

# An Enterprise Vision for IT in Nebraska

## Nebraska's Statewide Technology Plan

2015-2016





**2015-2016**  
**Nebraska Information Technology Commission**

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# Foreword

**A**n *Enterprise Vision for IT in Nebraska*, the Nebraska Information Technology Commission's annual statewide technology plan, focuses on nine strategic initiatives which promote the effective use of technology within the State of Nebraska, as well as education, economic development, local government, and health care.

Four strategic initiatives—State Government IT Strategy, Cloud Strategy, IT Security, and Nebraska Spatial Data Infrastructure (NESDI)—address the need to take an enterprise approach to IT in order to achieve the State's IT priorities of security, availability, and consolidation. A fifth initiative, State IT Spending Analysis, establishes a process for better tracking State IT expenditures, enabling the State of Nebraska to make better decisions and spend tax dollars more wisely.

The statewide technology plan also addresses the use of technology in education, economic development, and health care. Access to technology and broadband service is becoming increasingly critical for students, businesses, and health care. Four strategic initiatives—Network Nebraska, Digital Education, Community IT Development, and eHealth—promote the effective use of technology, while also highlighting the need to address the divide between those with access to technology and the skills to effectively use it and those without.

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



Ed Toner  
Chief Information Officer  
Chair, Nebraska Information Technology Commission

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# NITC Commissioners and Staff

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## Commissioners

**Ed Toner**, Chair, Chief Information Officer, Office of the CIO, State of Nebraska

**Senator Curt Friesen**, Nebraska Legislature, Ex-officio member

**Dr. Terry Haack**, Superintendent, Bennington Public Schools

**Donna Hammack**, Chief Development Officer, Saint Elizabeth Foundation

**Dorest Harvey**, US Strategic Command / J84

**Randy Meininger**, Mayor, City of Scottsbluff

**Brad Moline**, President, Allo Communications

**Dan Shundoff**, Chief Executive Officer, Intellicom

**Gary Warren**, President of Services Corporations, Hamilton Telecommunications

**Walter Weir**, Chief Information Officer, University of Nebraska

## Staff

**Ed Toner**, Chief Information Officer

**Rick Becker**, Government Information Technology Manager

**Anne Byers**, eHealth and Community Information Technology Manager

**Tom Rolfes**, Education Information Technology Manager

**Nathan Watermeier**, State GIS Coordinator

**Lori Lopez Urdiales**, Administrative Assistant

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# Executive Summary

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The Nebraska Information Technology Commission (NITC) was established by the Legislature in 1998 to provide advice, strategic direction, and accountability on information technology investments in the state. The NITC is chaired by Ed Toner, Chief Information Office for the State of Nebraska. Commissioners are appointed by the Governor and represent elementary and secondary education, postsecondary education, communities, the Governor, and the general public. Much of the NITC's work is conducted through its advisory groups: the Technical Panel, the Community Council, the Education Council, the State Government Council, the eHealth Council, and the GIS Council.

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

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

In accordance with the Legislature's directive (Neb. Rev. Stat. § 86-516) to "annually update a statewide technology plan," the NITC, with input from its advisory groups and other stakeholders, has identified nine areas on which to focus. These initiatives are projects that are of strategic importance to the state and require an enterprise approach, involvement by the NITC, and/or cooperation of multiple entities for their success. The strategic initiatives and the action items which support them are the core of the statewide technology plan. The NITC's current strategic initiatives are:

- State Government IT Strategy
- Cloud Strategy
- State IT Spending Analysis
- IT Security
- Nebraska Spatial Data Infrastructure (NESDI)
- Network Nebraska
- Digital Education
- Community IT Development
- eHealth

# Executive Summary

## Initial OCIO reforms save taxpayers over \$5.3 million

*Cost savings have been realized through eliminating waste and centralizing services  
Centralization initiative enhances information technology security*

On Oct. 21, 2015, Governor Pete Ricketts and Chief Information Officer (CIO) Ed Toner announced over \$5.3 million in savings from initial reforms in the Office of the Chief Information Officer (OCIO). Cost savings have been realized through a variety of initiatives that eliminate waste and centralize information technology services for a variety of state and local government agencies across Nebraska.

Earlier this year, the Governor named Ed Toner to lead the OCIO, the state agency which manages and services information technology for the State of Nebraska. At the time of Toner's appointment, the Governor promised that Toner would "put his private-sector experience to work helping state agencies use 21st-century innovations to find new efficiencies and cost savings while providing quality services to the taxpayers of Nebraska."

Today's announcement is just the first step in delivering on this promise with over 20 different cost savings which include:

- Ninety counties have agreed to relocate their servers to a central location hosted by the OCIO, reducing server maintenance and infrastructure costs.
- Five agencies including OCIO, Roads, Labor, Corrections, and Health and Human Services are consolidating agency help desk support services. The OCIO anticipates that additional agencies will follow suit.
- The OCIO has worked to utilize existing software and make it available at an enterprise level instead of the agency level, reducing the need for multiple software licenses, servers, and maintenance agreements for each server.

These initiatives will result in \$5,321,050 in savings realized over the next 10 years.

"In this first year of my administration, we have focused on running government more like a business," said Governor Ricketts. "Thanks to Ed's leadership, we are already successfully realizing savings for the taxpayers of Nebraska, and we will continue to look for new opportunities across state government to reduce waste and to cut bureaucratic red tape."

"By approaching the information technology needs of the state at the enterprise level, we have more easily and more quickly been able to identify ways to streamline the delivery of our services," said CIO Ed Toner. "These first steps not only demonstrate fiscal restraint, but they have also helped implement information technology best practices which improve the security of the state's servers."

In his first months on the job, Toner has begun to move the state away from a decentralized infrastructure and data management to a centralized model that provides enhanced data security and availability. Aided by Toner's leadership, the state has received agreements from counties to move their servers from around the state to OCIO facilities. Upon completion of this initiative in the first quarter of 2016, all counties with the exception of Douglas, Lancaster, and Sarpy will receive services from one streamlined network that adheres to security standards and unifies security monitoring.

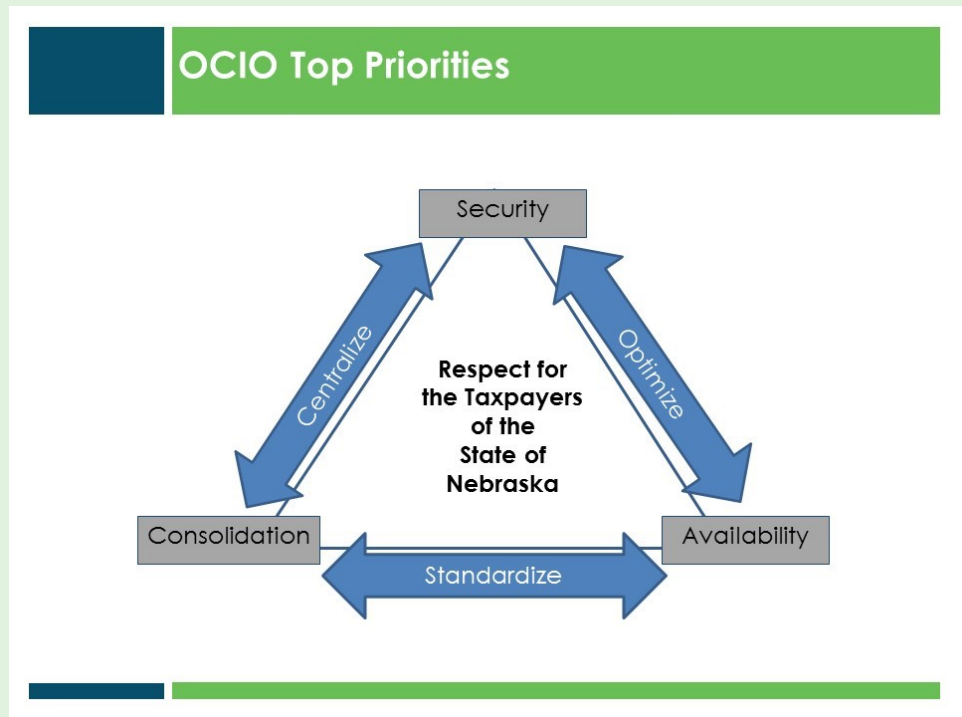
*"By approaching the information technology needs of the state at the enterprise level, we have more easily and more quickly been able to identify ways to streamline the delivery of our services."*

—Ed Toner

# Executive Summary

At the state level, Toner has also begun the process of centralizing state agency servers to reduce overall risk and complexity. The process of moving agency servers to a centralized location started with the State Patrol relocating their servers to a central location hosted by the OCIO, and will continue with additional agencies relocating their servers in the coming weeks and months.

The Governor's Office and OCIO are committed to pursuing additional initiatives on an ongoing basis to better utilize technology to reduce expenses to taxpayers.



The OCIO has prioritized the development of an enterprise approach to IT in order to achieve the State's IT priorities of security, availability, and consolidation.



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# NITC Overview

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The Nebraska Information Technology Commission (NITC) was established by the Legislature in 1998 to provide advice, strategic direction, and accountability on information technology investments in the state. The NITC is chaired by Ed Toner, Chief Information Officer for the State of Nebraska. Commissioners are appointed by the Governor and represent elementary and secondary education, postsecondary education, communities, the Governor, and the general public.

The Office of the Chief Information Officer provides support for the NITC, its Councils, the Technical Panel, and ad hoc groups.

## Vision and Goals

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

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

## Advisory Groups

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

- The **Technical Panel** provides analysis and recommendations to the NITC on technical issues.
- The **Community Council** is composed of representatives from business and economic development, work force development, public libraries and local government. It was formed to identify, prioritize, and coordinate user needs with respect to community information technology.
- The **Education Council** is a 16-member advisory committee composed of representatives from K-12 and postsecondary education. It identifies, prioritizes, and coordinates user needs with respect to educational information technology.
- The **State Government Council** is a 25-member advisory committee composed of

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# NITC Overview

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agency directors, state IT professionals, and two representatives of the private sector. It provides direction and oversight for the development of vision, goals, and policy related to the use of information technology in state government.

- The **eHealth Council** is composed of representatives from public health, consumers, state and federal government, employers, eHealth initiative groups, health care providers, and other resource providers. It was formed to identify, prioritize, and coordinate issues within the realm of healthcare and technology.
- The **GIS Council** is composed of representatives from state and local government associations. They provide statewide coordination of GIS initiatives and enhanced collaboration between municipal, county, state, and federal government entities.



NITC staff work with the Commission's advisory groups. Staff members and the advisory groups with whom they work include (from left to right): Nathan Watermeier (GIS Council), Anne Byers (eHealth and Community Councils), Tom Rolfes (Education Council), Lori Lopez Urdiales, and Rick Becker (Technical Panel and State Government Council).

# Strategic Initiatives

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In order to advance its vision and goals, the NITC, with input from its advisory groups and other stakeholders, has identified nine key initiatives which promote the effective use of technology within the State of Nebraska, as well as education, economic development, local government, and health care. By emphasizing selected strategic initiatives, the NITC hopes to encourage funding of these initiatives and to encourage state agencies to work together to advance these initiatives.

The first four strategic initiatives—State Government IT Strategy, Cloud Strategy, IT Security, and Nebraska Spatial Data Infrastructure (NESDI)—further the development of an enterprise approach to IT in order to achieve the State’s IT priorities of security, availability, and consolidation. The fifth initiative, State IT Spending Analysis, establishes a process for better tracking State IT expenditures. This initiative will enable better decision-making regarding IT investments.

Four strategic initiatives—Network Nebraska, Digital Education, Community IT Development, and eHealth—promote the effective use of technology in these sectors. The initiatives also highlight the need to address the divide between those with access to technology and the skills to effectively use it and those without.

A brief description of each strategic initiative follows:

**State Government IT Strategy.** The objective of this initiative is to develop and implement a comprehensive strategy for the use of information technology by Nebraska state government. The strategy will utilize a hybrid centralization model combining elements of both the centralized and decentralized IT management models. Enterprise technologies will be centralized with agency-specific activities remaining with the agencies.

**Cloud Strategy.** This initiative will develop a comprehensive strategy for the use of cloud-based services by Nebraska state government. Research shows that organizations with an enterprise-wide cloud strategy are far more successful at using the cloud to reduce costs, improve efficiency, and increase business agility.

**State IT Spending Analysis.** The objective of this initiative is to gain a better understanding of information technology spending by Nebraska state government. Action items include creating new accounting codes to better capture IT-related spending, developing reporting tools using the new accounting codes, and preparing an analysis of IT spending by Nebraska state government.

**IT Security.** This initiative will define and clarify policies, standards and guidelines, and responsibilities related to the security of the State’s information technology resources.

**Nebraska Spatial Data Infrastructure (NESDI).** The objective of this initiative is to develop and foster an environment and infrastructure 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 and data 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.

**Network Nebraska.** In order to develop a broadband, scalable telecommunications infrastructure that optimizes the quality of service to every public entity in the state of Nebraska, the Office of the CIO and the University of Nebraska engaged in a collaborative partnership that used existing and new resources to aggregate disparate networks into a multipurpose core backbone extending from Omaha, Lincoln, Grand Island to Scottsbluff.

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*In order to advance its vision and goals, the NITC, with input from its advisory groups and other stakeholders, has identified nine key initiatives which promote the effective use of technology within the State of Nebraska, as well as education, economic development, local government, and health care.*

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# Strategic Initiatives

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Benefits of Network Nebraska include lower network costs, greater efficiency, interoperability of systems providing video courses and conferencing, increased collaboration among educational entities, new educational opportunities, more affordable Internet access, and better use of public investments. Nearly all (99.6%) Nebraska public school districts and all public higher education entities participate in Network Nebraska, benefitting from one of the lowest commodity Internet rates in the entire country. Network Nebraska's low commodity Internet rates are made possible through aggregation of demand and statewide bidding. Network Nebraska's new action item focus will be on better performance metrics and more effective communication to participants and stakeholders.

**Digital Education.** The primary objective of the Digital Education Initiative is to promote the effective and efficient integration of technology into the instructional, learning, and administrative processes and to utilize technology to deliver enhanced digital educational opportunities to students at all levels throughout Nebraska on an equitable and affordable basis. This initiative will involve the coordination and promotion of several major systems and applications that have either been developed mostly at the local level or have not been replicated statewide. Action items will focus on creating professional development opportunities for Nebraska educators to maximize student success through the innovative uses of technology in teaching, addressing technical challenges for students in the transition from secondary to post-secondary education, and addressing the need for equitable broadband access for students and their families to access digital education resources.

**Community IT Planning and Development.** In order to support community-based efforts to address broadband availability, broadband adoption, and the development of a skilled IT workforce, the NITC Community Council has built partnerships with other organizations to develop and deliver outreach programs. Action items include supporting the efforts of communities to address broadband-related development by recognizing outstanding programs and developing a series of best practices and case studies. The Community Council will also partner with the Education Council to expand awareness and address equitable access to broadband for students and their families.

**eHealth.** The Nebraska Information Technology Commission formed the eHealth Council in 2007 to make recommendations on how the State of Nebraska can effectively and efficiently promote the adoption of interoperable health technologies. On July 27, 2015, the Nebraska Information Technology Commission received \$2.7 million in funding from the Office of the National Coordinator for Health Information Technology to advance health information exchange in the state through NeHII (Nebraska Health Information Initiative). The implementation of the two-year grant will be the focus of this initiative.

# Strategic Initiatives

## Grant advances health information exchange

The Nebraska Information Technology Commission (NITC) received over \$2.7 million in funding on July 27, 2015 from the U.S. Department of Health and Human Services Office of the National Coordinator for Health Information Technology. The grant supports greater adoption of health information exchange and to help health care facilities integrate health information technology into their workflow.

The NITC is partnering with the Nebraska Health Information Initiative (NeHII) and the University of Nebraska Medical Center (UNMC) on the grant. NeHII is one of the largest health information exchanges (HIEs) in the country with data on over 3 million individuals and over 5,000 users. This two-year grant builds upon NeHII's successful track record by adding additional Critical Access Hospitals, long-term care facilities, and other providers to NeHII; increasing utilization by providing additional value-added functionality and workflow integration training; and increasing interoperability and integration with a focus on public health and research.

UNMC will provide assistance in workflow integration to facilities participating in two communities selected as integrated communities. Lessons learned will be shared through use case-based training modules.

The grant project is employing a multi-faceted approach to increase adoption of health information exchange technologies and to increase utilization. Grant activities include:

- Implementing 13 Critical Access Hospitals and labs for exchange with NeHII;
- Implementing ten ambulatory clinics and long-term care facilities for exchange with NeHII;
- Implementing Direct secure messaging for 50 long-term care and other facilities;
- Implementing a gateway with five HIEs to enable the exchange of exchange of data across HIEs;
- Implementing Admission Discharge and Transfer (ADT) alerting via mobile messaging for 40 providers;
- Connecting eight Critical Access Hospitals to the State's syndromic surveillance system through NeHII;
- Implementing population health analytics for five facilities;
- Providing assistance in workflow analysis and integration to facilities participating in integrated communities;
- Developing six use-case based training modules; and
- Developing two demonstration projects which integrate HIE data for comparative effectiveness research.



**Project team members met with Zoe Barber, ONC project officer, and Nance Shatzkin, Bronx RHIO CEO, on Jan. 27, 2016. Pictured from left to right: Vicki Kennel, Don Klepser, Zoe Barber, Jessica Gilson, Anne Byers, Gary Cochran, Rachel Houseman, Lianne Stevens, Marsha Morien, Deb Bass, Nance Shatzkin, Nathan Bills, and Roger Van Epps**

*NeHII is one of the largest health information exchanges (HIEs) in the country with data on over 3 million individuals and over 5,000 users.*

# State Government IT Strategy

## Overview

### Objective:

- *To develop and implement a strategy for the use of information technology by Nebraska state government.*

### Description:

Develop and implement a comprehensive strategy for use of information technology by Nebraska state government. The strategy will utilize a hybrid centralization model combining elements of both the centralized and decentralized IT management models. Enterprise technologies will be centralized with agency-specific activities remaining with the agencies.

