
Progress Report
to the
Governor and Legislature

November 15, 2012



State of Nebraska
Nebraska Information Technology Commission
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Executive Summary

The Legislature established the Nebraska Information Technology Commission (NITC) in 1998 to provide advice, strategic direction, and accountability on information technology investments in the state. Section 86-518 directs the NITC to submit a progress report to the Governor and Legislature by November 15 of each even-numbered year. This report is submitted in response to that requirement. Over the past two years, the NITC has realized many significant achievements in each of the seven criteria set forth in Section 86-524(2).

- The NITC's vision is being realized and short-term and long-term strategies have been articulated and employed. However, because technology constantly presents new challenges and opportunities, the NITC's vision will continually evolve. The NITC has developed a vision statement, goals, and strategic initiatives to articulate its vision and to highlight technology projects which have strategic importance to the State of Nebraska. In particular, significant progress has been made on priority areas designated as strategic initiatives by the NITC. Current strategic initiatives include:
 - Network Nebraska
 - Community IT Planning and Development
 - eHealth
 - Public Safety Communications System
 - Digital Education
 - State Government Efficiency
 - E-Government
 - Security and Business Resumption
 - The statewide technology plan prepared annually by the NITC has been an effective vehicle for identifying key projects, building stakeholder support, coordinating efforts, and communicating with policy makers.
 - Recommendations made by the commission to the Governor and Legislature have assisted policy and funding decisions. The review process and prioritization of new IT projects provides policy makers with information about the objectives, justification, technical impact, costs, and risks of proposed systems.
 - In order to encourage interoperability and standardization, the NITC has adopted over 41 standards and guidelines. Within the past two years, 9 new or revised standards and guidelines have been adopted, including:
 - Social Media Guidelines
 - Land Record Information and Mapping Standard
 - Linking a Personal Portable Computing Device to the State Email System
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- Microsoft Enterprise Agreement – Home Use Program Policy
- Network Edge Device Standard for Entities Choosing to Connect to Network Nebraska
- Enterprise Content Management System for State Agencies
- Wireless Local Area Network Standard
- Agency IT Plan Form
- Project Proposal Form
- The NITC website serves as an information technology clearinghouse. In addition, the eHealth Council produces a newsletter to inform stakeholders of new research and developments.
- The NITC encourages and facilitates input and involvement of all interested parties by engaging in collaborative processes, involving five advisory councils, the Technical Panel, and numerous workgroups and subcommittees. Additionally information is publicly distributed and public input is encouraged.
- The NITC is addressing long-term infrastructure innovation, improvement, and coordination through Network Nebraska and related initiatives. Network Nebraska has aggregated statewide telecommunications to a common infrastructure, lowering the unit cost of Internet service to participating entities through aggregated purchasing power. In 2006, the Nebraska Legislature passed LB 1208, tasking the Chief Information Officer with providing access to all public educational entities through Network Nebraska-Education. Currently 254 education entities in the state are served by Network Nebraska-Education. Of the 254 entities, 236 are K-12 districts and ESUs. The remaining 18 comprise the public and private colleges. Network Nebraska-Education is not a state-owned or state-funded network. Rather, it is a consortium of entities working together for the common good. Transport circuits are leased from private telecommunications providers in the state and funded by the participating education entities. In this way, the state hopes to stimulate private investment in Nebraska’s telecommunications infrastructure.

With 117 members, the Nebraska Statewide Telehealth Network (NSTN) connects nearly all of the state’s hospitals and all of the state’s public health departments. The Nebraska Statewide Telehealth Network is used for patient consultations, teletrauma, teleradiology, continuing medical education, and other applications. The NSTN has implemented a centralized infrastructure to allow for expansion to mobile and desktop technologies, enabling physicians and others to benefit from more adaptable, cost-efficient and on-the-spot telehealth applications.

Introduction

The Legislature established the Nebraska Information Technology Commission (NITC) in 1998 to provide advice, strategic direction, and accountability on information technology investments in the state. The NITC is chaired by Lieutenant Governor Rick Sheehy. Commissioners are appointed by the Governor and represent elementary and secondary education, postsecondary education, communities, the Governor, and the general public.

The NITC conducts most of its work through six advisory groups: the Community Council, Education Council, eHealth Council, Geographical Information Systems Council, State Government Council, and Technical Panel. Each council establishes ad hoc work groups to prepare recommendations on specific topics.

The Office of the Chief Information Officer provides support for the NITC, its Councils, the Technical Panel, and ad hoc groups. The Governor appointed Brenda Decker as Chief Information Officer in February of 2005. On March 7, 2006 the 99th Legislature of the State of Nebraska passed LB 921, changing the duties of the Office of the Chief Information Officer. As a result of LB 921, the Division of Communications and the Information Management Services Division became part of the Office of the CIO. This change in legislation has helped the State of Nebraska more closely align IT policy and IT operations.

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

Section 86-524(2) sets out the following review criteria:

1. The vision has been realized and short-term and long-term strategies have been articulated and employed;
 2. The statewide technology plan and other activities of the commission have improved coordination and assisted policymakers;
 3. An information technology clearinghouse has been established, maintained, and utilized of Nebraska's information technology infrastructure and of activities taking place in the state involving information technology, and the information flow between and among individuals and organizations has been facilitated as a result of the information technology clearinghouse;
 4. Policies, standards, guidelines, and architectures have been developed and observed;
 5. Recommendations made by the commission to the Governor and Legislature have assisted policy and funding decisions;
 6. Input and involvement of all interested parties has been encouraged and facilitated; and
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7. Long-term infrastructure innovation, improvement, and coordination has been planned for, facilitated, and achieved with minimal barriers and impediments.

Over the past two years, the NITC has realized many significant achievements in each of the seven criteria established by the Legislature. This report details those achievements.

Realization of Vision and Employment of Strategies

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

The NITC has developed a vision statement, goals, and strategic initiatives to articulate its vision and to highlight technology projects which have strategic importance to the State of Nebraska. The NITC continues to make progress toward the realization of its vision. However, because technology constantly presents new challenges and opportunities, the NITC's vision will continually evolve.

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

Goals. The NITC has established four goals:

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

Strategic Initiatives. In 2004 the NITC began identifying priority areas as strategic initiatives. Each strategic initiative includes a strategic plan. The development of the strategic plans has been a collaborative effort involving many individuals and entities. These efforts have been successful in gaining cooperation of many stakeholders. The strategic initiatives form the core of the NITC's annual Statewide Technology Plan (www.nitc.nebraska.gov/stp).

The current list of strategic initiatives includes:

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

The past two years have brought significant progress in each of the strategic initiatives. A summary of each strategic initiative follows.

Network Nebraska

In order to develop a broadband, scalable telecommunications infrastructure that optimizes quality of service to public entities, the State of Nebraska and the University of Nebraska began aggregating their backbone network services into a core network backbone in 2003. In 2006, the Nebraska Legislature passed LB 1208 which named the statewide network as Network Nebraska, and tasked the Chief Information Officer (assisted by the University of Nebraska) with “providing access to all education entities as soon as feasible, but no later than July 1, 2012.” Network Nebraska is also expected to “meet the demand of state agencies and local governments...Such network shall provide access to a reliable and affordable infrastructure capable of carrying a spectrum of services and applications, including distance education, across the state.”

Network Nebraska has succeeded in lowering the unit cost of Internet service to participating entities through aggregated purchasing power. By combining Network Nebraska’s K-12 Internet purchases into one state contract of almost 5Gbps, the K-12 E-rate-eligible price has gone from \$6.00/Mbps on July 1, 2011 down to \$2.55/Mbps on July 1, 2012, a 58% decrease in unit cost. This will benefit all current and new Network Nebraska schools, ESUs and colleges that purchase their Internet service from the statewide master contract.

Benefits of Network Nebraska also include flexible bandwidth utilization, Intranet routing, lower network costs, greater efficiency, interoperability of systems providing video courses and conferencing, increased collaboration among educational entities, new student learning opportunities, enterprise network management software, and better use of public investments.

Network Nebraska has also stimulated investments in telecommunications infrastructure. As the State bid connectivity to large regional areas of schools and colleges, the telecommunications companies responded with new network technologies such as metropolitan optical Ethernet, multi-protocol label switching (MPLS), and Ethernet “clouds”, which have provided benefits for other nonpublic entities.

The development of the K-20 education network has increased the number of distance education courses available to Nebraska students. Through interactive

videoconferencing, Nebraska high schools and community colleges exchange over 500 courses per year (2012-13) and that number is expected to increase. World languages, mathematics, science, and dual credit courses are popular offerings leveraged by our rural students.

Network Nebraska is now represented as a compilation of three major sub-networks: The University of Nebraska Computing Services Network, State and County Government Network, and the K-20 Education Network. Each network has its own management staff, but takes advantage of co-location facilities, Internet and telecommunications contracts, and shared infrastructure wherever possible.

Due to advances in WAN Ethernet technology, Network Nebraska-Education is now able to reach almost every education entity in the State through five core aggregation points: Grand Island--College Park, Lincoln--Nebraska Hall, Scottsbluff-State Office Building, Omaha-1623 Farnam, and Omaha--Peter Kiewit Institute.

