, including Alegen Health System, the Nebraska Medical Center, and Methodist Health System. NeHII hopes to provide connectivity among other initiatives, becoming the statewide “umbrella” health information exchange.

Southeast Nebraska Behavioral Health Information Network (SNBHIN). A \$200,000 one-year planning grant from the U.S. Department of Health and Human Services Agency for Healthcare Research and Quality (AHRQ) in 2004 enabled Region V Behavioral Health Care Providers to develop a plan to develop a health information technology infrastructure that will result in standards-based data sharing and lead to measurable and sustainable improvements in patient safety and quality of care in the region. A Rural Health Network Development Grant to Blue Valley Behavioral Health Center from the U.S. Department of Health and Human Services' Health Resources and Services Administration and matching funds from project partners will provide funding for technology to implement one of the country's first behavioral health information exchanges. Partners in the Southeast Nebraska Behavioral Health Information Network include Heartland Health Alliance, Blue Valley Behavioral Health Center, Region V Systems, BryanLGH Medical Center, Lancaster County Community Mental Health Center, Saint Monica's Home, the Southeast Rural Physicians Alliance, Lancaster County Medical Society and Health Partners Initiative.

Southeast Nebraska Health Information Exchange (SENHIE). The Southeast Nebraska Health Information Exchange in Thayer County is the first initiative in the state to exchange health information. The system connects Thayer County Health Services in Hebron, five rural health clinics, a home health agency, a nursing home and an assisted living facility, several EMS units, two pharmacies, and St. Elizabeth Regional Health System in Lincoln. Patient information can be seamlessly transmitted from a patient's first encounter with an emergency responder to the hospital in Thayer County, enabling providers to provide better care for patients. Physicians can easily view a patient's medication history, preventing adverse drug events. Physicians can send prescriptions directly to the pharmacy electronically, making the process more convenient for patients and further reducing the risk of an adverse drug event. All of this is done in a secure system designed to protect patient privacy. The project is funded with a \$1.6 million federal grant managed by the Office of Rural Health in the Nebraska Department of Health and Human Services.

Benefits

Benefits of eHealth include:

- **Reducing medication errors.** More than 2 million adverse drug events could be prevented through e-prescribing, saving 4.5 billion annually and 190,000 hospitalizations per year.
- **Reducing health care waste.** Health IT adoption is estimated to save an average of 42 billion annually during a 15-year adoption period.
- **Facilitating medical research.** Health IT can facilitate research on the effectiveness of new therapies and can accelerate the diffusion of health care knowledge.
- **Reducing variability in healthcare delivery and access.** Disparities exist in access to care and quality of care. Telehealth can provide access to specialists in rural areas. Clinical decision support systems can improve quality of care by providing treatment reminders at the point of care. Adults in the U.S. receive only about 55 percent of recommended care for a variety of common conditions. Clinical decision support systems have been shown to increase adherence to recommended care guidelines.
- **Empowering consumer involvement in health management.** Having access to medical histories as well as customized health education and guidance could increase consumer participation in their health maintenance and care.
- **Improving the identification and reporting of disease outbreaks and other public health threats.** One study found that the use of a county-wide electronic system for public health reporting led to a 29% increase in cases of shigellosis identified and a 2.5 day decrease in reporting time.

Action Plan

Current Action Items

1. Work with Lt. Governor Sheehy and other policymakers to develop a process to assess, evaluate and prioritize health IT activities (including statewide initiatives, proposed eHealth projects of the eHealth Council or other state entities, and eHealth components such as e-prescribing) in order to make funding recommendations. Criteria used to evaluate eHealth activities, will include return on investment (ROI) as well as additional evaluation criteria determined by the eHealth Council with input from policy makers.

Lead: eHealth Council

Participating Entities: eHealth Council, Lt. Governor Sheehy, interested policymakers, state agencies with health IT projects, and health IT initiatives in the state wishing to participate

Timeframe: Ongoing with consideration for the state budget cycle.

Funding: To be determined.

Status: New

2. Develop a sustainable action plan to facilitate progress (present and future) in assuring privacy and security protections in the exchange of health information for and by each of our citizens.

Lead: Health Information Security and Privacy Committee (HISPC)

Participating Entities: eHealth Council, Nebraska HISPC, the DHHS legal department, the Attorney General's Office, the Office of the CIO, other state agencies that would become involved with PHI, and other stakeholders

Timeframe: Recommendations for the issues and model design should be ready by summer, 2008.