### Top Priorities:

- Security
- Consolidation
- Availability

### Strengths/Assets:

- Leadership support.
- Use of a hybrid centralization model allows the OCIO to handle enterprise technologies while agencies maintain authority over agency specific activities and functions.

### Challenges/Issues:

- In order for the hybrid structure to work, there has to be strong cooperative and collaborative management between OCIO and agency IT management.

### Collaborators:

- OCIO
- State Government Council
- Technical Panel
- State Agencies

### Recent Accomplishments:

- Single Help Desk Solution has been implemented for initial group of agencies.

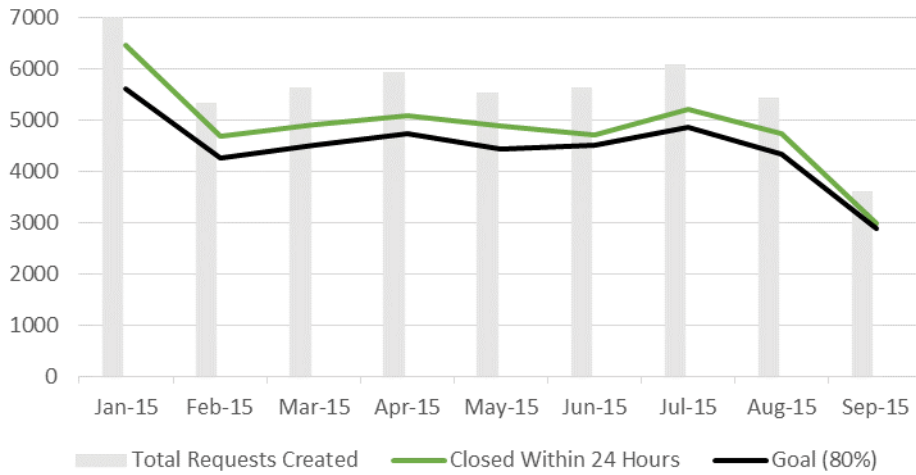
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*The strategy will utilize a hybrid centralization model combining elements of both the centralized and decentralized IT management models.*

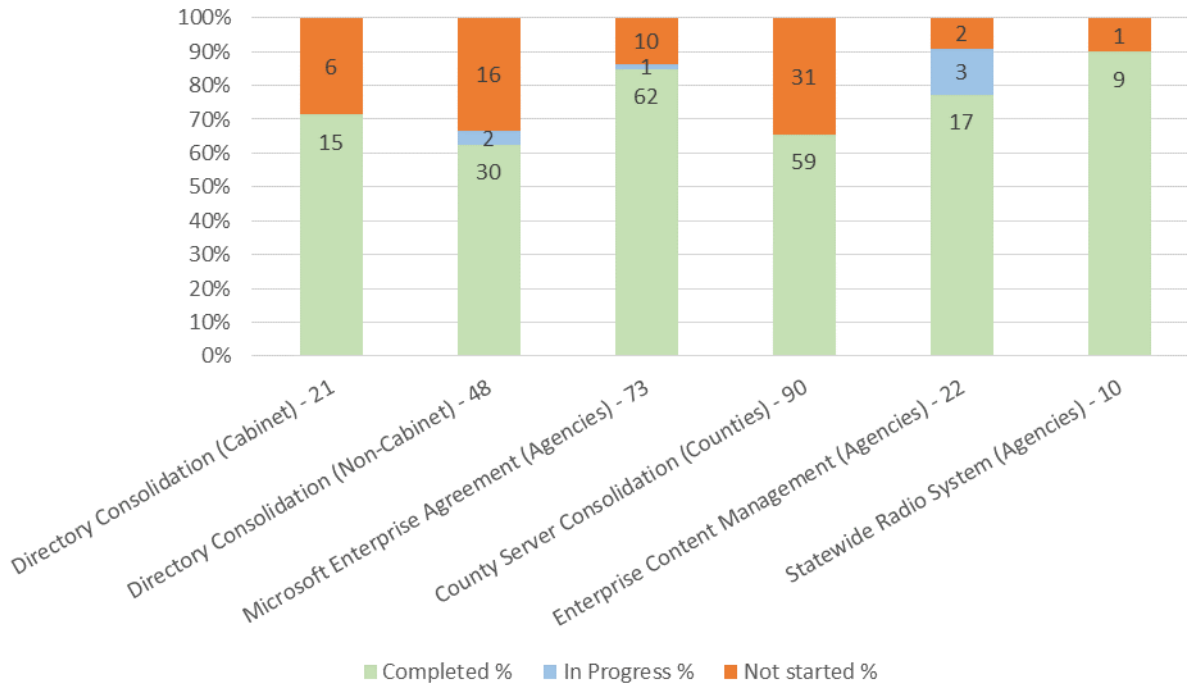
Chief Information Officer  
**State Government IT Strategy**

**Metrics**

**Help Desk - Requests**



**Adoption Rate of Shared Services**



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Chief Information Officer

# State Government IT Strategy

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## Action Items

**1. Action: Single Help Desk Solution - Incident Management Implementation**

**Lead:** OCIO

**Participating Entities:** OCIO; State Agencies

**Timeframe:** July 2015 – June 2016

**Funding:** None

**Targets/Deliverables:**

1. Implement solution and migrate initial group of agencies.
2. Migrate remaining agencies in phases.

**2. Action: Service Catalog Implementation**

**Lead:** OCIO

**Participating Entities:** OCIO; State Agencies

**Timeframe:** September 2015 – March 2016

**Funding:** None

**Targets/Deliverables:**

1. Create service catalog for OCIO.
2. Add other cabinet agencies.

**3. Action: Change Management Solution Implementation**

**Lead:** OCIO

**Participating Entities:** OCIO; State Agencies

**Timeframe:** September 2015 – May 2016

**Funding:** None

**Targets/Deliverables:**

1. Create service catalog for OCIO.
2. Add other cabinet agencies.

**4. Action: Enhance Information Security**

*See IT Security Initiative.*



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Chief Information Officer

# State Government IT Strategy

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## 5. Action: Enhanced Operations Center

**Lead:** OCIO

**Participating Entities:** OCIO; State Agencies

**Timeframe:** July 2015 – June 2016

**Funding:** None

**Targets/Deliverables:**

1. Develop system performance reports and dashboards.
2. Combine Operations and Help Desk.
3. Implement fully functional 24/7 Operations Center.
4. Migrate from Help Desk to Service Desk.
5. Establish Problem Management process.
6. Establish Service Manager Program.

## 6. Action: IT Cost Efficiencies

**Lead:** OCIO

**Participating Entities:** OCIO; State Agencies

**Timeframe:** July 2015 – June 2016

**Funding:** None

**Targets/Deliverables:**

1. Review process in support of the State's IT spending. (See "State IT Spending Analysis" Initiative.)
2. Assess environment, including existing infrastructure and applications, through Agency IT Plans.
3. Enhance server virtualization and optimization.
4. Implement a configuration management database (CMDB) and full asset management processes.
5. Develop a Cloud Strategy (See "Cloud Strategy" Initiative.)
6. Develop a Mobile Application Platform Strategy.

## 7. Action: Operationalize IT and Project Governance

**Lead:** OCIO

**Participating Entities:** OCIO; State Agencies

**Timeframe:** October 2015 – June 2016

**Funding:** None

**Targets/Deliverables:**

1. Enterprise Application governance (i.e., Service Desk tool)
2. Enterprise Project Governance through the Project Management Office
3. Enterprise Infrastructure Governance

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Chief Information Officer

# State Government IT Strategy

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**8. Action: Consolidate on STN Domain**

**Lead:** OCIO

**Participating Entities:** OCIO; State Agencies

**Timeframe:** July 2015 – June 2016

**Funding:** None

**Targets/Deliverables:**

1. Implement phased migration.

**9. Action: Data Center Consolidation - Agency Server Migration**

**Lead:** OCIO

**Participating Entities:** OCIO; State Agencies

**Timeframe:** July 2015 – September 2016

**Funding:** None

**Targets/Deliverables:**

1. Implement phased migration.

**10. Action: Initiate Active/Hot Standby Solution - Enterprise Apps**

**Lead:** OCIO

**Participating Entities:** OCIO; State Agencies

**Timeframe:** July 2015 – December 2016

**Funding:** None

**Targets/Deliverables:**

1. Install core network equipment at both locations.
2. Implement phased migration.

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Chief Information Officer

# Cloud Strategy

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## Overview

### Objective:

- To develop a strategy for the use of cloud-based services by Nebraska state government.

### Description:

Research and develop a comprehensive strategy for use of cloud-based services by Nebraska state government.

- Research shows that organizations with an enterprise-wide cloud strategy are far more successful at using the cloud to reduce costs, improve efficiency, and increase business agility.
- Categories: Private Cloud, Public Cloud, Hybrid Cloud  
Types: SAAS, IAAS, PAAS
  - **Private Cloud** (The OCIO provides private cloud services.) A private cloud can be built and managed by either internal IT or an external service provider, typically on-premise inside your firewall. IT services are offered to the organization's internal customers via chargeback capabilities. These services are core to your business and contain highly confidential and sensitive information.
  - **Public Cloud.** Best suited for applications that tend to have low strategic value and high operational flexibility requirements such as archive storage.
  - **Hybrid Cloud** (A viable option especially for SAAS and currently in use.) Best suited for applications that have low strategic value with workloads that are unpredictable and require flexibility and scalability for spikes in demand.
- Topics for consideration:
  - Examine the potential benefits of moving services to the cloud.
  - Determine infrastructure needed to implement the strategy.
  - Identify security, legal and other restrictions.
  - Research best practices for use of the cloud by governmental agencies.
  - Identify the appropriate uses for of the various types of cloud services -- public cloud, private cloud, and hybrid cloud.
  - Develop a framework for categorizing functions/applications based on appropriateness for using cloud services.
  - Examine dimensions such as strategic value and operational flexibility for categorization of functions/applications.
  - Identify and prioritize initial projects.
  - Identify metrics for measuring successful implementation of the strategy.

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*Research shows that organizations with an enterprise-wide cloud strategy are far more successful at using the cloud to reduce costs, improve efficiency, and increase business agility.*

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Chief Information Officer

# Cloud Strategy

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**Strengths/Assets:**

- The State has experience using various cloud services. Lessons learned can be incorporated into the strategy.
- Cloud services are a becoming a more mature service offering.

**Challenges/Issues:**

- Multiple agencies with varying requirements will need to participate in developing the strategy.

**Collaborators:**

- OCIO
- State Government Council
- Technical Panel
- State Agencies

## Action Items

1. **Action: Develop a strategy for the use of cloud-based services by Nebraska state government.**

**Lead:** OCIO

**Participating Entities:** OCIO; State Government Council; Technical Panel; State Agencies

**Timeframe:** January 2016 – July 2016

**Funding:** None

**Targets/Deliverables:**

1. Cloud Strategy Document

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Chief Information Officer

# State IT Spending Analysis

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## Overview

### Objective:

- *To gain a better understanding of information technology spending by Nebraska state government.*

### Description:

Research and prepare an analysis of information technology spending by Nebraska state government.

- Institute a central governance model for technology purchases and roadmap.
- Identify and consolidate and/or eliminate disparate technology including hardware and software within and across State agencies to include enterprise software agreements.
- Standardize personal workstation platforms reducing complexity, cost per unit and cost of end user management.
- Consolidate and optimize IT infrastructure support staff where appropriate. Services requiring agency-specific competencies will remain at the agency.
- Define model and process for governance and standardization around shared services and shared infrastructure.

### Strengths/Assets:

- Agencies use a single accounting system to enter spending data.

### Challenges/Issues:

- Limited historically information available.
- Accounting codes used by agencies do not capture spending information in a manner useful for analyzing IT related spending. New codes are needed.

### Collaborators:

- OCIO
- State Accounting Division
- State Budget Division
- State Agencies

### Recent Accomplishments:

- New accounting codes for information technology have been created. The OCIO is currently pilot testing the use of these codes. Agency financial leads were briefed on the use of the new codes.

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Chief Information Officer

# State IT Spending Analysis

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## Action Items

**1. Action: Create new accounting codes to better capture IT-related spending.**

**Lead:** State Accounting Division

**Participating Entities:** OCIO; State Budget Division

**Timeframe:** July 2015 – January 2016

**Funding:** None

**Targets/Deliverables:**

1. Develop new accounting codes and definitions.
2. Pilot test new codes.
3. Roll-out new codes to cabinet agencies.

**2. Action: Develop reporting tools using the new accounting codes.**

**Lead:** State Accounting Division

**Participating Entities:** OCIO; State Budget Division

**Timeframe:** November 2015 – January 2016

**Funding:** None

**Targets/Deliverables:**

1. Design reports to be generated by the accounting system using the new codes.

**3. Action: Prepare an analysis of information technology spending by Nebraska state government.**

**Lead:** OCIO

**Participating Entities:** State Government Council

**Timeframe:** January 2016 – June 2016

**Funding:** None

**Targets/Deliverables:**

1. IT Spending Analysis Document

# Security

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## Overview

### Objectives:

- *To define and clarify policies, standards and guidelines, and responsibilities related to the security of the State's information technology resources, including:*
  - *Reviewing security settings on State hardware and software;*
  - *Reviewing security requirements for IT purchases;*
  - *Conducting security awareness training and education;*
  - *Conducting security assessments and risk assessments on data and facilities;*
  - *Conducting vulnerability management scanning;*
  - *Conducting application vulnerability scanning;*
  - *Complying with Federal regulations for PCI, HIPAA, IRS, CJIS, SSA; Following the NIST Framework;*
  - *Implementing statewide reporting mechanism for security related events;*
  - *Implementing statewide Security Operations Center in cooperation with the University of Nebraska System;*
  - *Implementing statewide Computer Emergency Response Team (CERT).*

### Challenges/Issues:

- Lack of funding
- Lack of staff
- De-centralized IT structure for the State including agency information security officers

### Collaborators:

- Security Architecture Workgroup
- University of Nebraska System
- Southeast Community College
- Department of Homeland Security
- Federal Bureau of Investigation
- Nebraska Information Assurance Center
- OWASP

# Security

## Recent Accomplishments:

- Gap analysis performed on NITC standards identifying items needing to be addressed to bring the standards up to NIST framework criteria.
- Cyber Resilience Review (Security Assessment) performed by the Department of Homeland Security for 6 State of Nebraska Agencies.
- Deployed Albert monitoring system from MS-ISAC to measure anomalies in net-flow.
- Completed inventory of Personally Identifiable Information.
- 10<sup>th</sup> Annual Cyber Security Conference was held.

## Metrics

### NCATS – Number of Vulnerable Hosts on the Public IP Facing Address Space

The total number of vulnerabilities found in this test was 68. This total will be used in a comparison over time with future Cyber Hygiene assessments.

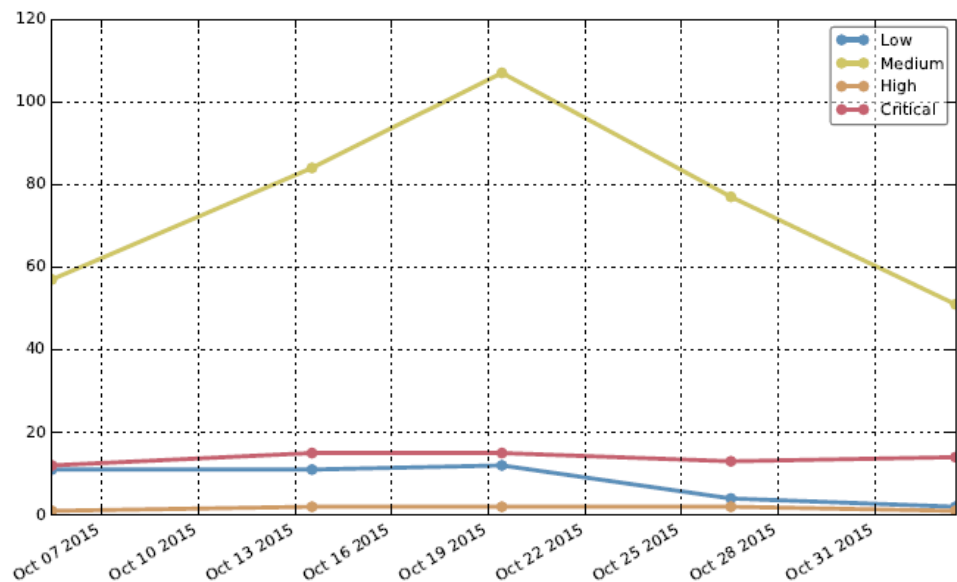


Figure 11: Trending of Total Vulnerabilities by Type

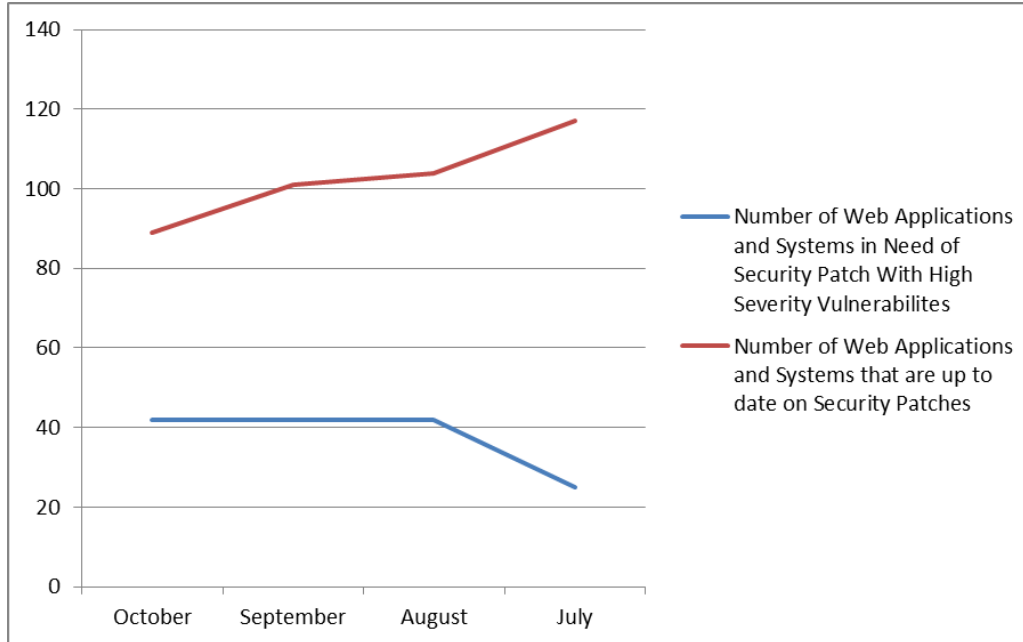
	Current Report	Previous Report	% Change
Hosts	69	72	-5.0%
Vulnerable Hosts	21	23	-9.0%
Distinct Operating Systems	45	45	0.0%
Distinct Vulnerabilities Identified	12	16	-25.0%

Data obtained from the Department of Homeland Security



## Chief Information Officer Security

### CIS Web Profiling



Data From Multi State – Information Sharing and Analysis Center showing the patch status for public facing Web Applications and Systems

## Action Items

- Action:** Complete Mobile Device Management solution implementation (MaaS360 from Fiberlink / IBM).  
**Lead:** Chris Hobbs, State of Nebraska Information Security Officer  
**Participating Entities:**  
**Time Frame:** October 2015 – January 2016  
**Funding:** Charge back to Agencies  
**Current Status:** Testing of product has been completed. Information is being gathered to determine the funding for the product.  
**Targets / Deliverables:**
  - MaaS360 will be installed on all mobile devices authenticating to the State of Nebraska network.