The development of the K-20 education sub-network has increased the number of customers served by Network Nebraska. Data and Internet customers currently include the three state colleges, all six community colleges, the University of Nebraska system, several private colleges, and more than 220 school districts under 17 different educational service units. The number of educational entities could increase if any of the remaining K-12 districts in southeast Nebraska elect to participate in 2013. The Nebraska K-20 Education sub-network is completely funded by Participation and Interregional Transport Fees from its 254 members.

Network Nebraska has also provided support and assistance to the Nebraska Statewide Telehealth Network. 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.

Network Nebraska has been made possible through a cooperative effort of the Collaborative Aggregation Partnership (CAP). CAP was established by Governor Dave Heineman (who was at the time Lieutenant Governor and NITC Chair) and former University of Nebraska President L. Dennis Smith. CAP is composed of several operational entities: Office of the CIO, University of Nebraska, and Nebraska Educational Telecommunications with policy assistance from the Nebraska Department of Education, Public Service Commission, and the NITC.

Network Nebraska is not a state-owned network. Facilities and circuits are leased from private telecommunications providers in the state, allowing the State of Nebraska to act as an anchor tenant.

Community IT Planning and Development

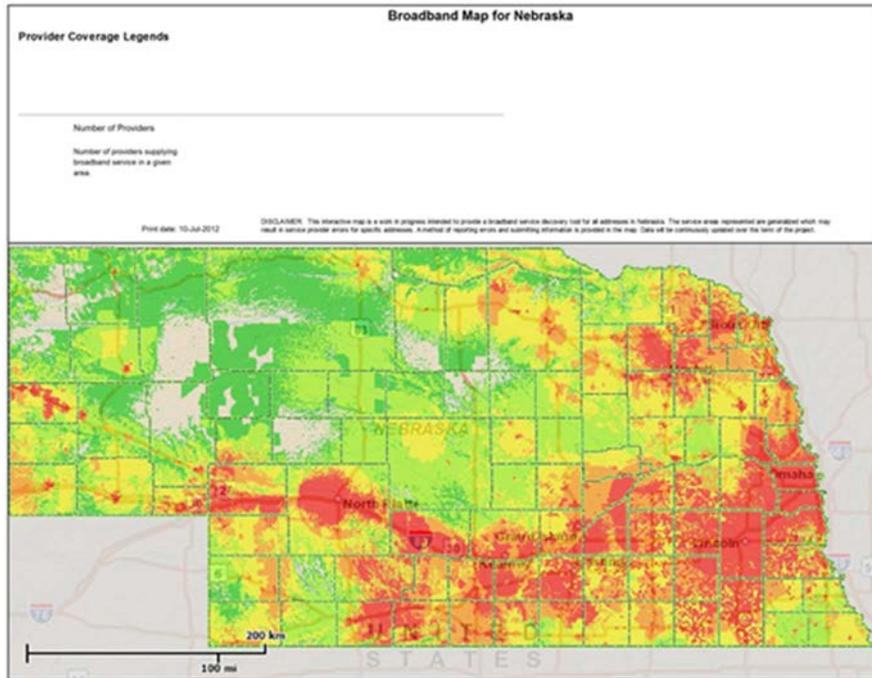
The NITC Community Council has been addressing technology-related development in Nebraska's communities since its formation in 1998. As technologies and the needs of communities have changed, programming and areas of emphasis have shifted. Partnerships have been forged to address specific projects. Most recently, the emphasis has been on broadband planning.

Broadband Planning

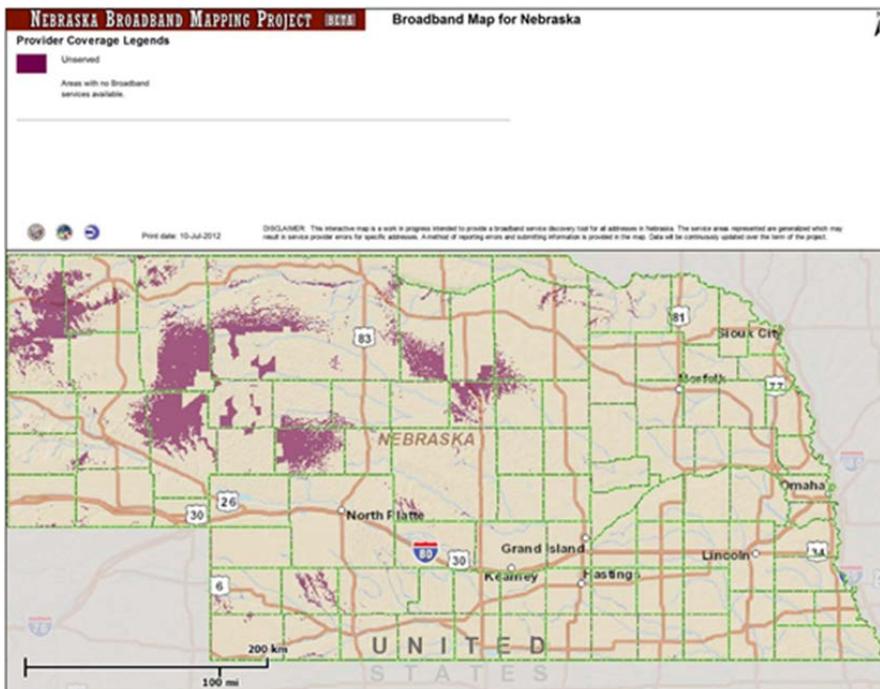
On January 12, 2010, the National Telecommunications and Information Administration awarded the Nebraska Public Service Commission approximately \$2.1 million for broadband data collection, mapping and planning activities over a two-year period. On September 27, 2010 an additional \$3.5 million was awarded to the Public Service Commission for mapping and planning activities in years two through five of the project. The NITC Community Council is partnering with the University of Nebraska, the Nebraska Department of Economic Development, and the AIM Institute to implement the planning component of the broadband mapping grant.

With this funding, a broadband map of Nebraska was developed with information from telecommunications providers. The map is available at broadbandmap.nebraska.gov. The map provides information that may be useful for policymakers, economic development professionals, businesses, and residents.

Data from state broadband maps were provided to the National Telecommunications and Information Administration. According to the NTIA's broadband mapping site (www.broadbandmap.gov) using data from Dec. 2011, 96% of Nebraskans have access to broadband. Nebraska ranks 24th in access to broadband. The following map shows the number of broadband providers in an area as of July 2012.



The map below shows areas in Nebraska without non-satellite broadband service as of July 2012.



The planning component of the broadband mapping project includes a number of projects:

Broadband Portal Development. The broadband portal has been developed to serve as a source of information on broadband efforts in Nebraska. The portal is available at broadband.nebraska.gov.

Surveys. Over 3,500 members of the Nebraska Economic Development Association, Nebraska Association of County Officials, League of Nebraska Municipalities and the Nebraska Chamber are being surveyed. Preliminary results from the Nebraska Economic Developers Association (NEDA) indicate that NEDA members serving smaller population areas are less likely than members serving larger population areas to think the Internet services in their area are very adequate for households in the community, businesses in the community, and for future generations.

Broadband Conference. Two broadband conferences have been held to help communities leverage broadband to enhance economic development opportunities. The most recent broadband conference was held Oct. 2, 2012 in Lincoln with over 100 participants attending the full conference and over 100 students attending the luncheon featuring Internet pioneer, Vint Cert. Over 100 attended the first broadband conference held on Nov. 1, 2011.

Best Practice Videos. The University of Nebraska and the AIM Institute are developing short videos highlighting how broadband is being utilized in Nebraska. Videos have been produced featuring Metalquest in Hebron, Banner County Public Schools, and 21st Century Equipment in western Nebraska, Dinklage Feed Yards in Sidney, and Comfy Feet in Hartington. The videos are available at <http://Youtube.com/broadbandnebraska>.

Webinars. Nine webinars on topics related to broadband were held in 2011 and 2012, averaging 40 participants.

Entrepreneur Acceleration System (EAS) . Grant funding is supporting the Department of Economic Development's Entrepreneur Acceleration System (EAS) designed by Gallup to strengthen small businesses through mentoring. The EAS measures and develops the abilities of individual business leaders and potential entrepreneurs using a scientific and systematic focus on human capital. More than 25 mentors, 120 companies and 550 individuals participated in the 2011 program year. In 2012, 46, mentors, 160 companies and 746 managers participated. Companies include those that are "poised for growth" in web and software development, manufacturing, engineering, logistics, insurance, and more.

Regional Workshops. The Western Regional Planning Team hosted the Accelerating Collaboration Summit on May 15, 2012. Tourism was identified as an industry that can be strengthened by taking further advantage of broadband at a day long planning session in the Western region of Nebraska. Over 40 leaders, including representatives from broadband providers, nonprofit, state, federal and university, participated.

Regional Technology Planning. Regional groups have been formed to develop regional technology plans.