Funding: Funding or in-kind contributions may be required for implementation.

Status: New

3. Develop a plan and resources to inform citizens, health care providers, and other stakeholders about issues related to health information security and privacy and involve them in policy discussions.

Lead: HISPC Education Work Group

Participating Entities: HISPC Education Work Group, eHealth Council, Department of Health and Human Services, health professional associations, DHHS health/licensure/certification board managers, and other stakeholders—possibly including University of Nebraska Extension, AARP, the League of Municipalities, the Nebraska Association of County Governments, and service organizations

Timeframe: The eHealth Council should start this dialog immediately and then establish a tight time frame for completion of this work in 2008.

Funding: Funding or in-kind contributions may be required for implementation of the educational plan.

Status: New

4. The eHealth Council should ensure that an in-depth short-term study of existing laws and regulations, with guidance from representatives from the health professions, health educators and health organizations, be done in order to identify health information security and privacy and make recommendations.

Lead: HISPC Legal Work Group.

Participating Entities: eHealth Council, HISPC Legal Work Group, DHHS legal staff, professions and facility managers, health care associations and citizens.

Timeframe: This needs to start immediately and be finished by August, 2008 in order to assist with other deadlines in HIT/grants/legislation/etc.

Funding: It will probably be necessary to contract with a law firm or legal expert to address these issues (Est. \$50,000).

Status: New

5. Support efforts of the Nebraska Statewide Telehealth Network Governing Board to advocate for ongoing support for line charges for telehealth. Activities supporting this action item could include writing letters of support to policy makers as well as sharing information on this issue with policymakers.

Lead: eHealth Council

Participating Entities: eHealth Council, Nebraska Statewide Telehealth Network Governing Board, NITC, Lt. Governor Sheehy

Timeframe: 2008

Funding: No new funding is required

Status: New

6. Support efforts of the Nebraska Statewide Telehealth Network Governing Board to advocate for the reduction of barriers to connectivity posed by federal Universal Service Fund rules, regulations, and policies. Activities supporting this action item could include writing letters of support to policy makers as well as sharing information on this issue with policymakers. The eHealth Council will also explore the development of a position paper no longer than four pages in length which clarifies the issue, identifies barriers, specifies what action needs to be taken, and identifies opportunities that can be leveraged.

Lead: eHealth Council

Participating Entities: eHealth Council, Nebraska Statewide Telehealth Network Governing Board, NITC, Lt. Governor Sheehy

Timeframe: 2008

Funding: No new funding is required

Status: New

7. Explore the optimal method for identifying clients in health information exchange.

Lead: eHealth Council, UNMC Center for Biosecurity, Biopreparedness and Emerging Infectious Diseases, College of Public Health

Participating Entities: UNMC Center for Biosecurity, Biopreparedness and Emerging Infectious Diseases, College of Public Health; eHealth Council; Department of Health and Human Services; and other interested stakeholders.

Timeframe: Complete the exploration of a development project by 12/31/2008.

Funding: Exploratory project can be funded using existing resources. Scope of project should include identification of funding sources for the next stage.

Status: New

Completed Action Items (2007)

1. Facilitate discussions to address interoperability between the Nebraska Statewide Telehealth Network with other state networks.
2. Address operational and technical support issues, including defining the level of support that will be provided by Network Nebraska and CAP.

3. Facilitate the continued testing of the Nebraska Statewide Telehealth Network for homeland security and public health alerts and training.

Public Safety Communications System

Objective

- Develop the Nebraska Wireless Integrated Network of Systems (N-WINS) to consolidate the communications systems of state law enforcement agencies and to integrate statewide communications interoperability for public safety.

Description

The OCIO-Network Services team coordinates with the Nebraska Emergency Management Agency (NEMA) and the Governor's Homeland Security Policy Group to prioritize federal Homeland Security grants for developing interoperable communications. Much of the interoperability progress has occurred at the regional and county levels across the state. In 2007 Governor Heineman and the Nebraska Legislature supported funding for the state communications system. The state communications system will enable the State Patrol, Game and Parks Commission, and Fire Marshal's Office to consolidate onto the same communications system. This will create a standard technology platform for state agencies achieve statewide coverage and interoperability with regional systems.