## Security

- 2. Action: Complete transition to Security Mentor Security Awareness videos for all State employees.**  
**Lead:** Chris Hobbs, State of Nebraska Information Security Officer  
**Participating Entities:** Security Architecture Workgroup; Department of Administrative Services  
**Time Frame:** October 2015 – January 2016  
**Funding:** Charge back to Agencies  
**Current Status:** Review of the product has been completed. Information is being gathered to determine the number of licenses to purchase.  
**Targets / Deliverables:**

  1. Security Awareness videos will be delivered to all State employees through the Learning Management System on a semi-monthly basis.
  2. Emails that re-inforce the video will be sent to all State employees on the off months.
  
- 3. Action: Perform a complete IT hardware inventory of all State agencies.**  
**Lead:** Chris Hobbs, State of Nebraska Information Security Officer  
**Participating Entities:** State of Nebraska Agencies  
**Time Frame:** January 2016 – June 2016  
**Current Status:** Not Started  
**Targets / Deliverables:**

  1. Itemized list of IT-related hardware used within the State of Nebraska network
  
- 4. Action: Perform a complete IT application inventory of all State agencies.**  
**Lead:** Chris Hobbs, State of Nebraska Information Security Officer  
**Participating Entities:** State of Nebraska Agencies  
**Time Frame:** January 2016 – June 2016  
**Current Status:** Not Started  
**Targets / Deliverables:**

  1. Itemized list of applications used within the State of Nebraska network
  
- 5. Action: Complete Nebraska Security Operation Center.**  
**Lead:** Chris Hobbs, State of Nebraska Information Security Officer  
**Participating Entities:** University of Nebraska, Central Administration; University of Nebraska, Lincoln; University of Nebraska, Omaha; University of Nebraska, Kearney; University of Nebraska Medical Center; Third Party Vendors; Multi State Information Sharing and Analysis Center (MS-ISAC); Department of Homeland Security (DHS)  
**Time Frame:** January 2016 through December 2016  
**Funding:** To Be Determined

## Security

**Current Status:** Preliminary meetings have been held with the University of Nebraska Information Security Officers to ascertain interest in project and plan needed steps. Meetings will be chaired by Chris Hobbs and held monthly.

**Targets / Deliverables:**

1. Enterprise Security Information and Event Management (SIEM) system
2. Enterprise Security Operations Centers in multiple locations 24 x 7 for redundancy
3. Service Level Agreements with all participants
4. Written Charter

**6. Action: Complete update of NITC Standards and guidelines according to gap analysis**

**Lead:** Chris Hobbs, State of Nebraska Information Security Officer

**Participating Entities:** Security Architecture Workgroup, Steve Clauson

**Time Frame:** October 2015 – March 2016

**Funding:** Existing Resources

**Current Status:** Preliminary drafts have been submitted to the Office of the Chief Information Officer for review.

**Targets / Deliverables:**

1. Updated NITC 8-101 Information Security Policy
2. Updated NITC 8-102 Data Security Standard
3. Updated NITC 8-103 Minimum Server Configuration Standard
4. Updated NITC 8-201 Information Technology Disaster Recovery Plan
5. Updated NITC 8-301 Password Standard
6. Updated NITC 8-303 Remote Access Standard
7. Updated 8-304 Remote Administration of Internal Devices Standard

## Security

### Conference increases cyber awareness, knowledge

On September 30, 2015, the 10<sup>th</sup> Annual Nebraska Cyber Security Conference was held on the main campus of Southeast Community College. The goal of the conference is to increase cyber security awareness and increase the knowledge attendees can use in their careers. The 2015 conference was a huge success with increases in presentations, sponsorships, and attendance.

The welcome address was given by Lieutenant Governor Mike Foley, Major General Daryl Bohac, and Chief Information Officer Ed Toner. Each gave their perspective on the importance of cyber security and included remarks on the direction the State is going regarding cyber security. The lunch time keynote speaker was Rick Harris from the Policy, Plans and Strategy Office of the Department of Homeland Security. Mr. Harris spoke of the national view of cyber security as well as some of the services that are offered by the Department of Homeland Security.



**Rick Harris from the Policy, Plans and Strategy Office of the Department of Homeland Security speaks to over 200 attendees at the 10<sup>th</sup> Annual Nebraska Cyber Security Conference.**

The number of presentations increased from 16 sessions in 2014 to 27 sessions in 2015. Presenters came from a variety of organizations, including the FBI, the IRS, the Department of Homeland Security, the University of Nebraska System, OWASP, the Nebraska State Patrol, the Federal Trade Commission, and the National Cyber Security Alliance. Sessions this year included topics such as Small Business Cyber Threats, Internet of Things (IoT), Cryptography, and 10 Essential Practices for Security Officers. The most popular session this year was "The Cyber Threat Environment" presented by Ken Schmutz of the FBI. Other popular sessions were "OWASP Application Security" from Zac Fowler (University of Nebraska Omaha) and John Rodgers (Lincoln Financial Group), "PCI / DSS 3.1" from Jayne Friedland Holland (eGov /NIC), "IRS Safeguards" from Steve Matteson (IRS), and "Active Shooter Training" from Shane Flynn (Nebraska State Patrol).

Sponsorships increased from 7 sponsors in 2014 to 15 sponsors in 2015. The sponsor list included: IBM, Dell, Dell SecureWorks, Sirius, AT&T, Linoma Software, AOS, Bomgar, RSA, Palo Alto Networks, Optiv, Infogressive, MobileIron, FireEye, and Bit9 / Carbon Black. In addition, we had three nonprofit sponsors this year, including the Better Business Bureau, the Federal Trade Commission, and Stay Safe Online.

The 240 attendees, up from 146 in 2014, came from a variety of organizations, including state government, city and local governments, higher education, the banking industry, ESU's, legal, technical institutions, insurance, law enforcement, and Public Power Districts.

The planning for the 11<sup>th</sup> Annual Nebraska Cyber Security Conference will begin in January 2016.

# Nebraska Spatial Data Infrastructure (NESDI)

## Overview

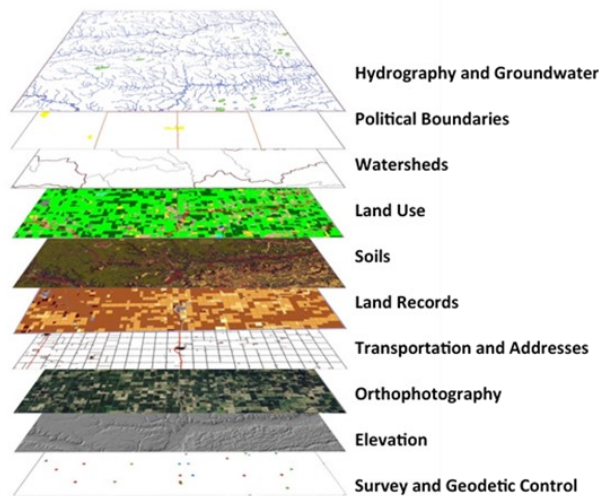
### Objective:

- *To develop and foster an environment and infrastructure 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 and data 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.*
  - *Facilitate the creation, maintenance, analysis and publishing of quality and authoritative data and information systems. Priority layers include: imagery, elevation, street centerlines, point addressing, and land records.*
  - *Formalize data stewardship and encourage data sharing and provide widespread access to data and services through NebraskaMAP.gov.*
  - *Facilitate technical assistance and education outreach opportunities for furthering the adoption of the NESDI and geospatial applications.*
  - *Achieve sustainable and efficient allocation of resources to support the implementation and wise governance of GIS services and geospatial data*

### Collaborators:

- The State of Nebraska
- Local and County Government
- League of Municipalities
- Nebraska Association of County Officials
- Nebraska GIS LIS Association
- Natural Resources Districts
- Public Power Districts
- Federal Agencies
- Private Industry
- K-12, College, and University of Nebraska

### Nebraska Core Framework Layers



### Strengths/Assets:

- The GIS Council, established by Neb. Rev. Stat. § 86-572(2), provides an existing governance structure, representing a broad range of stakeholder interests.
- Standards which are foundational to the NESDI are in place or in development.

## Nebraska Spatial Data Infrastructure (NESDI)

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- Existing State GIS Coordinator and one GIS staff member in CIO GIS Shared Services Office.
- Several strong state agency and local county-based GIS programs.
- Several NESDI data layers and applications exist with coverage in priority areas or statewide.
- Strategic Plan completed in 2012 with stakeholder input from across the state. It serves as roadmap to setting statewide priorities and was used to develop the NESDI strategic initiative and action items.
- Centralized data file infrastructure established to host and share state agency data layers.

### Challenges/Issues:

- Insufficient legislative or executive sponsor to support GIS Council efforts.
- Resources are inadequate to develop and maintain all framework layers.
- Resources are inadequate for a stewardship infrastructure that supports comprehensive stewardship of framework data.
- Outreach and training needs of GIS and geospatial data use and applications are broad given the level of different users.
- Reluctance to share data or making data available easily or timely.
- Technical limitations in current infrastructure and networks to host and exchange data.
- Sustainability of data maintenance and updates.
- Lack of metadata and appropriate documentation of data layers to support data discovery, sharing, and reliability of data.
- Lack of understanding of standards and no authoritative enforcement to data stewards not following standards. Local counties do not see NITC standards as a requirement but a guideline.

### Recent Accomplishments:

- Working groups established involving our collaborators to gather information and develop plans.
- New standards adopted for elevation, imagery, street centerlines and addresses. Metadata standards have been updated to reflect federal ISO requirements.
- Elevation business plan completed and implementation started with collaborators working to acquire data through a 4,400 acre project in western Nebraska.
- Established a statewide K-12 GIS Education Initiative by leveraging a statewide enterprise license agreement for software and services to private and public schools.

# Nebraska Spatial Data Infrastructure (NESDI)

## Recommendations:

- Continue this initiative. Current GIS Council goals are in line with strategic initiative and objectives. The next set of priority NESDI layers will become new action items in this initiative.
- Integrate NESDI data development, maintenance and application priorities into public safety, NG 9-1-1, and emergency management policy and activities.

## Metrics

The metrics below and on the following page are used to evaluate the status of the NESDI and overall GIS program for the state.

### Core NESDI Data Development and Maintenance Criteria and Status

Core Framework Layers	Executive Sponsor	Charter/ Business Plan	Data Steward	Data Model	Pilot Project	Adopted Standard	Infra-structure	Fully Implemented	Shared	Sustained Funding
Geodetic/Survey Control										
Imagery										
Elevation										
Land Records / Parcels										
Street Centerline										
Address										
Boundaries										
Hydrography										
Soils										
Land Use Land Cover										
Wells										
Watersheds										

Complete	In Progress	Inactive	Funded	Partially Funded	Unfunded

# Nebraska Spatial Data Infrastructure (NESDI)

## Status of Nebraska Based on NSGIC Coordination Criteria

The National States Geographic Information Council (NSGIC) has published a listing of “9 Criteria for a Successful Statewide GIS Program.” While these are not firm, binary criteria, they provide a measure by which different states can be compared. In general, the most successful states tend to have these things in common.

Criterion	Status
1. A full-time, paid coordinator position is designated and has the authority to implement the state's business and strategic plans:	<b>Partially meets criterion.</b> NITC has a full-time State GIS Coordinator. Authority to implement Business and Strategic Plans will come through NITC and Office of the CIO. Limited funds are available to carry out specific action items.
2. A clearly defined authority exists for statewide coordination of geospatial information technologies and data production:	<b>Partially meets criterion.</b> NITC GIS Council provides governance to statewide coordination efforts along with the Office of the CIO based on statutory authority for state entities. Rely on partnerships from local involvement.
3. The statewide coordination office has a formal relationship with the state's Chief Information Officer (CIO):	<b>Meets criterion.</b> The State GIS Coordinator is positioned in the Office of the CIO.
4. A champion (executive and other legislative champions) is aware and involved in the process of geospatial coordination:	<b>Does not meet criterion.</b> There are no strong, active champions currently involved in the process.
5. Responsibilities for developing the National Spatial Data Infrastructure and a State Clearinghouse are assigned:	<b>Partially meets criterion.</b> A complete Nebraska Spatial Data Infrastructure (NESDI) has not been fully developed. The NebraskaMAP state clearinghouse exists, but has limited capability and lags behind other states. Both require sustained resources to develop
6. The ability exists to work and coordinate with local governments, academia, and the private sector:	<b>Partially meets criterion.</b> These entities are represented on the NITC GIS Council. There is some evidence of local government involvement with state functions, but overall GIS adoption across the state remains low.
7. Sustainable funding sources exist to meet project needs:	<b>Partially meets criterion.</b> There is funding for the State GIS Coordinator and various resources for projects through other agencies. However, long-term, sustainable funding and allocation of resources is still needed.
8. GIS Coordinator has the authority to enter into contracts and become capable of receiving and expending funds:	<b>Meets criterion.</b> The State GIS Coordinator in the Office of the CIO can enter into contracts.
9. The Federal Government works through the statewide coordinating authority:	<b>Partially meets criterion.</b> The Federal Government recognizes the Nebraska GIS Council and their efforts and has worked with the state (e.g. via NAIP, Homeland Security, FEMA, NebraskaMAP)



# Nebraska Spatial Data Infrastructure (NESDI)

## Action Items

### 1. Action: Formalize the definition of the Nebraska Spatial Data Infrastructure (NESDI) and data stewardship

GIS assists in solving complex issues by providing the ability to understand spatial relationships among various spatial data sets. In many cases, the spatial analysis capabilities of a GIS can identify trends from among many datasets to solve problems. Selected datasets have such widespread utility in a GIS that they have been identified as “Framework Datasets” and due to their significance are accorded special attention by the GIS community. Traditionally, these data sets have been developed independently for a relatively narrow range of purposes. However, the use of geospatial data and the range of applications it is used for is growing rapidly. This places increasing demands on individual data in terms of accuracy and completeness, and especially upon those inherent spatial relationships among datasets.

This action item will begin to better define the NESDI and identify the necessary relationships among the various NESDI data layers. The document will provide an illustration of the “big picture” of Nebraska’s framework including:

- A common understanding of framework
- A context for prioritizing the components of the framework
- A context and justification for future funding requests
- A basis for identification of potential stewards and stewardship roles and responsibilities

The context of the framework themes will be explored at the local, state, regional and national levels. This will benefit the overall coordination, development, revision and promulgation of the relationships among various GIS framework data standards. It will aid in development, implementation and revision of stewardship guidance and procedures for the various GIS framework themes. In addition, it will provide additional direction on NESDI governance, management practices, policy development, and outreach with the statewide community.

**Lead:** State GIS Coordinator, GIS Council Representatives

**Participating Entities:** GIS Council, NESDI Data Stewards

**Timeframe:** 2015-2017

**Funding:** No initial funding required for this action item other than personnel time to meet, develop and communicate plans.

**Target/Deliverables:**

1. Establish an ad hoc committee of GIS Council representatives to work on this action item.
2. Develop a document that defines the NESDI and the role of data stewardship to support the NESDI.

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*GIS assists in solving complex issues by providing the ability to understand spatial relationships among various spatial data sets. In many cases, the spatial analysis capabilities of a GIS can identify trends from among many datasets to solve problems. Selected datasets have such widespread utility in a GIS that they have been identified as “Framework Datasets” and due to their significance are accorded special attention by the GIS community.*

## Nebraska Spatial Data Infrastructure (NESDI)

### 2. Action: Geodetic and Survey Control Inventory and Assessment

Spatial data deployed in an enterprise environment generally has higher requirements for accuracy and quality than does a single-purpose dataset. Geodetic and survey control is essential for the development of spatial data that can be analyzed in combination with other layers.

A careful examination of our current survey and geodetic control data across the state based will be conducted on various criteria for its use in the development of NESDI framework layers. This action item will identify methods and linkages through NebraskaMAP to communicate and provide access to relevant data to users and stakeholders.