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. Funding from the American Recovery and Reinvestment Act is fueling adoption of eHealth technologies. On March 15, 2010, the State of Nebraska received a \$6.8 million grant from the U.S. Department of Health and Human Services' Office of the National Coordinator for Health IT to create statewide health information exchange through NeHIE, the state's lead health information exchange, and a separate behavioral health information exchange, the Electronic Behavioral Health Information Network (eBHIN). The strategic and operational eHealth plans developed by the NITC's eHealth Council are guiding the implementation of the grant. The Nebraska Information Technology Commission/Office of the CIO is administering the grant. As the State Health IT Coordinator, Lt. Governor Rick Sheehy is providing leadership and coordination for health information technology activities in the state.

The eHealth Council was formed by the NITC in 2007 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. The eHealth Council updated strategic and operational eHealth plans in 2012. The most recent versions of the plans are available from the NITC's website (nitc.ne.gov).

Vision

The strategic plan sets forth the following vision:

Stakeholders in Nebraska will cooperatively improve the quality and efficiency of patient-centered health care and population health through a statewide, seamless, integrated consumer-centered system of connected health information exchanges. Nebraska will build upon the investments made in the state's health information exchanges and other initiatives which promote the adoption of health IT.

Goals

The strategic plan also set the following goals to be achieved while ensuring the privacy and security of health information, which is an essential requirement in successfully implementing health information technology and exchanging health information:

- Using information technology to continuously improve health care quality and efficiency through the authorized and secure electronic exchange and use of health information.
 - Improving patient care and consumer safety;
 - Encouraging greater consumer involvement in personal health care decisions;
 - Enhancing public health and disease surveillance efforts;
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- Improving consumer access to health care;
- Improving consumer outcomes using evidence-based practices.

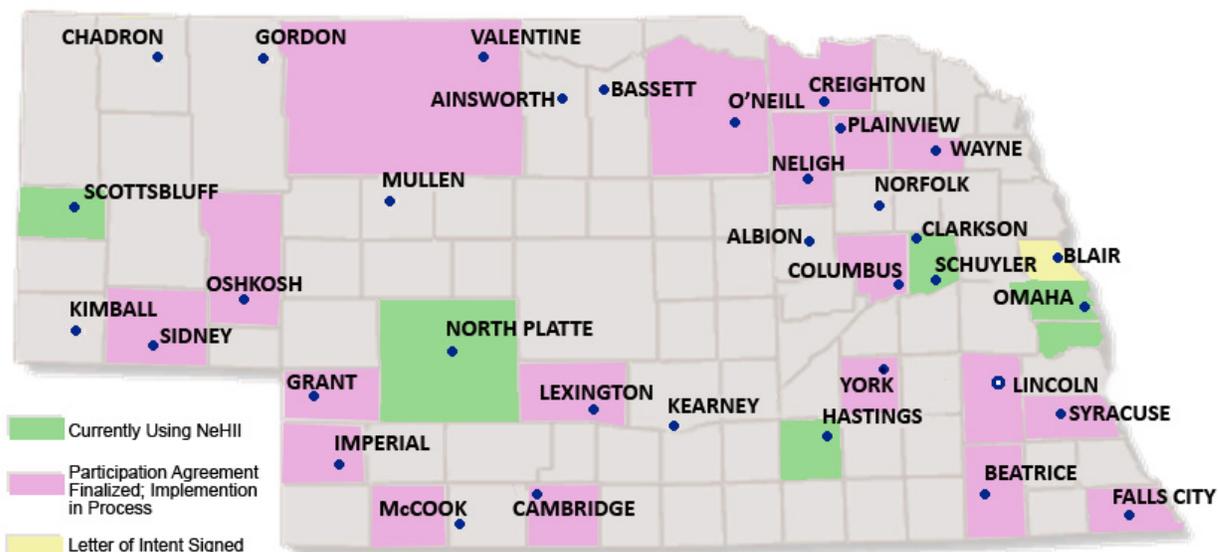
eHealth Initiatives

Nebraska's eHealth plans build upon the investments made by stakeholders to develop health information exchange in the state. Participating eHealth initiatives in the state include the Nebraska Health Information Initiative (NeHII), Electronic Nebraska Behavioral Health Information Network (eBHIN), and Nebraska Statewide Telehealth Network. Additionally, efforts are being made to coordinate activities with the DHHS Division of Medicaid and Long-term Care and the DHHS Division of Public Health.

The Nebraska Health Information Initiative (NeHII) is one of the country's premier health information exchanges, offering full health information exchange functionality. NeHII is serving as the lead health information exchange for the state, providing the technical infrastructure for the sharing of health information.

NeHII is exchanging information between over 2,000 physicians and health care providers as of Sept. 2012. Data being exchanged includes laboratory, radiology, medication history and clinical documentation. In addition, insurance eligibility information is being sent and will be used to create a comprehensive patient summary. NeHII is providing e-prescribing functionality, linking hospitals and provider with pharmacy services. Participating health systems and hospitals include Alegent Health, Children's Hospital and Medical Center, Methodist Health System, The Nebraska Medical Center, Mary Lanning Memorial Hospital (Hastings), Creighton University Medical Center, Great Plains Regional Medical Center (North Platte), Regional West Medical Center (Scottsbluff), Columbus Community Hospital, and Sidney Regional Medical Center. Additionally, York General Hospital, Avera St. Anthony's Hospital (O'Neil), Avera Creighton Hospital, Providence Medical Center (Wayne), and Cass County Health System (Atlantic, IA) have begun the implementation process to join NeHII. The following map shows NeHII implementation status as of July 2012:

NeHII Implementation Status-July 2012



In 2011, Governor Heineman signed LB 237 which authorized the Nebraska Department of Health and Human Services to collaborate with NeHII to establish a prescription drug monitoring program. NeHII's functionality allows physicians to view a patient's medication history and other clinical information through NeHII's Virtual Health Record, enabling physicians to more safely prescribe controlled substances. Nebraska's approach to establishing a Prescription Drug Monitoring Program reflects Nebraska's relatively low drug overdose death rate. Nebraska's drug overdose age-related death rate per 100,000 people in 2008 was 5.5, the lowest rate in the country compared to the highest at 27. Nebraska also ranks lowest in rate of non medical use of prescription pain killers and 3rd lowest in the kilograms of prescription pain killers sold. Only Illinois and the District of Columbia had lower rates in amounts sold.¹ Nebraska's Prescription Drug Monitoring Program is focused on improving patient care and **is not** accessible by law enforcement officials. Participation by physicians and other health care providers is voluntary.

NeHII and the Nebraska Department of Health and Human Services Division of Public Health have been working to exchange data between NeHII and the State's immunization registry (NESIIS). Bidirectional exchange between NeHII and NESIIS is expected to be operational in the fourth quarter of 2012.

The majority of the implementation funding or seed capital has been obtained through membership fees to the NeHII Collaborative. Partial funding for the pilot project was provided by a grant from the Nebraska Information Technology Commission. Funding from the State HIE Cooperative Agreement is being used to expand the services

¹ See <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6043a4.htm#tab2>.

available through NeHII and to expand participation to hospitals and health care providers across the state. More information on NeHII is available at www.nehii.org.

The **Electronic Behavioral Health Information Network (eBHIN)** is currently developing an eHealth network to exchange behavioral health information among behavioral health providers in the Region 5 in Southeast Nebraska, Region 6 in the Omaha area, and Region I in the Panhandle. Regions 2, 3 & 4 have received a HRSA planning grant to determine the resources needed to participate. Phase I participants in Region 5 include Blue Valley Behavioral Health Center, Bryan Health Systems, CenterPointe, Child Guidance Center, Community Mental Health Center, Cornhusker Place, Family Services, Houses of Hope, Lincoln Medical Education Partnership, Lutheran Family Services, Mental Health Association, Region V Systems, and St. Monica's Home. The Region I deployment has begun with EPM deployment at Panhandle Mental Health Center and will continue to the following seven additional sites: Box Butte General Hospital, Cirrus House, CrossRoads Resources, Human Services, Inc., North East Panhandle Substance Abuse Center, Regional West Medical Center, and Western Community Health Resources. eBHIN partners have received several grants including a planning grant from the U.S. Department of Health and Human Services Agency for Healthcare Research and Quality (AHRQ) in 2004, an AHRQ Ambulatory Care Grant in 2008, a three-year Rural Health Network Development Grant from the U.S. Department of Health and Human Services' Health Resources and Services Administration in 2008, Region V Systems, and a grant from the Nebraska Information Technology Commission, a HRSA – Rural Health Information Technology Network Development Grant for the Region I expansion, ONC – RTI Grant for participation in the Behavioral Health Consortium and most recently, a HRSA Planning Grant for HIE Deployment in Regions 2,3 & 4 of the State.

eBHIN will utilize Direct secure messaging to exchange patient information with consent outside of the eBHIN exchange. eBHIN is utilizing the NextGen EMR application to order lab results and e-prescribe.

With 117 members, the **Nebraska Statewide Telehealth Network (NSTN)** connects nearly all of the state's hospitals and all of the state's public health departments. The Nebraska Statewide Telehealth Network is used for patient consultations, teletrauma, teleradiology, continuing medical education, and other applications.