The Regional Interoperability Advisory Board (RIAB) was created in LB 343 (2005) to advise the OCIO in developing standards and statewide interoperability for first responder agencies. The RIAB primary goals have focused the state's strategic planning to improve state and local interoperable communications capabilities. The vision, as stated in the LB 343 language is to develop a "network of regional systems" approach to solving statewide interoperable communications. The statewide communications strategy integrates the regional communications network, the state communications system. The state is now in the process of planning the implementing the integration phase of the strategy. Next steps involve these major milestones:

- Formalize an interoperability governance body
- Establish the integrated regional communications network
- Procure and establish the state communications system

Benefits

The state plan standardizes the communication infrastructure to improve compatibilities across different legacy systems and provide the means to share critical information as needed. The interoperable communications network consolidates state law enforcement and investigative agencies on a single technology platform. The system

improves radio coverage, technology, and capacity. The infrastructure and is able to grow as additional agencies migrate to the system. Benefits of the system include:

- Reducing multiple agency systems to a consolidated shared infrastructure;
- Providing the ability for the State Patrol and other agencies to be interoperable, where old state systems lack the necessary capacity and technology;
- Leveraging existing local communications systems;
- Reducing the cost of the initial system by utilizing a technology platform which is expandable and upgradeable as needed;
- Enabling additional sharing opportunities on a shared statewide infrastructure.

Action Plan

Current Action Items

1. CIO-Network Services will:

- Conduct competitive bid process for the system. (Completed)
- Establish interoperability governance structure.
- Plan and implement the regional network.

Lead: CIO-Network Services

Participating Entities: State Patrol, Game and Parks Commission, State Fire Marshal's Office, Department of Correctional Services, Department of Agriculture, Nebraska Emergency Management Agency, Department of Roads, NPPD, and additional agencies as needed.

Timeframe: February 2008 – January 2010

Funding: State funding and DHS grant funding allocated for infrastructure and agency equipment.

Status: New.

Completed Action Items (2007)

1. RFP requirements and procurement process complete (March 2008).
2. Contracts in place to develop tower infrastructure, license frequencies and consulting assistance for RFP technical evaluations and implementation.
3. Initiated regional leadership meeting to coordinate state and local interoperability planning in all regions of the state.

Digital Education

Objective

- To promote the effective and efficient integration of technology into the instructional, learning, and administrative processes and to utilize technology to deliver enhanced digital educational opportunities to students at all levels throughout Nebraska on an equitable and affordable basis.

Description

This initiative will involve the coordination and promotion of several major systems and applications that heretofore have either been developed mostly at the local level or have not been replicated statewide.

The initiative will be dependent upon adequate Internet connectivity and transport bandwidth for learners, instructors, administrators, and for educational attendance sites. A minimum acceptable level of classroom technology will have to be established for the initiative to be successful.

The Digital Education Initiative will recognize that many standalone and disparate software applications are needing to undergo integration and convergence so that an instructor can: 1) research digital content, 2) construct a lesson or unit on a computer in a series of virtual or face-to-face or videoconferencing activities using rich multimedia, 3) assess the learners electronically, and then 4) move the student data to a database or data warehouse, 5) export relevant achievement and attendance data to a web-based student information system so parents, or the students themselves, can view it from home; 6) export data to a statewide student information system; and then finally 7) make “real-time” instructional decisions based upon the recently documented progress of the learners.

The primary components of the Digital Education Initiative would include:

- A statewide telecommunications network with ample bandwidth capable of transporting voice, video, and data between and among all education entities [see Network Nebraska];
- Distance insensitive Internet pricing for all Nebraska education entities;
- Development of a statewide eLearning environment so that every teacher and every learner has access to a web-based, digital curriculum;
- Development of a statewide digital resource library so that any teacher or learner will be able to retrieve digital media for use in instructional and student projects;
- Synchronous videoconferencing interconnections between all schools and colleges;

- The means to coordinate and facilitate essential education opportunities for all students through a statewide student information system; and
- Regional Pre-K-20 education cooperatives that vertically articulate educational programs and opportunities.