**Lead:** State GIS Coordinator, GIS Council Representatives

**Participating Entities:** Nebraska Department of Natural Resources, Nebraska Department of Roads, State Surveyors Office, various Licensed Land Surveyors, Federal Partners including NOAA – National Geodetic Survey and Army Corp of Engineers

**Timeframe:** 2015-2017

**Funding:** No initial funding required for this action item other than personnel time to meet, develop and communicate plans.

**Target/Deliverables:**

1. Establish an ad hoc committee involving stakeholders from government, private industry and the survey community.
2. Develop a current inventory and assessment report of geodetic and survey control in Nebraska.
3. Summarize scope of geodetic and survey control in the state in terms of coverage, density, and availability of data for use in the development of other NESDI framework layers.
4. Identify and document recommendations for:
  - Developing and improving statewide survey and geodetic control data in Nebraska.
  - Incorporation of recommendations into new and current NITC standards that impact the NESDI framework.
  - Education and training needs to stakeholders for using survey and geodetic control in their applications.
  - Best practices for incorporating data into mapping, GIS, and other GPS related applications.
  - Methods and linkages through data sharing to communicate and provide access to relevant data to users and stakeholders.

### 3. Action: Nebraska Statewide Elevation Program

Surface elevation databases are critically important for a wide range of GIS applications and as such have been determined to be a priority database for development by the GIS Council. Elevation databases have been determined by the Federal Geographic Data Committee (FGDC) to be a Framework Database because of their use by a wide cross-section of geospatial data users. LiDAR (Light Detection and Ranging) is a proven remote sensing technology that enables the efficient collection of highly accurate

## Nebraska Spatial Data Infrastructure (NESDI)

surface elevation data for large geographic areas. This dataset serves as a basis for other derived geospatial data products in its relationship to the overall NESDI. More importantly, this data set strengthens the geodetic control context for the development of other framework layers. Pursuant to the objectives outlined in the Strategic Plan, the GIS Council is responsible for identifying and coordinating the use of digital elevation LiDAR technologies to develop enhanced surface elevation data for Nebraska. This involves:

- a) An assessment of the current status and perceived adequacy of existing Nebraska surface elevation data, relative to the perceived short and intermediate-term needs;
- b) An exploration and documentation of the likely costs and benefits of utilizing LiDAR technology to collect enhanced surface elevation data for large geographic areas of Nebraska;
- c) Recommendations related to possible future Nebraska LiDAR initiatives including technical standards, possible lead agencies, funding strategies, and timelines; and
- d) Identification of methods and linkages through NebraskaMAP to communicate and provide access to relevant data to users and stakeholders.

**Lead:** State GIS Coordinator, GIS Council Elevation Working Group

**Participating Entities:** Nebraska Department of Natural Resources, Nebraska Department of Roads, Nebraska Natural Resource Districts, Public Power Entities, Federal Partners including Army Corp of Engineers, USGS, USDA-NRCS, and USDA-FSA.

**Timeframe:** 2015-2017

**Funding:** No initial funding required for this action item other than personnel time to meet, develop and communicate plans. Future funds are required for meeting objectives outlined in the business plan.

**Target/Deliverables:**

1. Establish an Elevation Working Group to support this action item.
2. Identify and develop a set of standards for standard elevation product(s) that will meet the majority of stakeholder requirements and expectations in a cost-effective manner.
3. Develop a Nebraska Statewide Elevation Program business plan.
4. Implement a Nebraska Statewide Elevation Program.

#### 4. Action: Nebraska Statewide Imagery Program

Imagery is a required spatial data framework layer needed for a multitude of mapping applications. It is important that imagery is accurate, current, and easily accessible to end users. This dataset serves as a basis for other derived geospatial data products in its relationship to the overall Nebraska Spatial Data Infrastructure (NESDI). 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 be 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 Or-

## Nebraska Spatial Data Infrastructure (NESDI)

thoimagery Consortium (NIROC) and the USDA Farm Services Agency – National Aerial Imagery Program (NAIP). This initiative will:

- Research and develop recommendations for standards, policies, infrastructure, and funding to support collaborative efforts by state, local and federal agencies to periodically acquire updated orthoimagery.
- Identify methods and linkages through NebraskaMAP to communicate and provide access to relevant data to users and stakeholders.

**Lead:** State GIS Coordinator, GIS Council Imagery Working Group

**Participating Entities:** Nebraska Department of Natural Resources, Nebraska Department of Roads, Nebraska Natural Resource Districts, Public Power Entities, City and County Governments, Federal Partners including USGS and USDA-FSA.

**Timeframe:** 2015-2017

**Funding:** No initial funding required for this action item other than personnel time to meet, develop and communicate plans. Future funds are required for meeting objectives outlined in the business plan.

**Target/Deliverables:**

1. Establish an Imagery Working Group to support this action item.
2. Identify and develop a set of standards for standard imagery product(s) that will meet the majority of stakeholder requirements and expectations in a cost-effective manner.
3. Develop a Nebraska Statewide Imagery Program business plan.
4. Implement a Nebraska Statewide Imagery Program.

### 5. Action: Street Centerline-Address Database

This action item will:

- Develop and maintain a statewide seamless street centerline and address referencing system used for various transportation, public safety (ie, NexGEN 911), economic development and other related applications.
- Initiate assessment of current street centerline data.
- Implement a data model and workflow guidelines for QA/QC of existing and future maintenance of street centerline data.
- Develop data model for address points and use of data in relationship to street centerlines and other NESDI framework layers.
- Further develop partnership efforts that support NexGEN 911 or combinations thereof who needs to be involved in the process of using street centerline and address point data.
- Research and develop recommendations for standards, policies, infrastructure, and funding to support collaborative efforts by state, local and federal agencies to periodically acquire updated a seamless street centerline-address database.
- Identify methods and linkages through NebraskaMAP to communicate and provide access to relevant data to users and stakeholders.

**Lead:** State GIS Coordinator, GIS Council Street Centerline and Address Working Group

## Nebraska Spatial Data Infrastructure (NESDI)

**Participating Entities:** GIS Council, State Government Council, Nebraska Department of Roads, E 9-1-1 community

**Timeframe:** Implementation timeline determined by Business Plan

**Funding:** No initial funding required for this action item other than personnel time to meet, develop and communicate plans. Future funds are required for meeting objectives outlined in the business plan.

**Target/Deliverables:**

1. Establish a Street Centerline and Address Working Group to support this action item.
2. Identify and develop a set of standards for standard street centerline and address product(s) that will meet the majority of stakeholder requirements and expectations in a cost-effective manner.
3. Develop a Nebraska Street Centerline Database (NSCD) and a Nebraska Address Database (NAD) business plan.
4. Implement a Nebraska Street Centerline Database (NSCD) and a Nebraska Address Database (NAD).

### 6. Action: Statewide Land Record Information System

This action item will:

- Develop an integrated statewide land records system capable of providing reliable online access to this critical data, maintaining restricted privacy access as necessary, and supporting a variety of applications by multiple agencies.
- Develop guidelines for a common geodatabase model that can provide public data for use in a multitude of state government applications.
- Implement a geodatabase model to maintain baseline data.
- Work with local governments, state agencies, and the private sector to develop a collaborative plan, standards/guidelines, and the infrastructure necessary to encourage and facilitate the ongoing integration of separately-maintained state, city, and county land records.
- Develop data workflows with local county assessors to obtain parcel (spatial and attribute) data for use in various state government applications.
- Revise the current NITC Land Record Information and Mapping Standards that have been adopted with the goal of enabling the integration of local government land records into a statewide dataset.
- Identify methods and linkages through NebraskaMAP to communicate and provide access to relevant data to users and stakeholders.

**Lead:** State GIS Coordinator, GIS Council Land Records Working Group

**Participating Entities:** GIS Council, State Surveyors Office, Department of Revenue, County Assessors, and various licensed Land Surveyors

**Timeframe:** Implementation timeline determined by Business Plan

**Funding:** No initial funding required for this action item other than personnel time to meet, develop and communicate plans. Future funds are required for meeting objectives outlined in the business plan.

**Target/Deliverables:**

## Nebraska Spatial Data Infrastructure (NESDI)

1. Establish a Land Records Working Group to support this action item.
2. Update the current NITC 3-202 Land Record and Information Mapping Standards for standard land record product(s) that will meet the majority of stakeholder requirements and expectations in a cost-effective manner.
3. Develop a Nebraska Statewide Parcel Geodatabase Development and Maintenance Plan.
4. Implement the Nebraska Statewide Parcel Geodatabase Development and Maintenance Plan.
5. Develop a Nebraska Land Records business plan.
6. Implement the Nebraska Land Records business plan.

### 7. Action: NebraskaMAP - A Geospatial Data Sharing and Web Services Network

This initiative will:

- Enhance NebraskaMAP beyond its current geoportal status to an enterprise-level geospatial platform;.
- Provide necessary communication and mechanisms for public and private access to peer-reviewed Nebraska SDI data, maps, and GIS web services.

NebraskaMAP started as a metadata portal to inventory and provide linkages to several data sets. Enhancements will involve expanding services to upload, review and share NESDI data either through direct download, REST services, or accessing through web services. This system would also provide conduit to authoritative data sets, linked and shared base maps to reduce data storage costs, and a coordinated security system, including the possibility for limited data access and password protection for specific data sets. The State agencies are developing a statewide GIS Enterprise system in order to conduct daily business operations. This systems will also coincide with the interoperability, data sharing, and workflows planned for NebraskaMAP.

**Lead:** State GIS Coordinator, GIS Council NebraskaMAP Working Group

**Participating Entities:** GIS Council, State Agencies, State Government Council

**Timeframe:** 2015-2017

**Funding:** No initial funding required for this action item other than personnel time to meet, develop and communicate plans. Future funds are required for meeting objectives outlined in the business plan.

**Target/Deliverables:**

1. Establish a NebraskaMAP Working Group to support this action item.
2. Develop NebraskaMAP Geospatial Data Sharing and Web Services Network Business Plan.
3. Develop and implement NebraskaMAP into a statewide data clearinghouse enterprise platform.

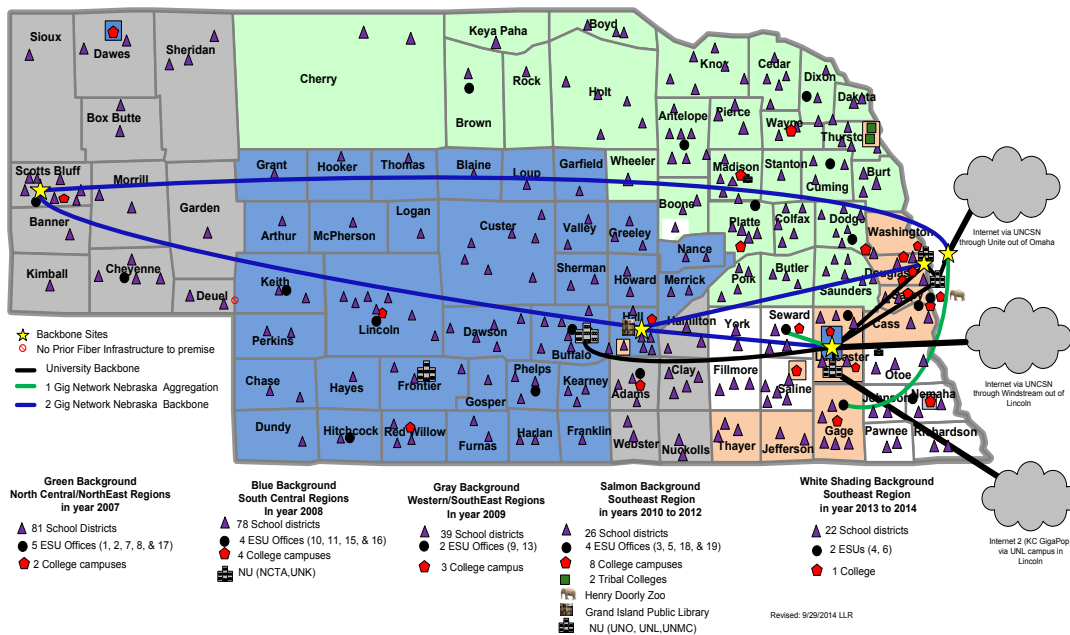
# Education Council Network Nebraska

## Overview

### Objective:

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

**Description:** Network Nebraska interconnects disparate networks into a multipurpose core backbone extending from Omaha to Lincoln to Grand Island and Scottsbluff, with Ethernet clouds and aggregated Internet service extending out to the furthest corners of the state.



### Collaborators:

- Collaborative Aggregation Partnership: Office of the CIO, University of Nebraska Computing Services Network, Nebraska Educational Telecommunications, Public Service Commission, Nebraska Department of Education, Nebraska Information Technology Commission
- Network Nebraska Advisory Group: 8 K-12 members; 8 higher education members
- Educational Service Unit (ESU) Coordinating Council, ESU-Network Operations Committee, ESU-Distance education Advisory Committee, higher education chief technology officers

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Education Council

# Network Nebraska

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*Nearly every K-12 school district, educational service unit, and public college and university participate in Network Nebraska and share in its annual costs.*

**Strengths/Assets:**

- Nearly every K-12 school district, educational service unit, and public college and university participate in Network Nebraska and share in its annual costs.
- Network Nebraska is a completely voluntary, self-funded project, which contributes to its resilience, sustainability and focus on customer service.
- Shared personnel support within the Office of the CIO, Administrative Services, and the University of Nebraska Computing Services Network contributes to its ultra-low cost and affordability.
- Having all of the K-20 education entities on Network Nebraska provides not only a sense of pride in ownership of the network, but the daily offsets in Internet access peaks between K-12 and higher education also saves on the cost of Internet access.

**Challenges/Issues:**

- The absence of full-time network employees reduces the capacity for such services as marketing, communications, research & development, and customer follow-up.
- The Network Nebraska cost recovery rates, although small in comparison to other state networks, are still above what rural public libraries and private K-12 schools are accustomed to paying.

**Recent Accomplishments:**

- Increased public school district participation to 99.6% starting 7/1/2015
- Public higher education participation at 100% by 7/1/2012
- Achieved one of the lowest commodity Internet rates in the entire country, made possible through aggregation of demand and statewide bidding
- Achieved 100% retention of voluntary membership, now reaching 285 entities by 7/1/2015

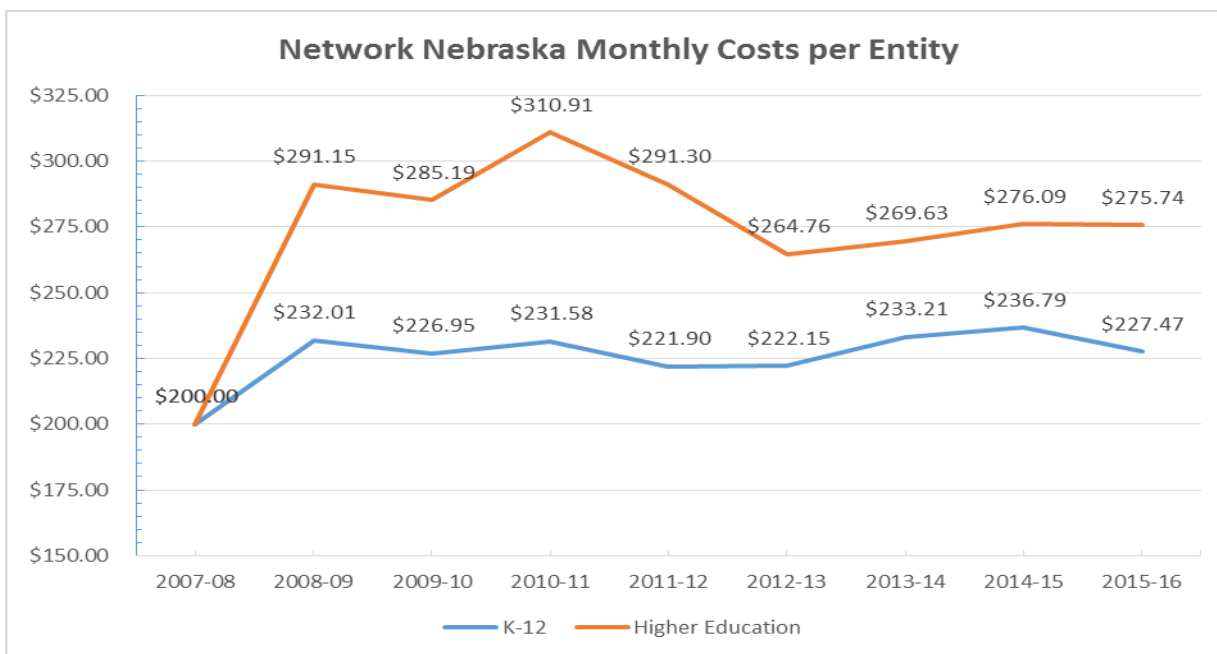
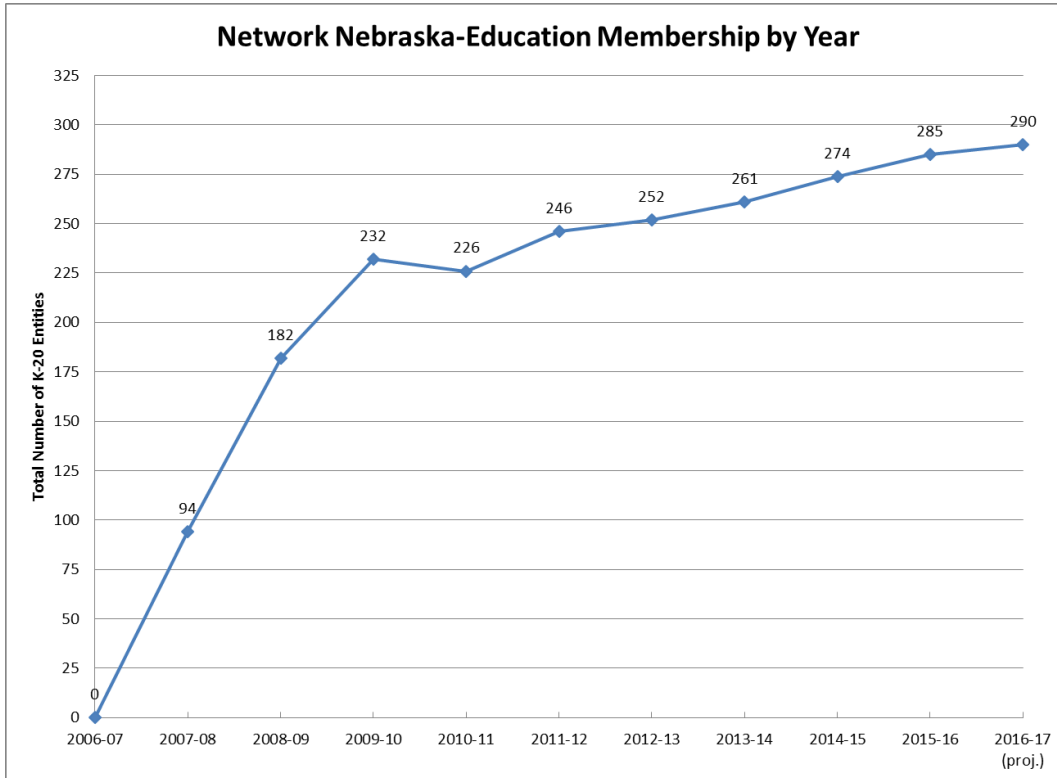
**Recommendations:**

- Continue this initiative.
- Position Network Nebraska to provide services such as statewide identity management, learning management, content management for K-20 education entities.