The NSTN has implemented a centralized infrastructure to allow for expansion to mobile and desktop technologies, enabling physicians and others to benefit from more adaptable, cost-efficient and on-the-spot telehealth applications. The system, called VidyO, provides a HIPAA compliant methodology for telehealth delivery via desktop and laptop computers, tablets and android technologies, that adapts to low bandwidth and still delivers a high definition picture for accurate diagnoses utilizing traditional internet connectivity. The NSTN is utilizing a combination of State HIE Cooperative funding and US Department of Health and Human Services, Health Resources and Services Administration, Telehealth Network Grant Program (CFDA: 93.211; Grant No. H2AIT16619) funding to develop and pilot this program with hospitals, physician

offices, nursing homes, public health departments and other provider and patient sites. Mobile technologies also include the use of high definition handheld video cameras to be used in clinical consultation, both routine and emergent. This will allow for up-close examination of wounds and burns as well as other uses.

The eHealth Council is coordinating efforts with the **Nebraska Medicaid Program** (Medicaid). The Director of Medicaid, Vivianne Chaumont, is a member of the e-Health Council and holds a seat on the NeHII Board of Directors. Medicaid has collaborated with the eHealth work group partners throughout the development of its State Medicaid Health Information Technology Plan (SMHP) (approved by CMS late 2011) and during the preparation for launch of its Electronic Health Record (EHR) Incentive Payment Program (launch date 5.7.2012). Medicaid's primary support for ONC's strategic goals is through administration of the EHR Incentive funds for Nebraska providers. As of early Sept. 2012, the Nebraska Medicaid program had provided \$11.8 million in Electronic Health Record incentive payments to 118 eligible providers and hospitals. Medicaid intends to continue to leverage HIT/HIE funds available through CMS to support Nebraska providers in adopting and meaningfully using certified EHR technology.

Public Safety Communications System

The Nebraska Statewide Radio System serves local, state and federal agencies, and public utilities across the state. The system was funded through a partnership between the state and Nebraska Public Power District to jointly own, manage and operate the system. State agencies are using the system and learning about the many new capabilities.

There are 51 towers owned by a variety of entities, including NPPD, the state, and local agencies that provide radio coverage across the state. Users of the system are able to communicate directly with other users across large geographic areas, and have the ability to communicate with many users at once.

Through the partnership with NPPD, the state is able to share the cost of network infrastructure, towers, and upkeep of the system. A system user group represents all user agencies on the system, including NPPD, the State Patrol, Fire Marshal, Game and Parks, Corrections, Department of Roads and several local and federal agencies.

The system was funded by the state and NPPD, with some funding provided through a Homeland Security grant.

Benefits of the system include:

- Shared statewide communications infrastructure
 - Interoperability for the State Patrol and other agencies
 - Ability for local communications systems to interconnect
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- Technology platform is scalable, expandable and upgradeable
- Partnership opportunities for other local, state and federal agencies

The Office of the CIO provides the operational support to public safety using the system. State agency partners in the project include the Nebraska State Patrol, the State Fire Marshal's Office, the Nebraska Game and Parks Commission, the Nebraska Emergency Management Agency, the Nebraska Departments of Agriculture, Correctional Services and Roads. Other partners include the Office of the Chief Information Officer, which provides technical support for the statewide radio network, and Nebraska Educational Telecommunications, which has provided access to many existing radio towers across the state.

Governor Heineman and the Nebraska Legislature supported funding for the communications system in 2007. The State-NPPD partnership demonstrates that much can be accomplished by determining common needs and sharing resources.

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.

The initiative is 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 primary components of the Digital Education Initiative 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
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- Regional Pre-K-20 education cooperatives that vertically articulate educational programs and opportunities.

Establishing a Digital Education environment 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 2010's. So much of what teachers, students, and administrators do today is tied to Internet-based information and communication. Nebraska has continued to make progress in the ratio of students per high speed, Internet-connected computer in the classroom. 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 (or Internet-connected device) availability.

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.

Network Nebraska is going through a significant upgrade process that began in July 2012. By moving to a high bandwidth, flexible IP network, participating education entities will be able to:

- Have more bandwidth for local and regional transport to accommodate present and future education technology applications;
 - Take advantage of nationwide Internet2 routing and resources;
 - Purchase some of the lowest Internet access pricing in the country;
 - Participate in a statewide, standards-based IP videoconferencing system between all schools and colleges;
 - Post their course offerings and unfilled curriculum needs to a statewide clearinghouse and scheduling system for all synchronous and asynchronous distance learning;
 - Position themselves to develop new and exciting regional and statewide applications of digital content to serve all students and teachers.
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The furthering of the Digital Education initiative and completion of the Digital Education action items requires the participation of many education-related entities. The Educational Service Unit Coordinating Council (ESUCC) has been working with the NITC Education Council to develop a white paper to describe the future vision and feasibility of a statewide learning management and statewide content management system, which would greatly enhance Nebraska's eLearning system.

State Government Efficiency

The State of Nebraska is improving efficiency in state government through the development of standards and guidelines and the implementation of shared services.

Standards and Guidelines

In order to encourage interoperability and standardization, over 41 standards and guidelines have been adopted. Within the past two years, 9 new or revised standards and guidelines have been adopted, including:

- Social Media Guidelines
- Land Record Information and Mapping Standard
- Linking a Personal Portable Computing Device to the State Email System
- Microsoft Enterprise Agreement – Home Use Program Policy
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- Project Proposal Form

Shared Services

Early in 2005 the State of Nebraska launched a shared services initiative to consolidate the purchase and operations of certain technology services. The initiative has been very successful in reducing costs and increasing efficiency. The NITC's State Government Council has played an important role in identifying the potential services which could be offered as a shared service. Over the past two years efforts have focused on the following shared services:

- Enterprise Maintenance / Purchase Agreements
 - Geographic Information System (GIS)
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- E-mail Business Continuity / Disaster Recovery
 - Enterprise Content Management
 - Interactive Voice Response

Enterprise maintenance and purchase agreements. The Office of the CIO implemented several enterprise agreements during FY2011. An enterprise agreement with Adobe qualifies state agencies for a discount on Adobe products. On some products the savings are as much as 21%. Access to this discount will become easier after a new software reseller contract is in place, sometime in FY2012. On behalf of seven state agencies needing assistance with implementation of the state's enterprise content management system, the Office of the CIO entered into a "block time" services agreement with eDocument Resources that reduces the hourly cost of solution analysts by 32% (from \$180 per hour to \$123 per hour), by guaranteeing a minimum of 9,825 hours of work through February 2012. The annual agreement with IBM provided savings of \$213,749 in FY2011. The Microsoft Enterprise Agreement for Office and Windows licenses will save the Department of Health and Human Services \$317,530 per year and the Department of Roads \$42,336 per year, while giving all agencies access to software assurance and other benefits at a deeply discounted price. The Office of the CIO and the Materiel Division also began participating in the Premium Savings Package of the Western States Contracting Alliance (WSCA). This gives state agencies discounts on standard configurations of PCs and laptops of as much as 46% compared to normal pricing.

Several initiatives started in FY2011 will take effect in FY2012. These include new contracts for long distance service that will save agencies 14% on long distance calls and toll free calls with Windstream and 12% on use of Language Line interpretation services. The State of Nebraska has also become a participant in a recent WSCA contract for Software Value Added Reseller (VAR) Services. The new software reseller contract will provide better pricing and streamlined purchases on an extensive list of software manufacturers and products.

Geographic Information Systems (GIS). The NITC has adopted six GIS-related action items as part of its Statewide Technology Plan:

- **Nebraska Geospatial Data Sharing and Web Services Network.** This is an interagency project to develop an online geospatial web portal to provide access to Nebraska-related geospatial data, maps, and GIS web services from state, local, and federal agencies. This is a shared services project endorsed by the Nebraska GIS Council and the NITC. By agreement of the multiple agencies involved, the OCIO was asked to take lead on this interagency project. This project was initiated as a two-year pilot project between various state partners and guidance from the NITC GIS Council. The design and testing environment from the pilot project was implemented through the University of Nebraska Center for Advanced Land Management Information Technologies (CALMIT). During this time, the concept of an online GIS data sharing and web services
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network was demonstrated and the core architecture was deemed appropriate to meet the needs for Nebraska. Results of this pilot project are summarized in more detail and can be located at the NITC GIS Council website (<http://nitc.ne.gov/gisc/>).

At the completion of the pilot project a decision was made by the NITC GIS Council and UNL CALMIT to move the entire system to the OCIO for full implementation and operation. A development and production environment currently exists on separate dedicated virtual environments with the latest enterprise software at the OCIO. One of NebraskaMAP's functions is operating as a metadata portal. There are currently 242 metadata files being shared through the geoportal server and it continues to grow. This metadata comes from various city, county, state, federal, and industry providers. The OCIO staff have been working to maintain the current metadata portal and prepare components for expanding the enterprise architecture for NebraskaMAP. Customized online tools have been developed to assist in the development of metadata to document GIS datasets and several agencies trained in their use. Metadata is the formal documentation of GIS datasets and is required for most online data sharing tools to function. A statewide street centerline database was uploaded and is available as a web mapping service. An online geocoding service was implemented to support mapping database elements that have associated street addresses. A statewide base map was integrated involving common map features used in tandem (ie, roads, streams, political boundaries, etc.). This provides a visual mapping backdrop reference for a wide variety of mapping applications. The most recent statewide aerial imagery is available through the data repository and serves as an online image service. This feature demonstrates the feasibility of serving very large imagery datasets from a common enterprise location as opposed to copying these large datasets onto multiple agency systems.