Benefits

Establishing a Digital Education Initiative is critical to Nebraska's future. Internet has gone from a "nice to have" educational application of the 1990's to the "must have" mission critical application of the 2000's. So much of what teachers, students, and administrators do today is tied to Internet-based information and communication. Nebraska's ranking of 2.8 students per high speed, Internet-connected computer in the classroom seems to compare favorably with the U.S. average of 3.7 students per high speed, Internet-connected computer. (Technology Counts 2007 Report) However, it still makes it challenging for students to complete their digital assignments when they are expected to share two or three students to a computer, or to wait their turn to be able to use a computer. Educators and administrators are urged to work to achieve the goal of attaining 1:1 computer use.

The benefits of the Digital Education Initiative would include:

- Greater technical capacity for schools and colleges to meet the increasing demands of a more diverse customer base;
- More equitable and affordable Internet access for Nebraska schools and colleges;
- A comprehensive Web-based approach to curriculum mapping and organization and automation of student assessment data gathering and depiction;
- The availability of rich, digital media to the desktop that is indexed to Nebraska standards, catalogued, and searchable by the educator or student;
- A more systematic approach to synchronous video distance learning that enables Nebraska schools and colleges to exchange more courses, staff development and training, and ad hoc learning opportunities.

Each of the components of the Digital Education Initiative is vital to future student success in Nebraska. The components are especially pertinent in that these applications and services provide the foundation for capacity building in our schools and colleges.

Action Plan

Current Action Items

1. Set a deadline, and establish standard(s) related to the administration and maintenance of learning management systems and content management systems by K-12 schools.

Lead: NITC Technical Panel

Participating Entities: Learning Management Systems Work Group, NITC Education Council, myeLearning.org, ESU Distance Education Council, UNL Independent Study High School

Timeframe: 2008-2009

Funding: No funding is required for this action item.

Status: Continuation. Required by LB 1208.

2. Promote the availability, distribution, and use of digital media throughout the Nebraska educational community.

Action: Negotiate a statewide purchase of the National Repository for Online Courses

Lead: Distance Education Council/ESU Coordinating Council

Participating Entities: NITC Education Council

Timeframe: 2008-2009

Funding: No funding is required for this action item.

Status: Continuation

3. Develop an affordable plan to provide access to learning management system software for every teacher and learner who uses synchronous video distance learning and to also train teachers in effective instructional design to integrate synchronous and asynchronous technologies.

Lead: Distance Education Council/ESU Coordinating Council

Participating Entities: Technical Panel's Learning Management System Work Group, NITC Education Council, ESU Technology Affiliate Group

Timeframe: 2008-2009

Funding: No funding is required for this action item.

Status: Continuation

4. Encourage higher education entities to list all dual enrollment and concurrent enrollment course opportunities on the statewide clearinghouse and scheduling software system.

Lead: Distance Education Council/ESU Coordinating Council

Participating Entities: NITC Education Council, higher education entities

Timeframe: 2008-2009

Funding: No funding required for this action item

Status: New

State Government Efficiency

Objective

- To address multiple items improving efficiency in state government, including implementing enterprise shared services and adopting standards and guidelines.

Description

The primary components of this initiative are the implementation of shared services and the development of standards and guidelines.

Shared Services. The State Government Council has identified a number of potential shared services. The council chose the following shared services for further study and implementation at this time:

- Business Continuity / Disaster Recovery
- Directory Services
- E-mail
- Enterprise Maintenance / Purchase Agreements
- Geographic Information System (GIS)

Standards and Guidelines. The State Government Council, working with the Technical Panel, will continue to develop standards and guidelines to better coordinate state agency technology efforts.

Benefits

Benefits of this initiative include lower costs, easier interoperability among systems, greater data sharing, higher reliability, and improved services.

Action Plan

Action Items

Shared Services

1. Implement Business Continuity / Disaster Recovery as a shared service.

Action items are included in the Security and Business Resumption initiative.

2. Implement Directory Services as a shared service.

Action items are included in the Security and Business Resumption initiative.

3. Implement E-mail as a shared service.

Lead: Beverlee Bornemeier and Jayne Scofield

Participating Entities: State Government Council, E-mail Work Group

Timeframe: E-mail conversion continues in 2008.

Funding: Service rates

Status: Continuation. As of January 2008, approximately 1,800 state government e-mail accounts have been converted to the Exchange system. Conversion of accounts will continue throughout 2008. Additional actions will include activities relating to records retention for e-mail.