# Education Council Network Nebraska

## Metrics



## Action Items

1. **Action: Prepare for the future of Network Nebraska as a statewide, multipurpose, high capacity, scalable telecommunications network that shall meet the demand of state agencies, local governments, and educational entities as defined in section 79-1201.01.**

**Lead:** Education Council

**Participating Entities:** Collaborative Aggregation Partnership (CAP); Network Nebraska Advisory Group (NNAG)

**Timeframe:** 2015-17

**Funding:** Additional funding and/or resources will be required for this action item out of the Network Nebraska Participation Fee, which is a participant-funded budget.

**Targets/Deliverables:**

1. The NNAG Participant Criteria subcommittee will develop a strategy to accommodate community affiliate connections into Network Nebraska.
  2. The UNCSN team will use automated tools to monitor network utilization and uptime and develop a web-based graphic for real-time depiction of WAN circuits, backbone and Internet.
  3. UNCSN will implement incident management and change control frameworks appropriate to the staffing of Network Nebraska.
  4. NNAG and CAP will guide Office of the CIO (OCIO) decisions regarding network capacity, services, and reliability.
  5. Review and update existing security services and practices and develop a strategy for potential services.
2. **Action: The Education Council and NITC staff will serve as the communication hub for existing and potential new Network Nebraska Participants.**

**Lead:** Education Council/NITC Staff

**Participating Entities:** Collaborative Aggregation Partnership (CAP); Network Nebraska Advisory Group (NNAG)

**Timeframe:** 2015-17

**Funding:** Additional funding and/or resources will be required for this action item out of the Network Nebraska Participation Fee, which is a participant-funded budget.

**Targets/Deliverables:**

1. Develop and implement a communications strategy.
2. Conduct an annual survey of participants to guide direction and service development.

## Education Council

# Network Nebraska

### Recommended Measurables:

- Network Nebraska backbone uptime
- Network Nebraska Internet access uptime
- Network Nebraska backbone bandwidth utilization (actual)
- Network Nebraska membership growth
- Network Nebraska Internet growth (purchased and actual)
- Network Nebraska unit cost of Internet
- Number of public and non-profit, non-education entities (e.g., libraries) connected to Network Nebraska

### Partnership leads to improvement in library bandwidth

Through a unique partnership between Lincoln City Libraries, NebraskaLink, Lincoln Public Schools (LPS), Network Nebraska, and the Nebraska Public Service Commission, Internet capacity at Lincoln City Libraries has increased from 20 megabits per second (Mbps) to 1 gigabit per second (Gbps). The project is benefiting Lincoln Public Schools students who need Internet access to do their homework and other patrons accessing the Internet.

The project was made possible through a \$334,000 grant from the Nebraska Universal Service Fund administered by the Nebraska Public Service Commission. The grant funds were used to build connections from all eight library locations to Network Nebraska, the state network serving K-20 educational entities. The only cost to Lincoln City Libraries was for upgrading its own equipment. Through an Indefeasible Right to Use agreement, Lincoln City Libraries will not pay for the use of the fiber for 20 years. Due to its aggregated purchasing power and low administrative costs, Network Nebraska is providing up to 1 Gbps of Internet at a price similar to what Lincoln City Libraries currently pays for 18 megabits. The project may act as a model for other libraries in Nebraska that need better broadband access.

Several libraries are sited in areas with some of the lowest per capita incomes in Lincoln. Particularly at Bennet Martin Library, Williams Library, and Eiseley Library, better broadband means that the people who depend on the library for their most consistent Internet access, will have strong access.

The project also supports Lincoln Public Schools' initiative to provide tablet computers to students.



**Two young library patrons use a computer to access the Internet at the Walt Branch Library. Through a unique partnership, Internet capacity at Lincoln City Libraries has increased from 20 megabits per second to 1 gigabit per second.**

## Network Nebraska

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*"This project strengthens Lincoln City Libraries' vitality by providing top-notch Internet services. The benefits to individuals include student curriculum access, faster information, streamlined internal processes, and the connection to the world that can be had only through the Internet. The whole community benefits when public libraries stand as strong, relevant places that uphold the value we place on education."*

—Pat Leach

"For low-income families with school-age children who do not have a broadband connection at home, the access provided by the Lincoln Library Network may be the only source of broadband Internet access available to the student," Leach said.

Lincoln Public Schools began supplying sixth-grade students with tablets in the 2015-2016 school year and will eventually provide devices for students from third through 12th grades. Through an arrangement with Lincoln Public Schools, students have a direct connection to their school network as soon as they enter a Lincoln City Libraries facility.

"The Libraries' plan to increase access to global information is critical for our students, who will use this infrastructure to support their learning that, increasingly, requires access to digital content," said Kirk Langer, Chief Technology Officer for Lincoln Public Schools. "This timely community partnership means LPS students can use the safe learning environment of the Lincoln City Libraries outside the school day. They will now have the type of network access necessary to support the devices LPS provides for students from third through twelfth grade."

"This project strengthens Lincoln City Libraries' vitality by providing top-notch Internet services," said Leach. "The benefits to individuals include student curriculum access, faster information, streamlined internal processes, and the connection to the world that can be had only through the Internet. The whole community benefits when public libraries stand as strong, relevant places that uphold the value we place on education."

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Education Council

# Digital Education

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## Overview

### Objective:

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

**Description:** The Digital Education initiative will involve the coordination and promotion of several major systems and applications that heretofore have either been developed mostly at the local level or have not been replicated statewide.

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

### Collaborators:

- Educational Service Unit (ESU) Coordinating Council and advisory groups
- Public and private K-12 schools
- Nebraska Department of Education
- University of Nebraska
- Nebraska State College System
- Nebraska Community College System
- Association of Independent Colleges and Universities of Nebraska

### Strengths/Assets:

- The enhancement of Digital Education is the combined focus of public and private K-12 entities and public and private higher education entities working together through Network Nebraska.
- The recent developments in learning management software, content management software, and longitudinal data tracking and depiction make it a particularly important time to improve on the statewide deployment of these systems.
- The high bandwidth transport and Internet capacity of Network Nebraska makes it possible to implement private cloud and public cloud applications to every education entity on Network Nebraska.

### Challenges/Issues:

- While collaboration among entities is strong, the initiative lacks a “champion” and any additional implementation funding is a scarce commodity.

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Education Council

# Digital Education

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## Recent Accomplishments:

- Collaborators and stakeholders testified at the LB 1103 and LB 519 hearings.
- ESU collaborators have developed BlendEd briefing materials.
- The Nebraska Department of Education has made progress on the Digital Dashboard pilot project involving nine Nebraska school districts.

## Recommendations:

- Continue and refocus this initiative.
- Encourage and/or incentivize collaborators and stakeholders to be more results-oriented using project management techniques.
- Build on the excellent foundation and success of Network Nebraska to deliver high quality digital educational opportunities that provide a framework for student success.

## Action Items .

1. **Action: Create professional development opportunities for all Nebraska educators to maximize student success through the innovative uses of technology in teaching.**

**Lead:** Education Council

**Participating Entities:** K-12 and Higher Education professional and advisory groups

**Timeframe:** 2015-17

**Funding:** Additional funding may be required for this action item

**Targets/Deliverables:**

1. Partner with K-20 entities and organizations to establish communities of practice for curriculum development, effective pedagogical practices and shared experiences using multiple delivery modalities across all levels of education in Nebraska.

2. **Action: Address technical challenges for students in the transition from secondary to post-secondary education.**

**Lead:** Education Council

**Participating Entities:** K-12 and Higher Education professional and advisory groups

**Timeframe:** 2015-17

**Funding:** Additional funding may be required for this action item

**Targets/Deliverables:**

1. Conduct a collaborative research project to identify existing infrastructure and pedagogical efforts in both secondary and post-secondary institutions.
2. Based on the results of the research project and other available resources, identify opportunities for collaboration to ease transition for students.
3. Identify key challenges for transitioning students and conduct an environmental

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Education Council

## Digital Education

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scan to identify successful approaches to mitigate those challenges.

4. Create a guide for effective practices in the use of flexible learning technologies.
5. Develop a strategy to encourage vendors to implement data exchange standards in their products and services.

**6. Action: Expand awareness and address the need for equity of access as it relates to digital education.**

**Lead:** Education Council

**Participating Entities:** NITC Community Council, K-12 and Higher Education professional and advisory groups

**Timeframe:** 2015-17

**Funding:** Additional funding may be required for this action item

**Targets/Deliverables:**

1. Form a joint study group comprised of stakeholders from across the state to identify opportunities and actions to ensure equitable access for students.
2. Education Council will work in collaboration with other Nebraska stakeholders, such as the Community Council Broadband Initiative, to find solutions for available, accessible, reliable, secure and affordable Internet access as related to academic success.
3. Identify and promote the use of accessible products and services in achieving equity of access.

### Recommended Measurables

- Number of professional development opportunities provided
- Number of educators impacted by professional development opportunities
- Published research regarding infrastructure, pedagogy, equity of access, and impact on learning.

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Community Council

# Community IT Development

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## Overview

### Objectives:

- To support community-based efforts to address broadband availability, broadband adoption, and the development of a skilled IT workforce.

### Description:

Broadband availability, widespread adoption of broadband technologies, and a skilled IT workforce have become requirements for communities wishing to grow their economies. Although national and international research links broadband availability with economic growth, broadband adoption appears to have an even stronger economic impact than broadband availability, contributing to growth in household income, lower unemployment and other measures of economic success in non-metropolitan counties. Additionally, the need for skilled IT factors is often cited as a barrier to continued growth by IT businesses and communities in Nebraska.

Developing a technology plan can help communities work with providers to invest in the community's infrastructure, provide training opportunities on new technologies for businesses and residents, and develop programs to encourage youth to pursue careers in information technology. The Nebraska Information Technology Commission Community Council, in partnership with the Nebraska Broadband Initiative, has developed an online workbook to help communities better understand the technology needs of businesses, educational entities, health care providers, local government and residents and to develop strategies to address these needs.

**Broadband Availability.** Broadband service is available to nearly all Nebraskans, with 99.8% of Nebraskans having access to service with download speeds of greater than 10 Mbps. Nebraska ties for 9<sup>th</sup> on this measure. (June 30, 2014 data from [broadbandmap.gov](http://broadbandmap.gov)) However, the availability of broadband services at higher speeds is less widespread. Approximately 20% of Nebraskans lack access to broadband service with download speeds of greater than 25 Mbps. Limited upload speeds can also be a barrier to utilizing broadband technologies. Twenty-six percent of Nebraskans lack broadband access with upload speeds of over 6 Mbps. (June 30, 2014 data from [broadbandmap.gov](http://broadbandmap.gov)) The map on the following page shows changes in broadband availability between 2010 and 2014.

In addition to this initiative, the State of Nebraska also supports the continued deployment of broadband services by acting as an anchor tenant (see Network Nebraska) and by providing support for high-cost areas through the Nebraska Universal Service Fund. Over \$43.3 million in support has been provided for 107 broadband projects improving the broadband service available to over 48,000 Nebraskans. In 2015, \$500,000 was allocated for broadband adoption projects. Nebraska is one of only four states to provide support for broadband through a state universal service fund.

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*Most households in Nebraska (82%) have broadband service. However, there are significant rural-urban differences with subscription rates of 90% in Lincoln and 87% in Omaha, compared to 72% to 77% in other regions of the state.*

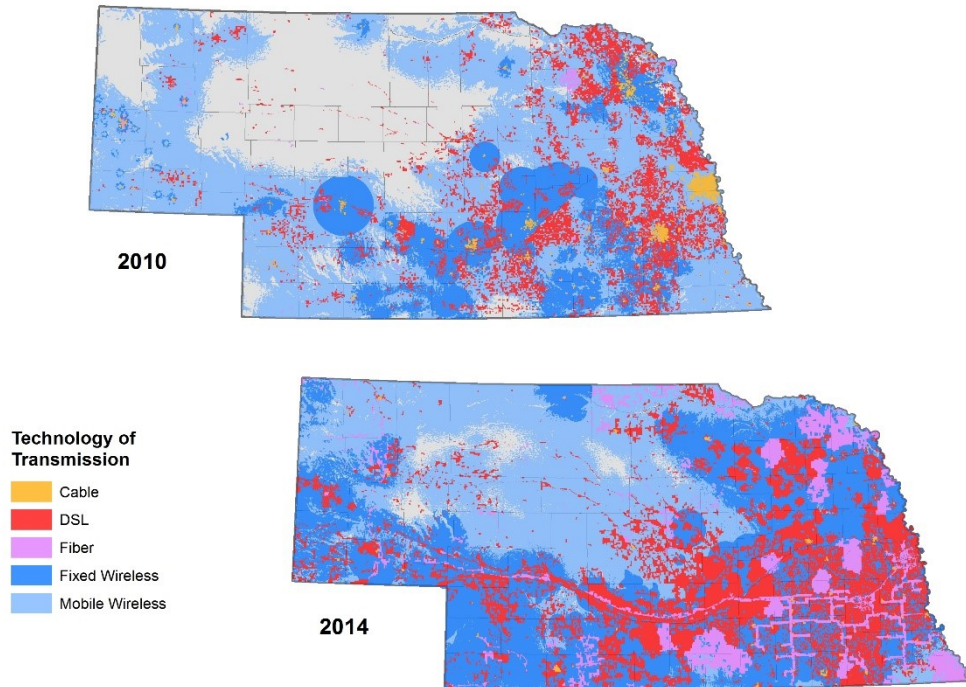


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Community Council

# Community IT Development

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**Broadband Adoption.** Most households in Nebraska (82%) have broadband service. However, there are significant rural-urban differences with subscription rates of 90% in Lincoln and 87% in Omaha, compared to 72% to 77% in other regions of the state.<sup>6</sup> (Internet Connectivity and Use in Nebraska: A Follow-up Study, April 2014.)

Nearly all Nebraska businesses are utilizing broadband access to the Internet. Internet applications relying on broadband networks are also becoming increasingly important for agricultural producers. Most livestock producers use the Internet for market information, auctions, government and regulatory agency reporting, and farm business planning. Most grain producers use the Internet for market information, crop management, government and regulatory agency reporting, ROI calculators, farm business planning, and GPS information.

**IT Workforce Development.** The availability and development of a skilled IT workforce is a key need in Nebraska. A number of innovative programs are addressing the need for IT professionals. These include coding programs for youth, career academies, internship programs, higher education programs, and code schools.

### Strengths/Assets:

- The Nebraska Information Technology Commission, Nebraska Public Service Commission, University of Nebraska, Nebraska Department of Economic Development and AIM have formed a strong partnership through the Nebraska Broadband Initiative. Even though federal grant funding for broadband mapping and planning

## Community IT Development

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is no longer available, partners can leverage existing resources to continue efforts to promote the effective use of technology in communities.

- Libraries are key partners in technology training programs in communities. The Nebraska Library Commission's Library Broadband Builds Nebraska Communities grant improved the capacity of libraries to provide public access to computers and the Internet and to serve as essential digital connectors. Through the grant, 147 library outlets received computers, software and other hardware, and broadband connections.

### Challenges/Issues:

- Limited funding is available for initiatives which promote the effective use of technologies in Nebraska communities.