All of these datasets can be embedded into an agency's website or desktop application to support a variety of functions. A GIS data repository is currently being developed to host and serve GIS datasets of interest for which other agencies are not currently providing online data access. As newer georeferenced data becomes available and future business plans are in place to enhance the Nebraska Spatial Data Infrastructure (NESDI) this data will become available on NebraskaMAP. Several new pilot projects are underway to test and evaluate advanced technologies using mobile and other web mapping services components.

During the pilot project, solid funding was not achieved for sustaining future enhancements and the long-term sustainability of the project. This came about during a time of state budget shortfalls. One of the pilot project objectives was to research and make recommendations relative to the requirements for on-going support of the project. Consistent with this objective, the NebraskaMAP Working Group formally recommended that a minimum of one FTE, with fairly high level

GIS technical skills, would be required to provide on-going support for the NebraskaMAP and its related online GIS services. In the interim, some of the NebraskaMAP partners agencies are providing temporary technical support to maintain the current infrastructure. A business plan is currently being developed to outline future plans and resource requirements to sustain NebraskaMAP as an enterprise-level service. The OCIO is also identifying shared service costs and methods for cost recovery for NebraskaMAP. It is expected to have cost recover model in effect for FY 2013.

- **Statewide Street Centerline-Address Database.** An accurate mapping of street, road and highway centerlines, with associated address ranges, is a key GIS database for many applications, particularly public safety and health applications. Commercially available datasets of this type tend to be costly and fairly accurate for urbanized areas, but fairly poor for rural areas. In Nebraska a number of different state and local agencies produce pieces of this type of data (typically on a county-by-county basis), but no one agency has the responsibility to develop or compile a statewide street centerline-address dataset.

Initial work was started with an interagency working group of the GIS Council developed draft guidelines for the integration of street centerline-address data from multiple sources into a composite statewide dataset. The staff of the NebraskaMAP project, with limited funding available from NEMA and the State Patrol, developed an initial composite statewide dataset following these draft guidelines. This initial composite dataset was completed in early 2010 and it involved the integration of data from the Public Service Commission's E911 efforts, Douglas, Sarpy and Lancaster Counties, and the Department of Roads.

This dataset is approaching three years old and more current data has been developed from all of the original data providers. Currently, a working group was started in early 2012 to update the existing statewide street centerline-address database with more recent data and develop a plan (including responsibilities and resource requirements) for the on-going maintenance of a composite, "best available", statewide street centerline/address database. All of the original data providers are willing to share their more recent street centerline-address data. The challenges are to finalize a broadly accepted data model, identify a lead agency, find the funding required, and the development of the interagency agreements necessary to support the ongoing maintenance of this critical dataset. This type of data is fairly dynamic and there is not currently in place a system to capture and integrated updated data into a statewide dataset.

- **Metadata and State Geospatial Data Catalog.** Metadata is "data about data" or the formal documenting of what is in a given dataset, how it was developed, what data values mean, and how do you get a copy of the data. Metadata is the key to preserving the value of GIS data after the individuals who originally developed the data are no longer available. It is also the key to sharing GIS data
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and enabling others to use that data correctly. Traditionally it has been very difficult to get the developers of GIS data to take the time to document that data with metadata. 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 (originally by Sept. 2006). There are currently 242 metadata files being shared through the NebraskaMAP geoportal server and it continues to grow. This metadata comes from various city, county, state, federal, and industry providers. The OCIO staff have been working to maintain the current metadata portal and prepare components for expanding the enterprise architecture for NebraskaMAP. Customized online tools have been developed to assist in the development of metadata to document GIS datasets and several agencies trained in their use. Metadata is the formal documentation of GIS datasets and is required for most online data sharing tools to function. Metadata training sessions have been held in Lincoln and Omaha. Despite the existence of the NITC standard requiring metadata, the availability of metadata development tools and training, there remains a large body of state agency GIS/geospatial data that has not been documented with metadata and has not been listed either on the Data Center Clearinghouse Catalog or the more recent NebraskaMAP portal. It is hoped that that development of the NebraskaMAP will help to further the development of metadata documentation, as metadata is a requirement for the functioning of the NebraskaMAP online data sharing tools.

- **Statewide Geospatial Infrastructure Strategic Planning.** The Nebraska Geospatial Strategic Plan was completed in October 2012. The NITC GIS Council was charged to develop an enterprise-level, statewide, GIS/geospatial infrastructure strategic plan for the geographic area of Nebraska. The planning process involves the broader GIS user community (state, local, and federal agencies, tribes and the private sector) and seeks to identify parallel needs and plans for geospatial data, standards, online distribution networks and services, coordination, funding, and policies. To oversee the process, a strategic planning advisory committee was established from members of the NITC GIS Council.

Resources to support the planning process has been made possible through a cooperative grant effort called the Fifty States Initiative implemented between the Federal Geographic Data Committee (FGDC) and the National States Geographic Information Council (NSGIC). The grant provided \$50,000 to hire a consultant, Applied Geographics, Inc. to facilitate and develop the strategic planning process and report.

In order to help characterize the Nebraska geospatial landscape a survey was sent out to a full spectrum of stakeholders from decision makers with little to no GIS experience to technical GIS users. Information was gathered from more than 448 respondents to the survey during January and February of 2012. This is the largest response any state has received involved in the Fifty State Initiative. A

total of six stakeholder workshops were conducted in February 2012 to gather city, county, and regional input from the survey findings and other topics. The workshops involved 149 participants in Scottsbluff, North Platte, Grand Island, Norfolk, Kearney, Lincoln, and Omaha. Attendees typically included assessors, natural resource district managers, city/county GIS coordinators, clerks, sheriffs, emergency management, industry representative, public health managers and surveyors. A statewide planning workshop and seminar was conducted in June 2012 reaching over 76 attendees making up state agency and association directors and other key GIS users at various state departments.

The general findings from surveys and workshops indicated overwhelming interest and needs at various levels of city, county, and state government for enhancing our geospatial infrastructure. There was also an indication of the lack of awareness of the GIS Council and its representatives, need for education for various geospatial technologies, and awareness of benefits of using geospatial technologies and data sharing in day-to-day business operations. The planning committee is in the final stages of completing the report. The following are the vision and strategic goals for the strategic plan.

Vision. To foster an environment that optimizes the efficient use of geospatial technology, data, and services to address a wide variety of business and governmental challenges within the state. Geospatial technologies will be delivered in a way that supports policy and decision making at all levels of government to enhance the economy, safety, environment and quality of life for Nebraskans.

Strategic Goals. The following four specific strategic goals represent a consensus of desired characteristics expressed by the geospatial community during the information and analysis phase of the strategic planning process.

1. Facilitate the creation, maintenance, analysis, and publishing of quality geospatial data.
2. Provide widespread access to data, services and encourage data sharing.
3. Facilitate technical assistance and education outreach opportunities for furthering the adoption of NESDI data layers and geospatial applications.
4. Achieve sustainable and efficient allocation of resources to support the implementation and wise governance of GIS services and geospatial data.

It is understood that achieving these goals will require significant organizational and institutional changes that will take place incrementally and over time. The next step in the process will be the development of three companion Geospatial

business plans that will support the implementation of the strategic plan. The business plan will include a detailed business case that documents the benefits resulting from a collaborative statewide approach to geospatial initiatives and it will also provide an implementation plan for achieving long-term efficiency and stability.

This strategic plan is the result of hard work from the GIS Council, the Strategic Planning Steering Committee and the State GIS Coordinator, as well as the strong, direct contributions of the broad geospatial stakeholder community. Achieving the vision set out in this plan will result in greater cooperation, collaboration and communication among all stakeholders, leading to greater geospatial productivity, less redundancy, and more informed policy across all disciplines and business lines.