4. Implement Enterprise Maintenance / Purchase Agreements as a shared service.

Lead: Steve Schafer

Participating Entities: State Government Council, EM/PA Work Group

Timeframe: Continuation: Software Reseller Contract Rebid during 2008
New: Others as identified during 2008.

Funding: No funding required.

Status: Ongoing. Master agreements have been established with McAfee, CA, and Symantec for anti-virus and related product suites. Various IBM and Microsoft licenses and maintenance agreements completed for 2008.

5. Implement Geographic Information System (GIS) as a shared service.

Action: Nebraska Geospatial Data Sharing and Web Services Network.

Develop a Nebraska enterprise-level geospatial web portal, with Internet mapping and data services, to serve the users of Nebraska related GIS/geospatial data and enable those users to efficiently and reliably find, access, display, and build public information applications utilizing the geospatial data maintained by a wide variety of state, local and federal agencies and where appropriate, provide for a coordinated security system, including the possibility for limited data access and password protection..

Lead: Larry Zink, Coordinator, Nebraska GIS Council

Participating Entities: State Government Council; GIS Council

Timeframe: December 31, 2010 (continuation of earlier action item on Internet Mapping Services)

Funding: A total of \$215,000 in grant funding has been secured from the NITC Collaborative Fund, the State Record Board, and the US Geological Survey to underwrite a two-year start up period for this project. An additional \$25,000 will be sought from the State Records Board and \$60,000 from contributing state agency partners for a total of \$300,000. This funding to be supplemented by in-kind technical services provided from state and local agencies.

Status: Continuation. Twelve state and local government agencies have endorsed a Project Charter to indicate their support for, and partnership in, developing this online, enterprise-level GIS/geospatial data mapping and services portal. The bulk of the start up funding is targeted to the hiring of a technical lead for this project. A technical lead recruitment process is currently underway. The project will involve significant technical implementation challenges; including establishing the network, data sharing protocols, and web mapping and data services applications. The technology and system will allow for the live, interactive access and sharing of data from multiple Internet map servers operated by different agencies. The technology will allow agencies to leverage existing state and local investments in data and Internet map services, by other agencies, to build new applications incorporating these Internet map services into their application design. While there is a broad conceptual agreement on the outlines of the desired online network and services, additional planning will be required to define data sharing protocols, data sharing agreements, desired web services, and data access policies.

Action: Street Centerline-Address Database. Develop a plan (including responsibilities and resource requirements) for the coordinated development, data integration, on-going maintenance and online distribution/Internet mapping service of a composite, "best available", statewide street centerline/address database.

Lead: Larry Zink, Coordinator, Nebraska GIS Council

Participating Entities: State Government Council; GIS Council

Timeframe: December 31, 2009.

Funding: No enterprise level funding available at this time. However, a grant has been submitted that if successful would provide funding to assist with the development of a business case for the enterprise-level development and maintenance of this database. Major data development funding is on-going through Public Service Commission, Dept. of Roads, and local governments.

Status: Continuation. The Public Service Commission, through the Wireless E911 fund, has worked with counties to contract for the development and maintenance this data for 80 Nebraska counties. The initial data development is complete for least 56 of those 80 counties. For another 27 counties, the initial data development is in process. In addition, Douglas, Lancaster, and Sarpy counties have developed and maintain this data in-house. There are 10 rural counties for which there are currently no active plans for the development of this data. Currently these datasets are maintained in separate county files. The Dept. of Roads maintains geospatial data for all state highways and major local collector roads, but this data does not include street address information. While there are significant public resources being invested in the development of pieces this much needed data, there is currently no plan, or one agency responsible for the on-going collection, integration and distribution of this data in an integrated statewide database format. In 2007, the Office of the CIO and the State Patrol (NSP) cooperated to develop an integrated, "statewide", street centerline-address files for the 45 counties that were available at that time. This data was needed for the NSP's new statewide computer-aided dispatch system. The GIS Council has authorized the formation of an Advisory Committee on Street Centerline-Address Databases. That Advisory Committee has begun its work to develop recommendations for an on-going enterprise approach to developing, maintaining, and distributing a statewide, "best available" street centerline-address database from the multiple sources of this data.

Action: Metadata and State Geospatial Data Catalogue. Document existing state agency GIS/geospatial data with formal metadata and encourage the listing of available geospatial data in Nebraska Geospatial Data Center Clearinghouse Catalog.