### Collaborators:

- Nebraska Public Service Commission
- University of Nebraska-Lincoln
- AIM
- Nebraska Department of Economic Development
- Nebraska Library Commission
- Other stakeholders

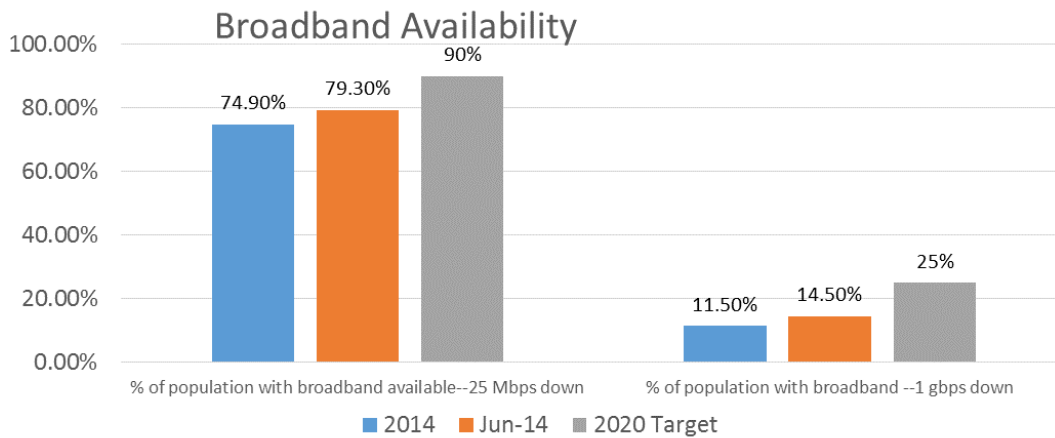
### Recent Accomplishments:

- Development of a state broadband plan (2014)
- Development of a state broadband map (2010-2014)
- Annual broadband conferences (2011-2014)
- Development of a community broadband planning workbook, household and business surveys, best practice videos, and a community broadband award program (2010-2015)

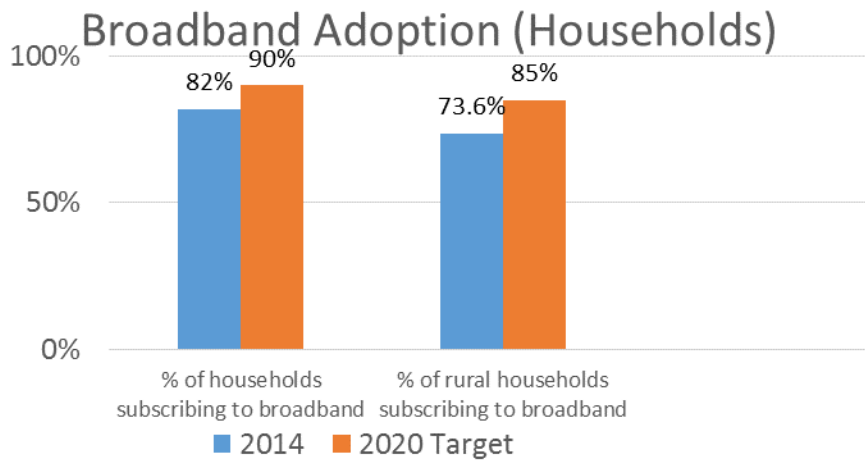
Community Council  
**Community IT Development**

**Metrics**

**Broadband Availability**



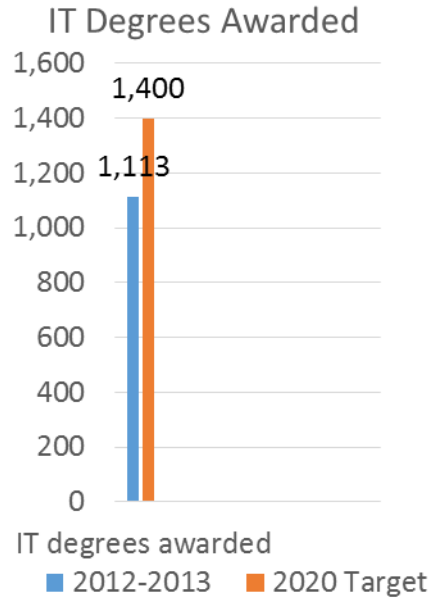
**Broadband Adoption (Households)**



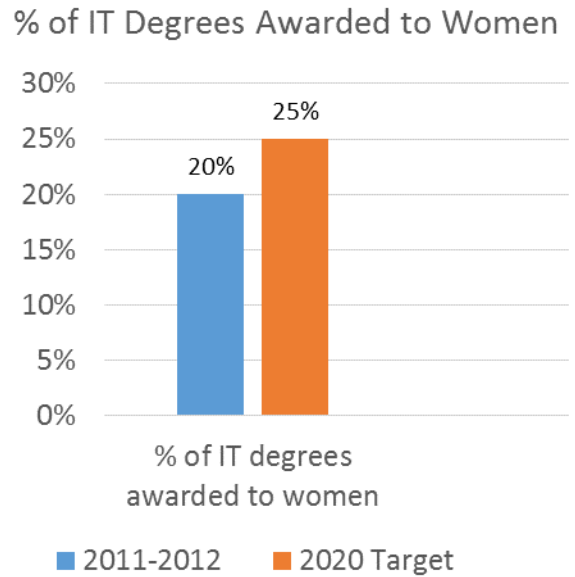
Community Council

# Community IT Development

**IT Degrees Awarded**



**IT Degrees Awarded to Women**



## Action Items

- Action:** Support the efforts of communities to address broadband-related development by recognizing outstanding programs and developing a series of best practices and case studies.

**Lead:** NITC Community Council and University of Nebraska-Lincoln Extension and Center for Applied Rural Innovation

**Participating Entities:** NITC Community Council, Nebraska Public Service Commission, University of Nebraska-Lincoln Extension and Center for Applied Rural Innovation, the AIM Institute, and other interested stakeholders.

**Timeframe:** 2015-2016

**Funding:** Leveraging existing resources

**Targets/Deliverables:**

  - First Community Broadband Awards awarded Oct. 21, 2015
  - At least 6 best practices/case studies developed by Oct. 2016
  
- Action:** Support the Network Nebraska Advisory Group’s efforts to develop a strategy to accommodate community affiliate connections into Network Nebraska.

**Lead:** Education Council

**Participating Entities:** Collaborative Aggregation Partnership (CAP); Network Nebraska Advisory Group (NNAG)

**Timeframe:** 2015-17

## Community Council

# Community IT Development

**Funding:** Additional funding and/or resources will be required for this action item out of the Network Nebraska Participation Fee, which is a participant-funded budget.

**Targets/Deliverables:**

1. The NNAG Participant Criteria subcommittee will develop a strategy to accommodate community affiliate connections into Network Nebraska.
- 3. Action: Support the Education Council's efforts to expand awareness and address the need for equity of access as it relates to digital education.**

**Lead:** Education Council

**Participating Entities:** NITC Community Council, K-12 and Higher Education professional and advisory groups

**Timeframe:** 2015-17

**Funding:** Additional funding may be required for this action item

**Targets/Deliverables:**

1. Form a joint study group comprised of stakeholders from across the state to identify opportunities and actions to ensure equitable access for students.
2. Education Council will work in collaboration with other Nebraska stakeholders, such as the Community Council Broadband Initiative to find solutions for available,
3. Identify and promote the use of accessible products and services in achieving equity of access.

*The Rural Nebraska Healthcare Network (RNHN), a non-profit healthcare network with nine member hospitals in the Nebraska Panhandle, built a broadband fiber network in 2012 with funding from the Federal Communications Commission's Rural Health Care Pilot Program.*

## Outstanding Nebraska broadband projects recognized

The Nebraska Broadband Initiative recognized three outstanding broadband projects at the Rural Futures Institute pre-conference on Oct. 21, 2015:

- Rural Nebraska Healthcare Network Broadband Fiber Network (Outstanding Infrastructure Project)
- Interface: The Web School (Outstanding Digital Literacy Project)
- Nebraska 4-H Robotics FIRST Lego League (FFL) (Outstanding Youth Project)



**The Rural Nebraska Healthcare Network Broadband Fiber Network.** The Rural Nebraska Healthcare Network (RNHN), a non-profit healthcare network with nine member hospitals in the Nebraska Panhandle, built a broadband fiber network in 2012 with funding from the Federal Communications Commission's Rural Health Care Pilot Program. The 36-fiber redundant ring network in western Nebraska connects 10 hospitals, with leased circuits connecting an additional 13 hospitals in central/eastern Nebraska. The network has long-haul circuits to

**Nebraska Public Service Commissioner Jerry Vap presents the award for outstanding infrastructure project to Bonni Carrell, representing the Rural Nebraska Health Care Network Broadband Fiber Network.**

## Community IT Development

*Over 100 adults have participated in Interface's 11- to 15- week intensive web developer training courses. Students have gone from positions such as social worker and barista to technology specialist and junior web developer.*

Omaha and Denver. The network is connected to the Nebraska Statewide Telehealth Network and has direct access to radiologists, laboratories, clinical pharmacists, and other specialists nationwide. Participating facilities transmit medical records, data, patient files, radiology, billing and other important patient and business-related information.

RNHN initially partnered with Mobius Communications in Hemingford. Mobius Communications brought the FCC funding opportunity to RNHN's attention and assisted with the application process. Construction of the RNHN fiber network was made possible through a unique partnership with Zayo, a broadband provider. RNHN installed 84 fibers and leased 48 of them on a long-term basis to Zayo. The money that RNHN received from Zayo for the lease was sufficient to cover the RNHN's portion of network construction costs. The Zayo 48-fiber commercial component has been developed by several Panhandle communication providers.

The 2 Gigabits per second redundant backbone allows images to be sent in real-time and the transfer of files in seconds or minutes, allowing easier access to patient records and information and supporting greater use of telemedicine and telehealth. The backbone capacity, which can be expanded as needed, is allowing member hospitals to provide off-site backup and disaster recovery services to each other.

RNHN members include Box Butte General Hospital, Chadron Community Hospital, Gordon Memorial Hospital, Kimball Health Services, Morrill County Community Hospital, Perkins County Health Services, Regional West Garden County, Regional West Health Services,



**Shonna Dorsey accepts Interface: The Web School's award for outstanding digital literacy project.**

**Interface: The Web School** works to provide opportunities to learn code to everyone who wants to learn to do so. According to the Nebraska Department of Labor, there are currently over 4,000 unfilled tech jobs in the state of Nebraska alone. Interface: The Web School is addressing the need for a skilled IT workforce by providing introductory web development workshops to youth and adults as well as intensive web development training for those looking to enhance their skills and/or change careers.

Over 50 youth ages 6 to 12 have participated in web development workshops through Interface. The partnership with AIM, FUSE Coworking, and Omaha Public Library provided an opportunity to reach young girls, currently underrepresented in tech, to web development, one area of the tech field. Additionally, by offering these workshops at no/low cost to families and providing laptops for those who needed them, girls from all over the community were able to take advantage of this opportunity. One youth participant started a business inspired by the site she created.

Additionally over 100 adults have participated in Interface's web development workshops. Following these sessions, adult participants report feeling more confident about working with code and find that some of what they learn in the free sessions can be immediately applied to their day-to-day tasks such as sending e-mail newsletters.

Over 100 adults have participated in Interface's 11- to 15- week intensive web developer training courses. Students have gone from positions such as social worker and barista to technology specialist and junior web developer. In partnership with First National Bank, Interface ran a 10-week web developer training course during the fall of 2014 where four

## Community Council

# Community IT Development

non-technical First National employees and eight external applicants were selected to participate in training with all tuition paid and full-time pay during the course. Through this program, First National transitioned the four employees into technical roles and hired one of the external candidates, who had been a full-time stay-at-home mom for 12 years prior to the course, as a developer at \$55,000 per year. Another one of the external candidates was a barista before joining the course. Following the 10-week course, she landed a position with an agricultural technology company and is now a junior web developer. She has more than doubled her income in under one year and has moved her family out of her parents' home.



**Bradley Barker accepts Nebraska 4-H Robotics FIRST Lego League's award for outstanding youth project.**

### **Nebraska 4-H Robotics FIRST Lego League (FLL).**

To meet the need for more engineers and other STEM (Science, Technology, Engineering, and Mathematics) leaders, Nebraska 4-H Extension and our community partners have provided youth the opportunity to compete in the FIRST LEGO League (FLL) educational robotics competition program across Nebraska.

In 2015 Nebraska 4-H Extension hosted competitions for more than 100 FLL teams (about 714 youth) in six qualifying events in communities across the state (Omaha, Bellevue, Sidney, Kearney, Nebraska City, and South Sioux City) and one 48-team state championship hosted at the Nebraska Air and Space Museum in Ashland, Nebraska. Youth that participate in these robotics competitions build and program robots to accomplish specific tasks, communicate their

engineering design processes, and complete a related research project.

Through their participation in the FLL competition, youth display increased interest in and understanding of science and technology, and the engineering design process. Through FLL participants are exposed to a wide array of different career professions. Nearly every team meets with STEM-career professionals and researches various STEM careers as part of FLL.

FLL program develops participants as leaders who support innovation. The program promotes innovation through the Core Value "What we discover is more important than what we win," and by evaluating innovative project solutions and robot designs. Youth in FLL believe leadership is important, report high levels of leadership capacity, and perceive improvement in leadership capacity as a result of participating. With their high levels of engagement and interest in STEM, educational robotics program participants are in the STEM pipeline and are likely to build their self-efficacy in STEM, work harder as they expect achievement, and experience additional success as they continue in STEM.

**The Nebraska Broadband Initiative** ([broadband.nebraska.gov](http://broadband.nebraska.gov)) promotes the adoption and utilization of broadband in Nebraska. Project partners include the Nebraska Public Service Commission, University of Nebraska-Lincoln, Nebraska Information Technology Commission, Nebraska Department of Economic Development, and AIM.

*Through their participation in the FLL competition, youth display increased interest in and understanding of science and technology, and the engineering design process. Through FLL participants are exposed to a wide array of different career professions.*





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## eHealth

# eHealth

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Health information exchange technologies (i.e., patient portals, personal health records, and apps for smartphone and tablets) can also be used to help patients access their health information and better manage their care.

### **Strengths/Assets:**

- NeHII is one of the largest statewide health information exchanges in the U.S. with over 5,000 users. With the addition of several CHI hospitals in 2015 and 2016, NeHII will cover 62% of Nebraska's hospital beds.
- The NITC received a \$2.7 million cooperative agreement on July 27, 2015 to advance health information exchange in Nebraska from the Office of the National Coordinator for Health IT, U.S. Department of Health and Human Services. The NITC is partnering with NeHII and UNMC on the grant.
- The Nebraska Department of Health and Human Services (NDDHS) also received two grants to reduce opioid overdoses and to enhance the State's Prescription Drug Monitoring Program (PDMP). NDHHS is partnering with NeHII on these grants.
- The Nebraska Department of Health and Human Services Division of Medicaid and Long-term Care is working with NeHII to receive federal Medicaid funding to support health information in Nebraska.

### **Challenges/Issues:**

- Interoperability remains a challenge as standards are still being developed.
- Additional efforts may be needed to better integrate health IT into provider workflows.
- Adoption of technologies which allow patients to access their health information and better manage their care may require outreach efforts and education for both health care providers and patients.
- Providers not eligible for Meaningful Use incentive payments (including long-term and post-acute care providers and behavioral health providers) may find investing in health IT to be financially challenging.
- Sustainability of health information exchanges across the United States remains a challenge.
- Blocking of health information by health systems and vendors is an issue identified by the Office of the National Coordinator for Health IT.

### **Collaborators:**

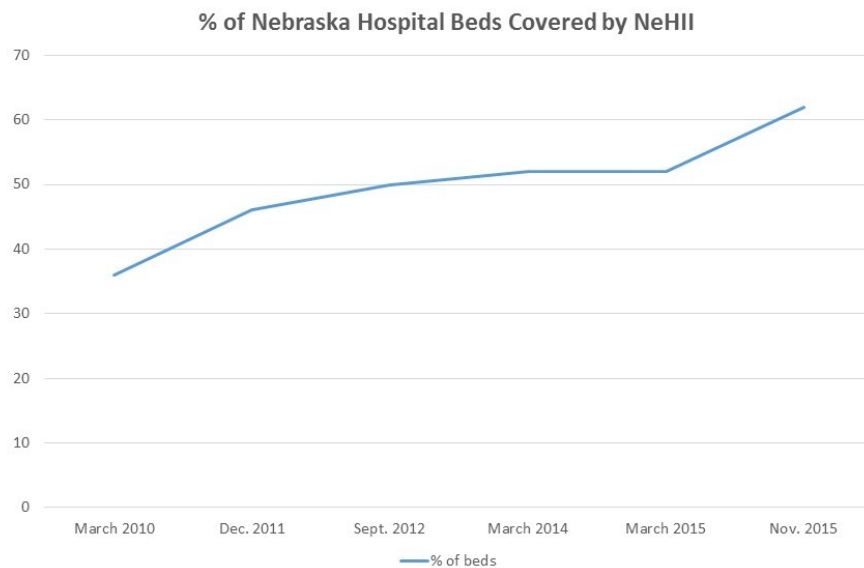
- Nebraska Department of Health and Human Services
- NeHII
- UNMC
- Other stakeholders

## Recent Accomplishments:

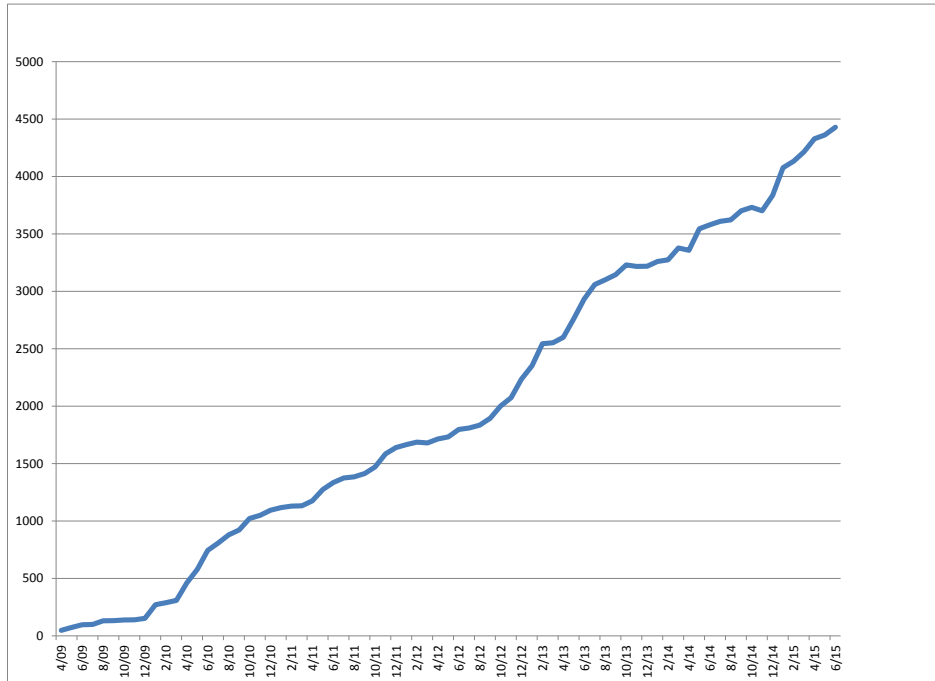
- At NeHII's annual meeting on Aug. 6, 2015, NeHII announced that they have achieved sustainability. In 2015. Over the past year, NeHII has implemented new functionalities including a public health gateway to automate syndromic surveillance reporting through NeHII. To support the use of Direct secure messaging, NeHII has developed a provider directory.
- The NITC received a \$2.7 million grant from the U.S. Department of Health and Human Services Office of the National Coordinator for Health IT to Advance Interoperable Health Information Technology Services to Support Health Information Exchange (2015). The goal of the Nebraska Advance Interoperable Health IT Services to Support HIE Cooperative Agreement is to increase the adoption and use of interoperable health IT services to support the exchange of health information within Nebraska and with neighboring states to improve transitions of care and care coordination, to increase overall health care quality, lower health care costs, and improve population health. The grant project targets Critical Access Hospitals, long-term care facilities, public health and researchers.
- The NITC and grant partners completed a four-year \$6.8 million State Health Information Exchange grant from the Office of the National Coordinator for Health IT (2010-2014). During the four year grant period, the number of NeHII users grew from 464 users to 3,590 users. Nebraska also ranked 13<sup>th</sup> in e-prescribing adoption in 2013, with 89% of physicians e-prescribing.