- **Planning for Periodic, Collaborative Orthoimagery Acquisition.** Most GIS applications require or benefit from the availability of current aerial imagery. A working group is conducting research and developing recommendations for standards, policies, infrastructure, and funding to support collaborative efforts by state, local and federal agencies to periodically acquire updated orthoimagery. The acquisition of updated, orthorectified (corrected for camera tilt and the slope of the earth's surface) imagery requires a significant public investment, but if done collaboratively, on a regular periodic basis, these costs can be minimized and shared across a broad user community. It is expected that this effort will largely integrated into the larger Nebraska GIS Strategic Planning process. Efforts will be made to learn from, and build on, existing collaborative imagery acquisition efforts such as the Nebraska-Iowa Regional Orthoimagery Consortium (NIROC) and the USDA Farm Services Agency – National Aerial Imagery Program (NAIP). The latest imagery for Nebraska was collected in 2012 and provided through NAIP. In 2011-2012, the GIS Council also worked with state and local agencies to plan and acquire updated high-resolution imagery (6-inch pixel resolution) for much of the urban area of Nebraska. These areas included Omaha, Bellevue, and Lincoln. This effort was lead and primarily funded by local governments with the GIS Council and some state agencies assisting and contributing.
 - **Planning for Statewide Land Record Information System.** NITC Land Record Information and Mapping Standards have been adopted with the goal of enabling the integration of local government land records into a statewide dataset. Current intergovernmental working group efforts are focused on developing guidelines for a common geodatabase model that would be freely available to local governments to adopt. The foundation for a decentralized data sharing and web services system has been established by the NebraskaMAP project. Local governments, state agencies, and the private sector need to be engaged in a collaborative planning process to define a shared vision of such a collaborative data sharing and integration system.
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Email. In 2008, the State made the strategic decision to standardize on the Microsoft Exchange platform for the delivery of email. In 2012, the platform was updated and users are currently being migrated to the new environment. Benefits of the new environment include larger mailbox capacity, records retention functionality, and an improved web-based interface.

Business Continuity and Disaster Recovery. The State of Nebraska continues to address business continuity and disaster recovery by employing a multi-faceted approach to business continuity and disaster recovery planning, emphasizing the development of partnerships as well as the identification and prioritization of critical business functions. Additional information is included in under the Security and Business Resumption section of this report.

Enterprise Content Management. Enterprise Content Management (ECM) is the combination of strategies, methods and tools used to capture, manage, store, preserve, and deliver content related to an organization's functions. Content can include documents, email, images, video, audio, and any information in digital format. The ECM tool purchased by the State also allows electronic forms and workflow to streamline processes.

General benefits to the public include:

1. Allowing Internet access to documents for the public to view.
2. Providing citizens, regulated entities, and business partners with the option of submitting information through electronic forms, monitor the status of activity relating to their submission, and obtain access to all authorized content.
3. Supporting faster responses to requests for information and assistance.

General benefits to agencies include:

1. Providing fully automated processes that substantially reduce printing, copying and handling of paper.
 2. Providing easy tracking of the status of activities.
 3. Providing a means for agencies to apply record retention rules consistently to all documents and data in an automated process.
 4. Providing a means for agency staff in offices throughout the state to have access to agency documents and records more efficiently and timely.
 5. Providing a more efficient means for agencies to respond to public records requests.
 6. Reducing or eliminate the need for physical space for storing paper records.
 7. Enhancing disaster recovery and business resumption, in case paper records are destroyed. Presently many agencies have no real backup to the paper records that are essential for conducting business.
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8. Improving management of records relating to litigation. This is particularly valuable for complex highly technical cases. For example, the Attorney General's Office can have direct access to electronic documents rather than obtaining paper copies.

Interactive Voice Response. This past year, the Office of the CIO continued to enhance the features on the enterprise Interactive Voice Response (IVR) system and stabilize the environment. The IVR system is a 24-hour 7-day a week accessible customer service system that routes callers to either live representatives or database to generate answers to their questions. Currently, the Departments of Revenue and Health and Human Services use IVR services to allow clients to self-serve many of their needs and questions. Statistics for this fiscal year are approximately 24 million inbound minutes into the IVR.

E-Government

Nebraska has been recognized as a leader in e-government. The 2012 Digital States Survey, conducted by the Center for Digital Government, awarded the State of Nebraska a letter grade in the "B+" category. According to the report, that grade indicates:

"Trending up. Demonstrated results in many categories. Leadership using modernization to change entrenched practices to prepare for more sustainable operations. Incentives for collaboration in place. Measures used in key areas. Cuts tend to be made across the board."

The State's Web portal, Nebraska.gov, was recognized by the Center for Digital Government as one of the top state Web portals in 2007, 2008, 2009 and 2012.

Nebraska.gov, was redesigned in May 2012 and offers over 300 services. The site has been designed to be accessed by both full-sized computers and mobile devices.

An annual e-government conference is held every November to showcase successful e-government projects and to keep both managers and IT staff informed on developments in e-government and technology. The conference is presented in partnership with *Government Technology Magazine*.

Security and Business Resumption

The State of Nebraska continues to make progress in securing information resources, reducing associated vulnerabilities and updating policy. Over the course of the last two years, the NITC Security Work Group has worked with the State Government Council, the Technical Panel and agencies in order to formulate new policies for emerging technologies and update existing policies. Mobile device use and its security-related aspects have been a recent working subgroup topic. The group submitted NITC Policy 5-204 "Linking Personal Portable Computing Device to the State Email System" to the Technical Panel for approval in 2011. Work has also been done trying to unify our

approach to federal audits and to reduce the individual agency work along with providing a consistent and accurate response to audit requirements.

The OCIO has annually hosted the Nebraska Cyber Security conference. In previous years sponsors have been used to reduce the fees and provide valuable training for the State, educational participants and county workers. This year through additional sponsors and the selection of presenters and keynote speakers with limited travel needs, the conference costs were kept to a minimum, while participation continues to increase.

The NITC has also supported cyber security awareness efforts in conjunction with October's designation as Cyber Security Awareness month. Governor Heineman signed a proclamation on Oct. 1, 2012, declaring October as Nebraska Cyber Security Awareness month. Nebraska was the national kick-off location for National Cyber Security Awareness Month with an event held in Omaha on October 1, 2012. The NITC/Office of the CIO sent brochures, posters and materials co-branded with the Multi-State Information and Analysis Center to over one-hundred State agencies, counties and to the educational service units.

The Cyber Security workgroup portal continues to facilitate interaction and the sharing of information with Agency representatives. The portal contains a calendar of security related events, training opportunities (both free and paid) and current security news. The portal is also being used to increase interaction of the workgroup beyond monthly meetings of Agency representatives and to provide a conduit to continue business between scheduled meetings.

Presentations on security and awareness were provided to Agencies at the 2011 Nebraska Infrastructure Protection Conference, the 2011 Nebraska Cyber Security Conference and at the 2011 Nebraska Digital Government Summit.

Efforts to improve disaster recovery and business continuity capabilities continue. The State of Nebraska has mitigated risks to public safety and the state's economy by employing a multi-faceted approach to business continuity and disaster recovery planning, emphasizing the development of partnerships as well as the identification and prioritization of critical business functions.

The iterative process, coordinated by the Office of the CIO, began in 2001 and is ongoing. Components of the State of Nebraska's Business Continuity and Disaster Recovery Planning include:

- o The completion, in May of 2009, of a multi-year effort to improve resiliency of mainframe computing environments by the State of Nebraska in cooperation with the University of Nebraska by establishing a disaster recovery facility in Omaha. At this facility, mirrored storage is connected to State of Nebraska and University of Nebraska sites with a high speed optical fiber link. Data is written in Omaha just a few seconds after it is stored in Lincoln. In addition to the mirrored storage, there is access to a special mainframe processor in Omaha that
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is configured for disaster recovery support. Mutual testing of this new environment is ongoing.

- Continued cooperation between the State of Nebraska and University of Nebraska to include:
 - Strengthening network resiliency with shared facility space
 - Developing additional mutual relationships with other political subdivisions
 - Developing and implementing six month project plans
- Hardening physical security of the state's critical infrastructure. The 2010 Department of Homeland Security (DHS) Site Assistance Visit continues to serve as an overview of security vulnerabilities. The Office of the CIO is working with the Nebraska State Patrol-Capitol Security Division and Administrative Services-State Building Division to implement changes recommended by DHS.
- The shared Automated Notification Service software was replaced with a new product which allows for improved rapid emergency notification. New customers at the state, county and city level were added for this service.
- The replacement of the uninterruptable power supply at the state's primary data center was completed in early 2011.
- An ongoing exercise program to test and improve capabilities through planning, validation through exercise and revision based on feedback from the exercise.

Improved Coordination and Assistance to Policymakers

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

The statewide technology plan annually prepared by the NITC has been an effective vehicle for identifying key projects, building stakeholder support, coordinating efforts, and communicating with policy makers.

The current plan was prepared in 2012. The plan focuses on eight strategic initiatives:

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

These initiatives were identified by the NITC and its advisory groups. These groups include representatives of a wide array of entities, including health care providers, education, local government, the private sector, and state agencies. This process has proven to be effective in building stakeholder support. These initiatives are collaborative projects involving many entities both inside and outside of state government. The statewide technology plan provides a method of communicating the importance of these initiatives, progress made, and plans for further implementation. The plan is sent to members of the Legislature and the Governor. The primary role of the NITC in these initiatives has been facilitation and coordination. The success of these initiatives testifies to the NITC's effectiveness at facilitation, coordination, and communication with policymakers.

The NITC and Office of the CIO staff have testified at hearings and given briefings to legislative committees several times over the past two years, including:

- LB 1147 hearing for members of the Executive Board, Feb. 1, 2012.
- Briefing for members of the Appropriations Committee, March 3, 2011

The Chief Information Officer and the staff or advisory groups of the NITC are occasionally called upon to provide analysis or review of technology initiatives, explanation of state-specific information technology data, and other requests as needed by the Governor and Legislature.