Lead: Larry Zink, Coordinator, Nebraska GIS Council

Participating Entities: State Government Council; GIS Council

Timeframe: December 31, 2008.

Funding: Primarily supported through in-kind support of state and local agency personnel

Status: Continuation. The NITC has adopted a Geospatial Metadata Standard (http://www.nitc.state.ne.us/standards/data/metadata_standard_20050923.pdf), which calls for the progressive documentation of state agency geospatial data,

within a one-year timeframe (by Sept. 2006). The Department of Natural Resources, in partnership with the Nebraska GIS Council, has developed a Nebraska Geospatial Data Center (<http://www.dnr.state.ne.us/databank/geospatial.html>). This Data Center includes a geospatial data clearinghouse and metadata development tools. A two-day metadata training session was held in Lincoln in 2007 and another training session is scheduled for Omaha in 2008. There remains a large body of state agency GIS/geospatial data that has not been documented with metadata and has not been listed on the Data Center Clearinghouse Catalog. The planning Geospatial Data Sharing and Web Services Network will also require metadata document.

Action: Statewide Geospatial Infrastructure Strategic Planning. Develop an enterprise-level, statewide, GIS/geospatial infrastructure strategic plan for the geographic area of Nebraska. The planning process should involve the broader GIS user community (state, local, and federal agencies, tribes and the private sector) and seek to identify parallel needs and plans for geospatial data, standards, online distribution networks and services, coordination, funding, and policies.

Lead: Larry Zink, Coordinator, Nebraska GIS Council

Participating Entities: State Government Council; GIS Council

Timeframe: June 30, 2009.

Funding: A \$50,000 strategic planning grant proposal has been submitted to the Federal Geographic Data Committee (FGDC) by the Office of the CIO on behalf of the Nebraska GIS Council. If funded, the majority of these grant funds will be used to hire a consultant to assist with this planning process. If not funded, the strategic planning process will still move forward, but on a reduced scale and pace.

Status: New. Over the last 5-6 years, the activities of the Nebraska GIS Council have been guided by an existing Strategic Plan, the goals of which were originally developed in 2001. The Council has endorsed a major outreach and planning effort to develop a new GIS/Geospatial Strategic Plan with the goal of facilitating the coordination and collaboration of the broader GIS user community in Nebraska. A grant application has been submitted. A Strategic Planning Advisory Committee has been established to oversee the process and has developed a conceptual outline of the planning process. The GIS Council, through its Planning Advisory Committee, will lead this process but the active support of the NITC, the State Government Council and its member agencies would be very helpful.

6. Explore requirements for issuing an RFP to contract vendors that provide temporary IT personnel. Meet with participating state agencies to gain input on how to structure and manage a new contract. The current contract originally expired on June 30, 2006 with an option to renew for an additional two years.

Lead: Office of the CIO

Participating Entities: Office of CIO, DAS Materiel Division and state agencies

Timeframe: To be completed by August 2008

Funding: No funding required.

Status: Continuation.

Standards and Guidelines

7. The State Government Council working with the Technical Panel, will continue to develop standards and guidelines to better coordinate state agency technology efforts.

Lead: Rick Becker

Participating Entities: Technical Panel, State Government Council

Timeframe: Ongoing

Funding: None

Status: Ongoing. New and revised standards and guidelines adopted in 2007: Remote Access Standard, Emergency Information Page, Remote Administration of Internal Devices, Minimum Server Configuration, SMTP Routing Standard, DNS Forwarding Standard, Information Security Policy, Data Security Standard, Password Standard, and Email Policy for State Government Agencies.

Other

8. Review issues and determine process for maintaining an inventory of noneducation state government technology assets, including hardware, applications, and databases.

Lead: Office of the CIO

Participating Entities: State Government Council

Timeframe: 2008

Funding: None

Status: Continuation.

9. Review issues and determine process for project status reporting.

Lead: Office of the CIO

Participating Entities: State Government Council

Timeframe: 2008

Funding: None

Status: Continuation. An RFP has been issued (updated--June, 2008).