## Metrics

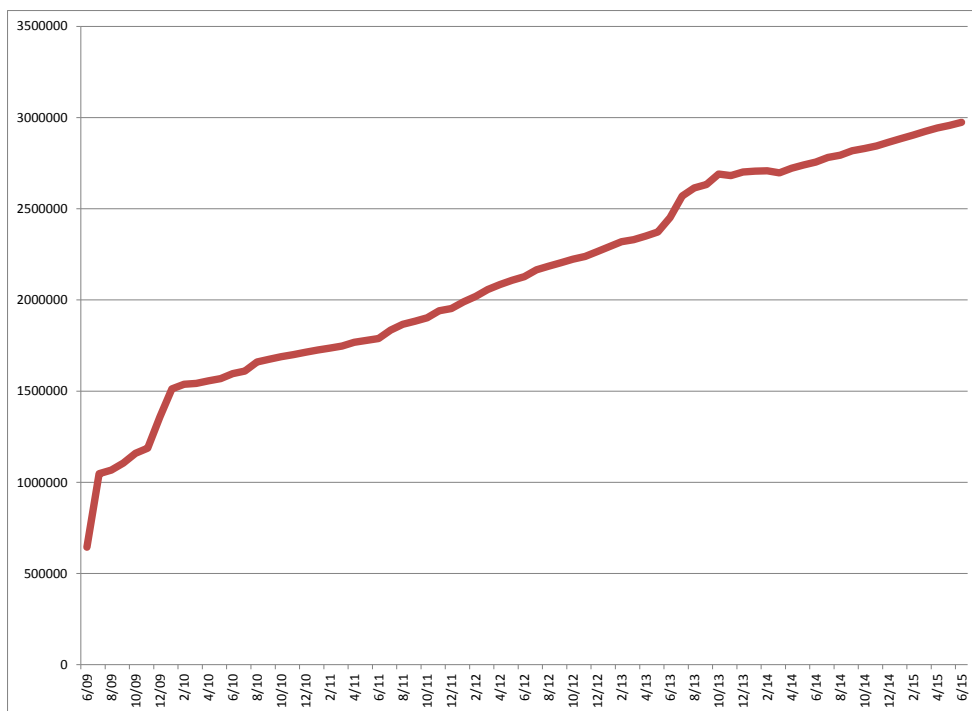
### % of Hospital Beds Covered by NeHII



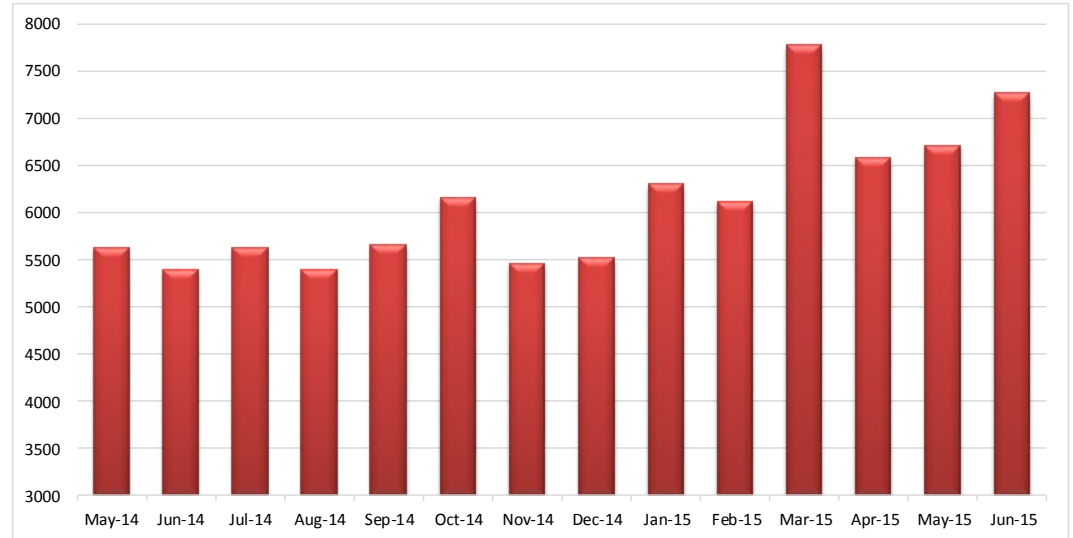
NeHII Users



Consumers with Demographic Data in NeHII



### Unique Number of Patients Queried in NeHII



### Action Items

- 1. Action: Work with NeHII and UNMC to support the development of statewide health information exchange through the Advance Interoperable Health IT to Support Health Information Exchange cooperative agreement, including grant administration, overseeing implementation, and participating in the project evaluation.**

**Lead:** Anne Byers, eHealth Manager, NITC

**Participating Entities:** OCIO/NITC, NeHII, UNMC, the Nebraska Department of Health and Human Services, eHealth Council, and other stakeholders

**Timeframe:** July 27, 2015-July 26, 2017

**Funding:** Office of the National Coordinator for Health IT Advance Interoperable Health IT to Support Health Information Exchange cooperative agreement

**Targets/Deliverables:**

1. 13 Critical Access Hospitals, labs and other facilities implemented for exchange with NeHII;
2. Ten ambulatory clinics and long-term care facilities implemented for exchange with NeHII;
3. 50 long-term care and other facilities implemented for Direct secure messaging;
4. Five HIE to HIE gateways implemented to enable the exchange of exchange of data across HIEs;
5. 40 providers implemented to receive Admission Discharge and Transfer (ADT) alerting via mobile messaging;
6. Eight Critical Access Hospitals implemented to send data to the State's syndromic surveillance system through NeHII;

7. Five facilities implemented for population health analytics through NeHII;
8. Assistance with workflow analysis and integration of health information exchange provided to facilities participating in integrated communities;
9. Six use-case based training modules developed; and
10. Two demonstration projects which integrate HIE data for comparative effectiveness research developed.

## Gateway facilitates syndromic surveillance reporting

Through syndromic surveillance, public health departments can detect outbreaks of diseases and monitor disease trends. In order to facilitate the submission of syndromic surveillance data, by Critical Access Hospitals, the Nebraska Health Information Initiative (NeHII), Nemaha County Hospital, and the Nebraska Department of Health and Human Services (DHHS) partnered on a pilot project to demonstrate the successful integration and automation between Nemaha County Hospital's Evident electronic health record system, NeHII and the state's Syndromic Surveillance Event Detection of Nebraska (SSEDON) system. The Public Health Gateway Syndromic Surveillance Pilot project successfully went into production use on September 10, 2015.

"I believe that the development of this Public Health Gateway is a huge step forward in the journey toward sharing relevant data through a health information exchange instead of the department of public health having to have an interface with every health information technology vendor used in the state. I was also impressed with the "can-do" attitude demonstrated by all who participated in the development of the gateway. No one ever said that something couldn't be done. All parties, including the two vendors involved, did everything within their power to make things work," said Marty Fattig, Nemaha County Hospital CEO.

Nemaha County Hospital in Auburn is a data sharing participant in NeHII, providing an ADT data feed to the health information exchange. For the pilot, this feed was enhanced with additional electronic Health record system data and routed to the Public Health Gateway (PHG) Syndromic Surveillance interface for data mapping, transformation and sequencing to meet state syndromic surveillance implementation guide specifications.

"We're very excited to be a partner in this effort," said Jenifer Roberts-Johnson, Deputy Director of Health Licensure and Health Data for DHHS. "Hospitals now have an additional method to meet statutory and meaningful use reporting requirements for syndromic surveillance. This data will help shape the future of syndromic surveillance and help support statewide prevention programs."

The Public Health Gateway will be implemented for an additional eight Critical Access Hospitals with funding from a \$2.7 million grant to the NITC from the Office of the National Coordinator for Health IT.

*"I believe that the development of this Public Health Gateway is a huge step forward in the journey toward sharing relevant data through a health information exchange instead of the department of public health having to have an interface with every health information technology vendor used in the state."*

—Marty Fattig

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## Community Council

### Rural and Community IT Development

**Pam Adams**, American Broadband

**Rod Armstrong, Co-Chair**, AIM Institute

**Randy Bretz**, TEDxLincoln, Curator

**Dave Hahn**, Nebraska Information Network

**Connie Hancock**, University of Nebraska Extension

**Jacob Knutson**, Nebraska Department of Economic Development

**Kim Kuhle**, US Bank

**David Lofdahl**, IT Consultant

**Paul Ludwick**, Nebraska Link

**Monica Lueking-Crowe**, Furnas Harlan Partnership

**Megan McGown**, General Public

**Joan Modrell**, Nebraska Department of Labor

### Libraries and Local Government

**Chris Anderson**, City of Central City

**Brett Baker**

**Phil Green, Co-Chair**, City of Blair

**Jessica Chamberlain**, Norfolk Public Library

**Steve Fosselman**, Grand Island Public Library

**Steve Henderson**, City of Lincoln

**Holly Woldt**, Nebraska Library Commission

### At Large

**Jerry Vap**, Nebraska Public Service Commission

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# Advisory Group Members

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## Education Council

### Post Secondary

**Mark Askren**, University of Nebraska—Lincoln

**Derek Bierman**, Northeast Community College

**Mike Carpenter**, Doane College

**John Dunning**, Wayne State College

**Steve Hotovy**, Nebraska State College System

**Greg Maschman**, Nebraska Wesleyan University

**Mary Niemiec, Co-Chair**, University of Nebraska

**Randy Schmailzl**, Metropolitan Community College

### K-12

**Burke Brown**, District OR-1 Palmyra/Bennet Public Schools

**Matt Chrisman**, Mitchell Secondary School

**Dr. Ted DeTurk**, Educational Service Unit 2

**Stephen Hamersky**, Daniel J. Gross Catholic High School

**Dr. Dan Hoelsing**, Schuyler Community Schools

**Dr. Mike Lucas**, York Public Schools

**Gary Needham, Co-Chair**, Educational Service Unit 9

**Darren Oestmann**, Johnson Brock Public Schools

### Non-Voting Liaisons

**Dr. Mike Baumgartner**, Coordinating Commission for Postsecondary Education

**Brent Gaswick**, Nebraska Department of Education

**Ed Toner**, Office of the CIO, Nebraska Department of Administrative Services

**Gary Targoff**, Nebraska Educational Telecommunications Commission

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# Advisory Group Members

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## eHealth Council

### The State of Nebraska

**Sheri Dawson**, Division of Behavioral Health

### Health Care Providers

**Kevin Borchert**, Nebraska Methodist Health System and Nebraska Board of Pharmacy

**Marty Fattig**, Nemaha County Hospital

**Cindy Kadavy**, Nebraska Health Care Association

**Dr. Shawn Murdock**, Midlands Family Medicine

**Dr. Delane Wycoff, Co-Chair**, Pathology Services, PC

**Bridget Young**, Visiting Nurse Association

### eHealth Initiatives

**Kevin Conway**, NeHII and Nebraska Hospital Association

**Max Thacker**, Nebraska Statewide Telehealth Network and UNMC

**Anna Turman**, Western Nebraska Health Information Exchange and Chadron Community Hospital

### Public Health

**Kathy Cook**, Lincoln-Lancaster County Public Health Department

**Joel Dougherty**, OneWorld Community Health Centers

**Marsha Morien, Co-Chair**, UNMC College of Public Health

**Dave Palm**, UNMC

**Jenifer Roberts-Johnson**, Department of Health and Human Services, Division of Public Health

### Payers and Employers

**Joni Booth**, Gallup

**Susan Courtney**, Blue Cross Blue Shield



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# Advisory Group Members

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## **Consumers**

**June Ryan**, Retired

**Robin Szwanek**, AARP

## **Resource Providers, Experts, and Others**

**Kimberly Galt**, Creighton University School of Pharmacy and Health Professions

**Dr. Jim McClay**, UNMC

**Todd Searls**, Wide River

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# Advisory Group Members

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## GIS Council

**John Beran**, State Surveyor  
**Chad Boshart**, Nebraska Emergency Management Agency  
**Karis Bowen**, Department of Health and Human Services  
**Lash Chaffin**, League of Nebraska Municipalities  
**Timothy Cielocha, Chair**, Nebraska Public Power District  
**Nancy Cyr**, Clerk of the Legislature  
**Eric Herbert**, Sarpy County GIS  
**Les Howard**, Conservation and Survey Division, University of Nebraska-Lincoln  
**John Kraai, Vice-Chair**, Nebraska State Patrol  
**Pat Larson**, Grand Island Public Schools  
**James Langtry**, USGS Nebraska Water Science Center  
**Josh Lear**, Department of Natural Resources  
**Jeff McReynolds**, City of Lincoln, Lancaster County, Nebraska  
**Gary Morrison**, Department of Environmental Quality  
**James W. Ohmberger**, Office of the Chief Information Officer  
**Sudhir Ponnappan**, Nebraska Game and Parks Commission  
**Mike Preston**, Nebraska Geospatial Professional Association  
**Cullen Robbins**, Nebraska Public Service Commission  
**Michael Schonlau**, Douglas County, City of Omaha  
**Ruth Sorenson**, Department of Revenue  
**Bill Wehling**, Department of Roads  
**Kim Wessels**, Nebraska Association of County Officials  
**Todd Whitfield**, Lamp Rynearson & Associates  
**Todd Wiltgen**, Nebraska Association of County Officials  
**Chuck Wingert**, Nebraska Association of Resources Districts  
**Vacant**, Governor's Policy Research Office

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# Advisory Group Members

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## State Government Council

### Agency Director or Designee

**John Albin**, Department of Labor

**Dennis Burling**, Department of Environmental Quality

**Byron Diamond**, Department of Administrative Services

**Darrell E. Fisher**, Crime Commission

**Rex Gittins**, Department of Natural Resources

**Chris Hill**, Department of Health and Human Services

**Rhonda Lahm**, Department of Motor Vehicles

**Mark Quandahl**, Department of Banking and Finance

**Bradley Rice**, Nebraska State Patrol

**Len Sloup**, Department of Revenue

**Robin Spindler**, Department of Correctional Services

**Bill Wehling**, Department of Roads

**Vacant**, Governor's Policy Research Office

### Other

**Mike Calvert**, Legislative Fiscal Office (non-voting)

**John Gale**, Secretary of State

**Brent Gaswick**, Department of Education

**Dorest Harvey**, Private Sector

**Glenn Morton**, Workers' Compensation Court

**Jim Ohmberger**, Office of the CIO, Enterprise Computing

**Gerry Oligmueller**, State Budget Administrator

**Jayne Scofield**, Office of the CIO, Network Services

**Corey Steel**, Supreme Court

**Ed Toner, Chair**, Chief Information Officer

**Rod Wagner**, Library Commission

**Vacant**, Private Sector

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# Advisory Group Members

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## Technical Panel

**Ed Toner**, Office of the CIO, State of Nebraska

**Christy Horn**, University of Nebraska

**Kirk Langer**, Lincoln Public Schools

**Walter Weir, Chair**, University of Nebraska Computing Services Network

**Michael Winkle**, Nebraska Educational Telecommunications

# Appendix A

## NITC Strategic Initiatives Sample Status Report

Below is a sample status report for NITC strategic initiatives.