Policy and Funding Recommendations

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

Section 86-516 (8) directs the NITC to "make recommendations on technology investments to the Governor and the Legislature, including a prioritized list of projects, reviewed by the technical panel," as part of the biennial budget process. Prior to budget submissions, agencies submit IT plans which are reviewed by the Office of the CIO and the NITC Technical Panel. This information provides a context in which to better review IT projects submitted by agencies. Technical reviews of information technology projects are conducted by a team of reviewers. With input from the NITC State Government and Education Councils, the Technical Panel further reviews the project proposals. Using information from the review process, the NITC makes funding recommendations to the Governor and the Legislature by November 15 of each even-numbered year. The review process and prioritization of new IT projects provides policy makers with information about the objectives, justification, technical impact, costs, and risks of proposed systems. The agency comprehensive information technology plans and the project proposal forms for budget requests of new IT spending provide policy makers with far more information in a consistent format than before. The Technical Panel also conducts voluntary review of IT projects and projects awarded

funding through the NITC Community Technology Fund and Government Technology Fund.

In 2012, 21 IT budget requests for new projects were reviewed. Recommendations on these requests were submitted to the Governor and the Legislature.

Policies, Standards, Guidelines, and Architectures

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

In order to encourage interoperability and standardization, over 43 standards and guidelines have been adopted. The development of standards and guidelines has helped the State of Nebraska achieve greater interoperability and efficiency. The process encourages public input from all involved constituents. Most standards are developed by a work group consisting of stakeholders from state government agencies and other interested entities. The Technical Panel recommends approval of standards and guidelines to the NITC. All standards are approved at open NITC meetings after a 30-day comment period.

Within the past two years, 9 new or revised standards and guidelines have been adopted, including:

- Social Media Guidelines
- Land Record Information and Mapping Standard
- Linking a Personal Portable Computing Device to the State Email System
- Microsoft Enterprise Agreement – Home Use Program Policy
- Network Edge Device Standard for Entities Choosing to Connect to Network Nebraska
- Enterprise Content Management System for State Agencies
- Wireless Local Area Network Standard
- Agency IT Plan Form
- Project Proposal Form

Information Technology Clearinghouse

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

The NITC's website (www.nitc.nebraska.gov) serves as an information technology clearinghouse, providing access to an extensive amount of information including resources for communities, health care providers, educational entities, and state government. The NITC website is the official repository for agenda, minutes, and documents for the NITC, its councils and their workgroups. The section on "Standards and Guidelines" provides access to all technical standards and guidelines adopted by the NITC or under development. The eHealth Council also publishes an electronic newsletter which is available from the NITC website. Additionally, NITC staff members handle requests for information on technology projects and development and facilitate the exchange of information.

Input and Involvement of Interested Parties

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

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

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

- State Government Council—Enterprise Content Management Shared Service Work Group
 - State Government Council—Email Work Group
 - State Government Council—Webmasters Work Group
 - Technical Panel—Accessibility of Information Technology Work Group
 - Technical Panel—Learning Management System Standards Work Group
 - Technical Panel—Security Architecture Work Group
 - Technical Panel—Intergovernmental Data Communications Work Group
 - Community Council—Broadband Planning Steering Committee
 - eHealth Council—E-Prescribing Work Group
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- eHealth Council—eHealth Implementation Work Group
- GIS Council—Street Centerline-Address Database Work Group
- GIS Council—Imagery Work Group
- GIS Council—Land Records Work Group
- GIS Council—Elevation Work Group
- GIS Council—Geospatial Data Sharing and Web Services Work Group
- GIS Council—Strategic Planning Work Group
- Education Council—Marketing Task Group
- Education Council—Services Task Group
- Education Council—Emerging Technologies Task Group
- Education Council—Network Nebraska Governance Task Group
- Education Council—Network Nebraska Advisory Group

Infrastructure Innovation, Improvement and Coordination

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

The NITC is addressing long-term infrastructure innovation, improvement, and coordination through Network Nebraska and related initiatives.

Network Nebraska has aggregated statewide telecommunications to a common infrastructure, generated considerable cost savings to public entities, and decreased the unit cost of Internet service by leveraging the consolidated demand of all participating entities. Since September 2003, Network Nebraska has grown to serve the data and Internet service needs of all state agencies with outstate circuits, the University of Nebraska's four campuses, all six of the state's community colleges, all three state colleges, and more than 220 school districts under 17 different educational service units. The number of customers is expected to continue growing due to the favorable Internet rates and the high quality of service offered by Network Nebraska. The number of educational entities is expected to grow even more when the last 35 public K-12 entities elect to join the Network. Additionally, 140 public libraries are 2010 recipients of grants from the federal Broadband Technology Opportunities Program and Bill and Melinda Gates Foundation to upgrade their infrastructure and public computer centers. The Network Nebraska K-20 sub-network is one possible alternative for them to interconnect with each other and purchase less expensive Internet.

Network Nebraska has been made possible through a cooperative effort of the state Office of the CIO, University of Nebraska, and Nebraska Educational

Telecommunications, with policy assistance from the Nebraska Department of Education, Public Service Commission, and the NITC. This partnership is known as the Collaborative Aggregation Partnership (CAP).

The first phase of the multipurpose backbone became operational in September 2003, serving Omaha, Lincoln, and Grand Island with the second phase following in February 2004 extending service to Norfolk, Kearney, North Platte, and the Panhandle. In October 2006, the original circuit from Scottsbluff to Grand Island to Lincoln which served as a pilot for Network Nebraska was upgraded, providing Scottsbluff with the same capabilities as Omaha and Lincoln. The benefits of this upgrade included the ability to incrementally increase bandwidth and cost savings of up to 30%. More recently, the Office of the CIO rebid the statewide Internet contract for Network Nebraska to negotiate a 58% lower Internet rate to begin July 1, 2012 out of Omaha's 1623 Farnam location. This will benefit all current and new Network Nebraska schools, ESUs and colleges that purchase their Internet service from the statewide master contract. Network Nebraska has also stimulated investments in telecommunications infrastructure.

Network Nebraska is not a state-owned network. Facilities are leased from private telecommunications providers in the state. In this way, the state hopes to stimulate private investment into Nebraska's telecommunications infrastructure.

Additionally, the NITC has facilitated the coordination and development of a statewide telehealth network. With 117 members, the Nebraska Statewide Telehealth Network (NSTN) connects nearly all of the state's hospitals and all of the state's public health departments. The Nebraska Statewide Telehealth Network is used for patient consultations, teletrauma, teleradiology, continuing medical education, and other applications. Members of CAP have provided technical assistance in the development of the Nebraska Statewide Telehealth Network. The telehealth network will also be able to obtain telecommunications services at the same rate negotiated by the Chief Information Officer for Network Nebraska.

Awards and Recognition

- Governor Heineman was awarded the 2012 State Technology Innovator Award from the National Association of State Chief Information Officers.
- The State of Nebraska's Web portal, Nebraska.gov, ranked in the top 10 in 2007, 2008 and, 2009 and 2012 Center for Digital Government's Best of the Web awards.
- Nebraska received a grade of "B+" in the Center for Digital Government's Digital States Survey in 2012.
- Brenda Decker will begin serving as the National President of the National Association of State Chief Information Officers starting in October 2012.
- The Nebraska Information Technology Commission and two Nebraska health information exchange initiatives—the Nebraska Health Information Initiative (NeHII) and the Electronic Behavioral Health Information Network (eBHIN)--were recognized by the Office of the National Coordinator for Health IT as national leaders in advancing query-model health information exchange to enhance the safety and quality of health care.
- Dr. Harris Frankel, President of NeHII, was recognized as by the eHealth Initiative as its eHealth Physician Advocate of the Year on Feb. 3, 2011.
- Education I.T. Manager, Tom Rolfes, received the 2011 Nebraska Distance Education Association's Wayne Fisher Award for his work in helping develop and manage the Network Nebraska project.
- The Office of the CIO and State Purchasing Bureau received the State Administrative Services "Pioneering Spirit" Award for competitively bidding and contracting over 150 telecommunications circuits for education entities totaling over \$20 million over 4 years.
- Larry Zink, retired State GIS Coordinator, received the 2012 GIS Service award from MidAmerica GIS Consortium (MAGIC). His efforts are recognized for his expansion of GIS in the state, leading the creation of the Nebraska GIS/LIS Association, and encouraging those in the GIS community to become more involved.