Future Action Items

1. Services identified as potential shared services by the State Government Council include:

Active Directory Automated Building Systems (HVAC, access, etc.) Backup Management Data Network Design Data Security Database Management Desktop Support Desktop Virtualization Document Management Electronic Filing Electronic Records Management Encryption Enterprise Knowledge Management Databases General Platform Management Help Desk Instant Messaging Interactive VRU Applications	Payment Portal Project Management R&D Remote Access Security Server Consolidation / Virtual Servers Software Deployment and Management SQL Database Design and Development Videoconferencing Voice Network Design VoIP Wireless Wiring Services Workflow
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Completed Action Items (2007-2008)

Standards and Guidelines

1. New and revised standards and guidelines adopted in 2007: Remote Access Standard, Emergency Information Page, Remote Administration of Internal Devices, Minimum Server Configuration, SMTP Routing Standard, DNS Forwarding Standard, Information Security Policy, Data Security Standard, Password Standard, and Email Policy for State Government Agencies.

Other

2. Review and revise procurement review process for IT related purchases by state agencies.

Lead: Steve Schafer

Participating Entities: State Government Council

Status: Completed. Policy developed for NITC approval.

3. Review options for integrating agency IT plans and IT project proposal forms into new budget system.

Lead: Budget Division and Office of the CIO

Participating Entities: State Government Council, Budget Division

Status: Completed. The IT project proposal form has been integrated into the new budget system.

E-Government

Objective

- To further the use of e-government to improve services and increase the efficiency and effectiveness of agencies.

Description

The three goals for e-government are:

- **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. Areas to be addressed include citizen portal enhancement, business portal enhancements, education portal, and forms automation.
- **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.
- **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.

The e-government principles guiding the council 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.

Benefits

The primary benefits from the use of e-government are:

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

Action Plan

Action Items

1. Work with the various agencies involved in business registration—including the Secretary of State, Department of Revenue, and Department of Labor — to create an online system for business registration.

Lead: Nebraska.gov

Participating Entities: State Government Council, Nebraska.gov, agencies

Timeframe: 2008

Funding: To be determined.

Status: Continuation. Phase 1 of this action item was completed in November 2007 with the creation of the Nebraska One-Stop Business Registration Information System Web site (<https://www.nebraska.gov/osbr/>).

Future Action Items

1. Work with the Nebraska.gov manager and county officials to provide the means for online payment of property taxes and other local fees. This system is currently being provided by NACO/MIPS. Nebraska.gov will consider the cost benefit of moving forward with this project.
2. Work with the Nebraska State Patrol to review options for providing online access to certain, limited, criminal history information.
3. Develop an online application for use by businesses attempting to find a suitable site for business development.
4. 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.
 - **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.
5. The State Government Council will identify specific improvements and value-added services to be incorporated into the state employee portal.
6. Develop method of providing authentication for “first time” users.
7. Work with the Department of Motor Vehicles to provide for online vehicle registration.

Completed Action Items (2007-2008)

1. Phase 1 of the online business registration project was completed in November 2007 with the creation of the Nebraska One-Stop Business Registration Information System Web site (<https://www.nebraska.gov/osbr/>).
2. Department of Motor Vehicles to provide for online specialty plate ordering, to be completed in March 2008.

Security and Business Resumption

Objective

- To define and clarify policies, standards and guidelines, and responsibilities related to the security of the state's information technology resources.

Description

Information security will serve statutory goals pertaining to government operations and public records. These include:

- Insure continuity of government operations (Article III, Section 29 of the Nebraska Constitution; Neb. Rev. Stat. § 28-901 and 84-1201);
- Protect safety and integrity of public records (Neb. Rev. Stat. § 28-911, 29-2391, and 84-1201);
- Prevent unauthorized access to public records (Neb. Rev. Stat. § 29-319, 81-1117.02, and 84-712.02);
- Insure proper use of communications facilities (Neb. Rev. Stat. § Section 81-1117.02); and
- Protect privacy of citizens (Neb. Rev. Stat. § 84, Article 7).

Major activities include:

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

Benefits

Benefits will include lower costs by addressing security from an enterprise perspective, cost avoidance, and protecting the public trust.

Action Plan

Action Items

Security

1. Implement security incident response team.

Lead: State Security Officer and State Patrol

Participating Entities: State Government Council, Security Work Group

Timeframe: Spring / summer 2008

Funding: No funding required for this task.

Status: Continuation

2. Enhance Network Security and Network Management.

Action: Evaluate and recommend options for a Network Operation Center that will provide real-time monitoring of all critical assets within the State of Nebraska.