Fun Facts

- 4 past and present Chairs (Kim Robak, Dave Maurstad, Dave Heineman, and Rick Sheehy) have presided over the NITC.
- 6 advisory groups (Community Council, Education Council, eHealth Council, GIS Council, State Government Council, and Technical Panel) have assisted the NITC.
- 41 standards and guidelines have been adopted by the NITC.
- 61 Commission meetings have been held.
- 21 work groups have been active during the past two years.
- 96% of Nebraska households have broadband Internet service available. Nebraska ranks 24th in broadband access.²
- Over 2.2 million patients from Nebraska and neighboring states have information in NeHII's master patient index.
- Twenty-one hospitals in Nebraska and Iowa and over 2,000 physicians and health care providers are participating in NeHII.
- NeHII is the first health information exchange in the country to offer Prescription Drug Monitoring Program functionality.
- 254 education entities are currently served by Network Nebraska.
- The proportional reduction of the unit price of Internet since the State and University began cooperatively bidding the State's Internet (2002-2012) is 99%.
- The proportional increase in length and bandwidth capacity of the statewide education backbone, from 2011 to 2012 is 100%.
- Nebraska K-12 entities pay \$. 79/Mbps/month for Internet access after E-rate discounts are applied.
- The Nebraska Statewide Radio System utilizes 51 towers owned by a variety of entities, including NPPD, the state, and local agencies to provide radio coverage across the state.
- The enterprise e-mail system has over 18,000 mailboxes and receives an average of 500,000 e-mails per weekday. Approximately 85% of e-mails from external senders are stopped by filtering to eliminate spam, virus, and other threats.

² Data from broadbandmap.gov. Data is from July 2012 broadband mapping submission by states participating in the NTIA's broadband mapping program.

Advisory Group Members

Technical Panel	Community Council	Education Council
<p>Walter Weir, Chair, University of Nebraska Computer Services Network</p> <p>Michael Winkle, Nebraska Educational Telecommunications</p> <p>Brenda Decker, Office of the CIO</p> <p>Christy Horn, University of Nebraska Central Administration</p> <p>Kirk Langer, Lincoln Public Schools</p>	<p>Norene Fitzgerald, Chair</p> <p>Chris Anderson, City of Central City</p> <p>Rod Armstrong, AIM Institute</p> <p>Brett Baker, City of Hickman</p> <p>Linda Fettig</p> <p>Phil Green, City of Blair</p> <p>Darla Heggem, Twin Cities Development, Scottsbluff-Gering</p> <p>John Jordison, Great Plains Communications</p> <p>Joan Modrell, Nebraska Department of Labor</p> <p>Tim O'Brien, Nebraska Department of Economic Development</p> <p>Jerry Vap, Public Service Commission</p>	<p>Dr. Terry Haack, Co-Chair, Bennington Public Schools</p> <p>Ed Hoffman, Co-Chair, Nebraska State College System</p> <p>Mike Carpenter, Doane College</p> <p>Clark Chandler, Nebraska Wesleyan University</p> <p>Ron Cone, ESU 10</p> <p>Brenda Decker, Office of the CIO, Nebraska Department of Administrative Services</p> <p>John Dunning, Wayne State College</p> <p>Brent Gaswick, Nebraska Department of Education</p> <p>Stephen Hamersky, Daniel J. Gross Catholic High School</p> <p>Leonard Hartman, Alliance Public Schools</p> <p>Dr. Marshall Hill, Coordinating Commission for Postsecondary Education</p> <p>Yvette Holly, University of Nebraska Medical Center</p> <p>Jeff Johnson, Centennial Public Schools</p> <p>Dr. Mike Lucas, York Public Schools</p> <p>Lyle Neal, Southeast Community College</p> <p>Mary Niemiec, University of Nebraska</p> <p>Randy Schmailzl, Metropolitan Community College</p> <p>Jeff Stanley, Conestoga Public Schools</p> <p>Gary Targoff, Nebraska Educational Telecommunications Commission</p> <p>Dr. Bob Uhing, ESU 1</p>

eHealth Council	GIS Council	State Government Council
<p>Dr. Delane Wycoff, Co-Chair, Pathology Services, PC</p> <p>Marsha Morien, Co-Chair, UNMC College of Public Health</p> <p>Wende Baker, Electronic Behavioral Health Information Network</p> <p>Vivianne Chaumont, Department of Health And Human Services, Division of Medicaid and Long Term Care</p> <p>Susan Courtney, Blue Cross Blue Shield</p> <p>Joni Cover, Nebraska Pharmacists Association</p> <p>Joel Dougherty, OneWorld Community Health Centers</p> <p>Senator Annette Dubas, Nebraska Legislature</p> <p>Congressman Jeff Fortenberry, represented by Marie Woodhead</p> <p>Kimberly Galt, Creighton University School of Pharmacy and Health Professions</p> <p>Donna Hammack, Nebraska Statewide Telehealth Network and St. Elizabeth Foundation</p> <p>Alice Henneman, University of Nebraska-Lincoln Extension in Lancaster County</p> <p>Harold Krueger, Western Nebraska Health Information Exchange and Chadron Community Hospital</p> <p>Sharon Medcalf, UNMC College of Public Health</p> <p>Laura Meyers, Nebraska Statewide Telehealth Network</p> <p>Ken Lawonn, NeHII and Alegent Health</p> <p>Sharon Medcalf, UNMC College of Public Health</p> <p>Sue Medinger, Department of Health and Human Services</p> <p>Kay Oestmann, Southeast District Health Department</p> <p>John Roberts, Nebraska Rural Health Association</p> <p>Greg Schieke, Wide River Technology Extension Center</p> <p>Nancy Shank, Public Policy Center</p> <p>Lianne Stevens, The Nebraska</p>	<p>James W. Ohmberger, Co-Chair, Office of the CIO</p> <p>Mike Preston, Co-Chair, Nebraska Geospatial Professional Association</p> <p>Chad Boshart, Nebraska Emergency Management Agency</p> <p>Karis Bowen, Department of Health and Human Services</p> <p>Rose Braun, Department of Roads</p> <p>Lash Chaffin, League of Nebraska Municipalities</p> <p>Timothy Cielocha, Nebraska Public Power District</p> <p>Dick Clark, Governor's Policy Research Office</p> <p>Steve Cobb, State Surveyor</p> <p>Nancy Cyr, Clerk of the Legislature</p> <p>Eric Herbert, Sarpy County GIS</p> <p>Les Howard, Conservation and Survey Division – UNL</p> <p>Mike Hybl, Public Service Commission</p> <p>James Langtry, US Geological Survey</p> <p>Josh Lear, Department of Natural Resources</p> <p>Jeff McReynolds, City of Lincoln, Lancaster County</p> <p>John Miyoshi, Lower Platte North Natural Resources District</p> <p>Kelly Mueller, Antelope County Assessor's Office</p> <p>Paul Mullen, Metropolitan Area Planning Agency</p> <p>Kyle Otte, Nebraska State Patrol</p> <p>Sudhir Ponnappan, Nebraska Game and Parks Commission</p> <p>Mike Schonlau, Omaha/Douglas County</p> <p>Ruth Sorensen, Department of Revenue</p> <p>Tom Lamberson, Department of Environmental Quality</p>	<p>Brenda Decker, Chair, Office of the CIO</p> <p>Michael E. Behm, Crime Commission</p> <p>Beverlee Bornemeier, Office of the CIO, Enterprise Computing Services</p> <p>Dennis Burling, Department of Environmental Quality</p> <p>Mike Calvert, Legislative Fiscal Office</p> <p>Carlos Castillo, Department of Administrative Services</p> <p>Dick Clark, Governor's Policy Research Office</p> <p>Douglas Ewald, Department of Revenue</p> <p>Pat Flanagan, Private Sector</p> <p>John Gale, Secretary of State of Nebraska</p> <p>Brent Gaswick, Department of Education</p> <p>Rex Gittins, Department of Natural Resources</p> <p>Dorest Harvey, Private Sector</p> <p>Eric Henrichsen, Department of Health and Human Services</p> <p>Catherine Lang, Department of Labor</p> <p>Glenn Morton, Workers' Compensation Court</p> <p>John Munn, Department of Banking and Finance</p> <p>Beverly Neth, Department of Motor Vehicles</p> <p>Gerry Oligmueller, DAS—Budget Division</p> <p>Col. David Sankey, Nebraska State Patrol</p> <p>Jayne Scofield, Office of the CIO, Network Services</p> <p>Robin Spindler, Department of Correctional Services</p> <p>Rod Wagner, Library Commission</p> <p>Janice Walker, Supreme Court</p> <p>Bill Wehling, Department of Roads</p>

<p>Medical Center, Omaha</p> <p>September Stone, Nebraska Health Care Association</p> <p>Steve Urosevich, Department of Correctional Services</p>		
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Appendix

Policy Objectives and Review Criteria

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

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

Policy Objectives

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

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

Review Criteria

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

1. The vision has been realized and short-term and long-term strategies have been articulated and employed;
 2. The statewide technology plan and other activities of the commission have improved coordination and assisted policymakers;
 3. An information technology clearinghouse has been established, maintained, and utilized of Nebraska's information technology infrastructure and of activities taking place in the state involving information technology, and the information flow between and among individuals and organizations has been facilitated as a result of the information technology clearinghouse;
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4. Policies, standards, guidelines, and architectures have been developed and observed;
5. Recommendations made by the commission to the Governor and Legislature have assisted policy and funding decisions;
6. Input and involvement of all interested parties has been encouraged and facilitated; and
7. Long-term infrastructure innovation, improvement, and coordination has been planned for, facilitated, and achieved with minimal barriers and impediments.”