Lead: Office of the CIO - Wide Area Network

Participating Entities: State Government Council

Timeframe: 2008

Funding: Homeland Security Grant funding / Additional funding has yet to be determined.

Status: New

Business Resumption

3. 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. The Office of the CIO and the University of Nebraska are jointly developing a fast recovery capability using mutual assistance of physically separated data centers.

Lead: Office of the CIO and University of Nebraska

Participating Entities: State Government Council

Timeframe: Ongoing

Funding: The cost and source of funding have not been determined.

Status: Continuation. An alternate site providing greater geographical separation has been selected. In the pursuit of establishing that alternate site, the University of Nebraska and the Office of the CIO are reviewing vendor RFP responses and are preparing to act on two important items:

- Establishing the fiber optic communications link between the University and State enterprise server primary sites located in Lincoln and an alternate site that provides greater geographic separation.
- Acquiring and implementing an enterprise server that can provide backup and execute assigned processing loads

The intent is to complete the acquisition/implementation of both items in the next year. When completed, the University and the State will not only have their critical data mirrored at a geographically separated site, but will have the capability at the alternate site to continue the most critical enterprise server production processing with less than 10 hours interruption.

4. Promote disaster planning for information technology systems, including developing elements of a common planning document and developing an approach for common governance during an event.

Lead: Steve Henderson / Dave Berkland

Participating Entities: State Government Council

Timeframe: Ongoing

Funding: No funding required.

Status: Continuation. The Director-level meetings, chaired by Lt. Governor Sheehy, identified critical business functions and categorized them into one of three categories: public safety, public health and institutional care. Progress has been made with public safety (lead by Nebraska State Patrol) in identifying:

- the agencies that work together in the public safety domain

- the data the partners use to complete their work
- the IT infrastructure used to support the data

Initial kick-off meetings have been held with public health (lead by Department of Health and Human Services) to identify the same items. Work continues with Nebraska Emergency Management Agency to understand and refine the implementation of the incident command system and its interactions with the State EOC. Work to integrate continuity of operations, disaster recovery, emergency operations and emergency action plans has begun.

Future Action Items

1. Convene a work group to improve disaster recovery and business continuity procedures, including homeland security preparedness, for all public entities.

Completed Action Items (2007-2008)

Security

1. **Conduct annual independent 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.

Lead: State Security Officer

Participating Entities: State Government Council, Security Work Group

Timeframe: Implementation timeframe is March/April 2008.

Funding: Government Technology Collaboration Fund.

Status: Completed. An RFP was awarded Feb. 7, 2008 to IBM to implement the Qualys solution on 2600 devices.

2. **Enhance Network Security and Network Management.** (New action items listed above, completed action items listed here.)

Action: Investigate and recommend an enterprise solution to ensure that encrypted traffic adheres to State security requirements.

Lead: Office of the CIO - Network Support

Participating Entities: State Government Council

Timeframe: Feb. 2008

Funding: No funding required for this task.

Status: Completed with the migration of all Avaya firewalls to the Fortinet infrastructure.

Action: Evaluate and recommend options for providing encryption to clients across the state's Wide Area Network.

Lead: Office of the CIO - Wide Area Network

Participating Entities: State Government Council

Timeframe: March 2008

Funding: No funding required for this task.

Status: Completed. The State of Nebraska has entered into a contract with PGP for whole disk encryption.

Action: Evaluate and recommend options for providing compliance auditing across the state's Wide Area Network.

Lead: State Security Officer and Office of the CIO - Wide Area Network

Participating Entities: State Government Council

Timeframe: 1st Qtr 2008

Funding: No funding required for this task.

Status: Completed. The State of Nebraska has purchased Cisco's Compliance Manager and has been attending training classes for staff.

Business Resumption

3. Encourage testing and updating of disaster plans.

Lead: Steve Henderson / Dave Berkland

Participating Entities: State Government Council

Timeframe: Ongoing

Funding: No funding required.

Status: Completed. The Continuity of Operations Planning/Disaster Recovery Planning Shared Services Group worked to develop and act on ways to better

coordinate disaster recovery planning and to provide for more consistent disaster recovery plans. An NITC standard (“Information Technology Disaster Recovery Plan Standard”) has been put in place. Work has been completed to better understand disaster recovery plan assumptions and dependencies.