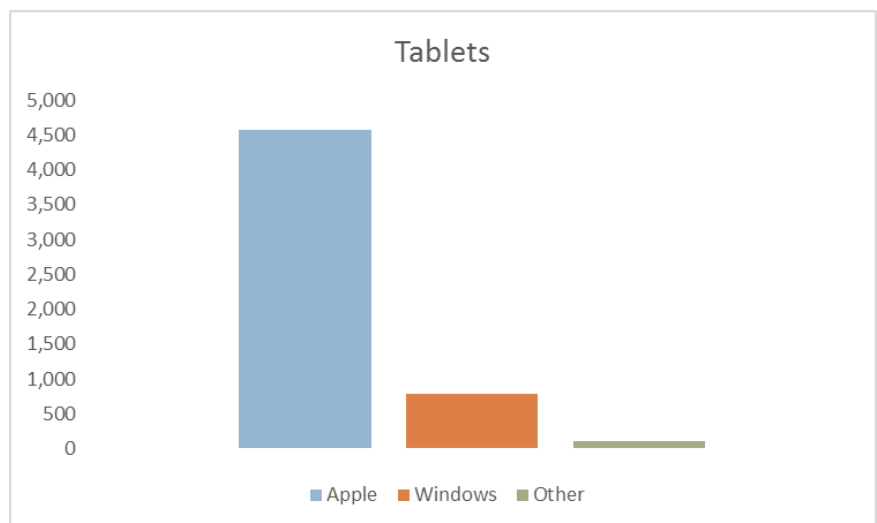
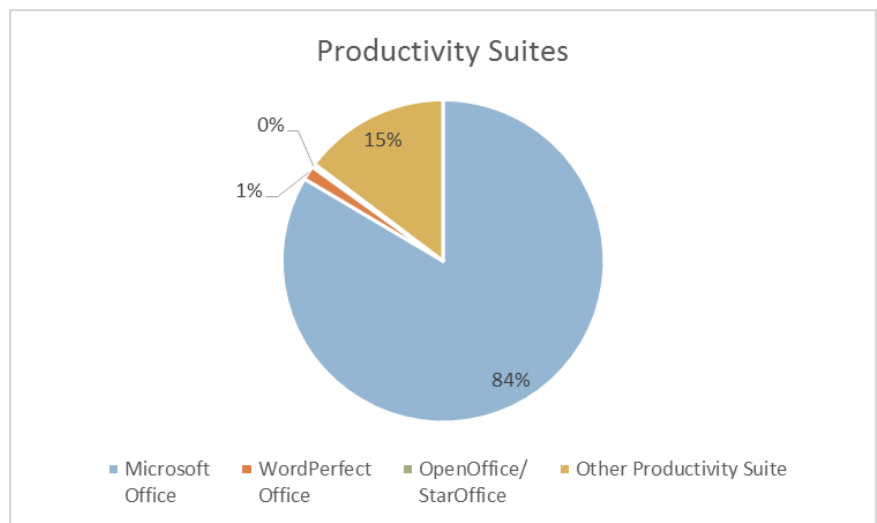
NITC Strategic Initiatives Status Report		
Strategic Initiative, Action Item and Deliverable/Target		
eHealth	Status	Notes
1	<b>Work with NeHII and UNMC to Support HIE through ONC grant</b>	
1 . 1	13 Critical Access Hospitals, labs and other facilities implemented	
1 . 2	10 ambulatory clinics and long-term care facilities implemented	
1 . 3	50 long-term care and other facilities implemented for Direct	
1 . 4	5 HIE to HIE gateways developed	
1 . 5	40 providers implemented for mobile ADT alerts	
1 . 6	8 Critical Access Hospitals to send syndromic surveillance data	
1 . 7	5 facilities implemented for population health	
1 . 8	Assistance with workflow analysis and integration provided	
1 . 9	6 training modules developed	
1 . 10	2 demonstration projects which integrate HIE data developed	
2	<b>Monitor developments and, when appropriate, form a work group</b>	
2 . 1	Work group formed	
2 . 2	Recommendations made	

# Appendix B

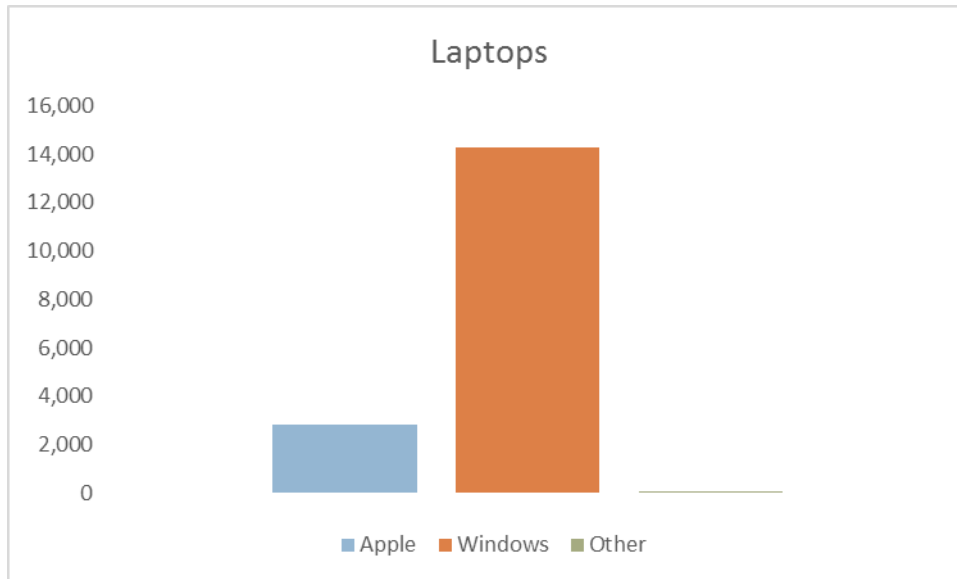
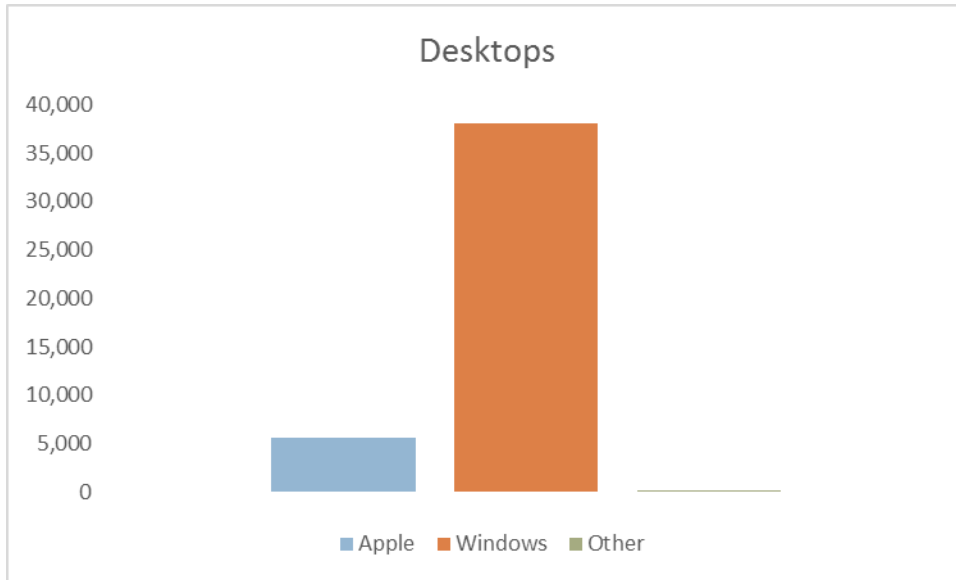
## 2014 Agency Information Technology Plans

### By the Numbers

- Almost 90% of agencies reported having an IT disaster recovery plan.
- Over 95% of agencies reported performing regular backups of important agency data.
- Over 40% of agencies reported using, or developing, mobile-device friendly applications.
- Over 65% of agencies reported using social media as a communications channel.



# Appendix B



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## Appendix C

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# Office of the CIO

## Metrics Update



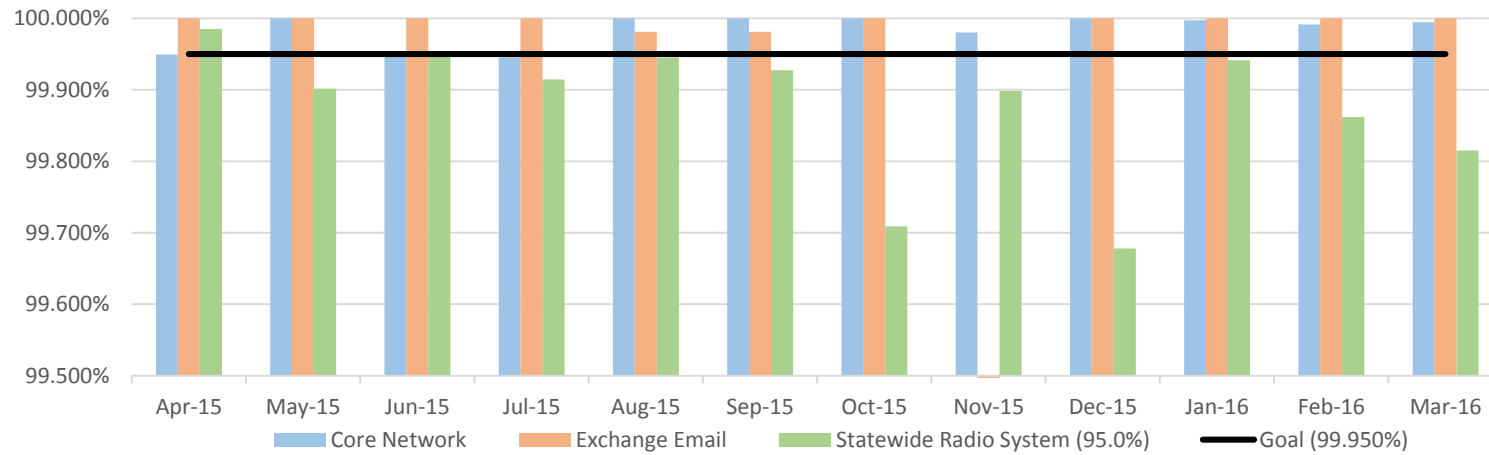


# Office of the CIO – Monthly Report

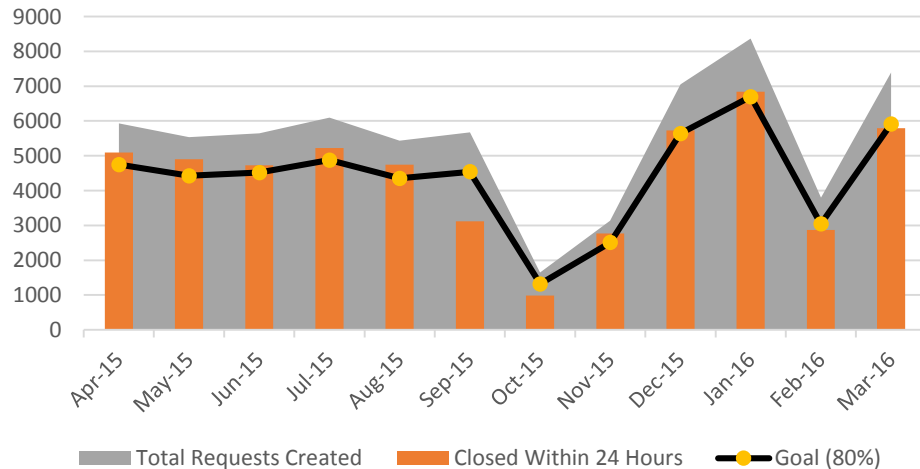
## March 2016



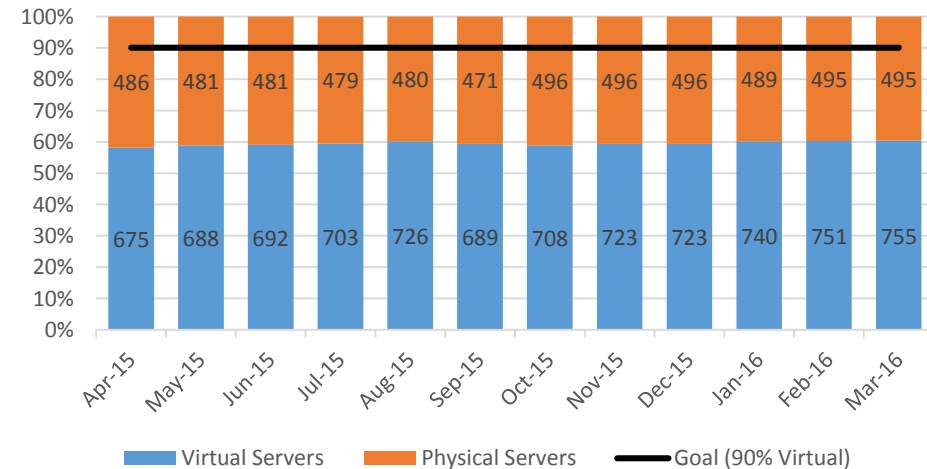
### Service Availability



### Help Desk - Requests



### OCIO Hosted Servers



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# Appendix D

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## NITC

### Action Item Update

## NITC Strategic Initiatives Status Report

Strategic Initiative, Action Item and Deliverable/Target			
State Government IT Strategy		Status	Notes
<b>1</b>	<b>Single Help Desk Solution - Incident Management Implementation</b>		
1.1	Implement solution and migrate initial group of agencies.	Completed	
1.2	Migrate remaining agencies in phases.	In progress	
<b>2</b>	<b>Service Catalog Implementation</b>		
2.1	Create service catalog for OCIO.	Completed	
2.2	Add other cabinet agencies.	In progress	
<b>3</b>	<b>Change Management Solution Implementation</b>		
3.1	Implement change management solution for OCIO.	In progress	March implementation planned.
3.2	Add other cabinet agencies.	Not started	
<b>4</b>	<b>Enhance Information Security</b>		See IT Security Initiative.
<b>5</b>	<b>Enhanced Operations Center</b>		
5.1	Develop system performance reports and dashboards.	In progress	
5.2	Combine Operations and Help Desk.	In progress	
5.3	Implement fully functional 24/7 Operations Center.	In progress	
5.4	Migrate from Help Desk to Service Desk.	In progress	
5.5	Establish Problem Management process.	In progress	
5.6	Establish Service Manager Program.	In progress	
<b>6</b>	<b>IT Cost Efficiencies</b>		
6.1	Review process in support of the State's IT spending.		See State IT Spending Analysis Initiative.
6.2	Assess environment, including existing infrastructure and applications, through Agency IT Plans.	Completed	
6.3	Enhance server virtualization and optimization.	In progress	
6.4	Implement a configuration management database (CMDB) and full asset management processes.	In progress	
6.5	Develop a Cloud Strategy		See Cloud Strategy Initiative.
6.6	Develop a Mobile Application Platform Strategy.	In progress	

<b>7</b>	<b>Operationalize IT and Project Governance</b>		
7.1	Enterprise Application governance (i.e., Service Desk tool)	Completed	
7.2	Enterprise Project Governance through the Project Management Office	Completed	
7.3	Enterprise Infrastructure Governance	Not started	
<b>8</b>	<b>Consolidate on STN Domain</b>		
8.1	Implement phased migration.	In progress	
<b>9</b>	<b>Data Center Consolidation - Agency Server Migration</b>		
9.1	Implement phased migration.	In progress	
<b>10</b>	<b>Initiate Active/Hot Standby Solution - Enterprise Apps</b>		
10.1	Install core network equipment at both locations.	Completed	
10.2	Implement phased migration.	In progress	
<b>Cloud Strategy</b>		<b>Status</b>	<b>Notes</b>
<b>1</b>	<b>Develop a strategy for the use of cloud-based services by Nebraska state government.</b>		
1.1	Cloud Strategy Document	In progress	Draft document under review.
<b>State IT Spending Analysis</b>		<b>Status</b>	<b>Notes</b>
<b>1</b>	<b>Create new accounting codes to better capture IT-related spending.</b>		
1.1	Develop new accounting codes and definitions.	Completed	
1.2	Pilot test new codes.	Completed	
1.3	Roll-out new codes to cabinet agencies.	Completed	
<b>2</b>	<b>Develop reporting tools using the new accounting codes.</b>		
2.1	Design reports to be generated by the accounting system using the new codes.	In progress	
<b>3</b>	<b>Prepare an analysis of information technology spending by Nebraska state government.</b>		
3.1	IT Spending Analysis Document	Not started	
<b>IT Security</b>		<b>Status</b>	<b>Notes</b>
<b>1</b>	<b>Complete Mobile Device Management solution implementation (MaaS360 from Fiberlink / IBM).</b>		

1.1	MaaS360 will be installed on all mobile devices authenticating to the State of Nebraska network.	In progress	Solution options under review.
<b>2</b>	<b>Complete transition to Security Mentor Security Awareness videos for all State employees.</b>		
2.1	Security Awareness videos will be delivered to all State employees through the Learning Management System on a semi-monthly basis.	In progress	Purchased; to be installed in March.
2.2	Emails that re-inforce the video will be sent to all State employees on the off months.	Not started	
<b>3</b>	<b>Perform a complete IT hardware inventory of all State agencies.</b>		
3.1	Itemized list of IT-related hardware used within the State of Nebraska network	In progress	
<b>4</b>	<b>Perform a complete IT application inventory of all State agencies.</b>		
4.1	Itemized list of applications used within the State of Nebraska network	In progress	
<b>5</b>	<b>Complete Nebraska Security Operation Center.</b>		
5.1	Enterprise Security Information and Event Management (SIEM) system	In progress	
5.2	Enterprise Security Operations Centers in multiple locations 24 x 7 for redundancy	Not started	
5.3	Service Level Agreements with all participants	Not started	
5.4	Written Charter	Not started	
<b>6</b>	<b>Complete update of NITC Standards and guidelines according to gap analysis</b>		
6.1	Updated NITC 8-101 Information Security Policy	In progress	Under review by the Security Architecture Workgroup.
6.2	Updated NITC 8-102 Data Security Standard	Not started	
6.3	Updated NITC 8-103 Minimum Server Configuration Standard	Not started	
6.4	Updated NITC 8-201 Information Technology Disaster Recovery Plan	Not started	
6.5	Updated NITC 8-301 Password Standard	Not started	
6.6	Updated NITC 8-303 Remote Access Standard	Not started	
6.7	Updated 8-304 Remote Administration of Internal Devices Standard	Not started	

<b>NITC Strategic Initiatives Status Report</b>			
Strategic Initiative, Action Item and Deliverable Target		Status	Notes
<b>Nebraska Spatial Data Infrastructure (NESDI)</b>			
<b>1</b>	Formalize the definition of the Nebraska Spatial Data Infrastructure (NESDI) and data stewardship		
1.1	Establish an ad hoc committee of GIS Council representatives	Completed	
1.2	Develop a document that defines the NESDI and the role of data stewardship	In Progress	The definition for the NESDI and data stewardship has drafted. Further recommendation was to expand upon the definitions and provide additional information through this document. Several of the priority NESDI layers are currently developing and implementing business plans. It is recommended by the GIS Council to make this document agile in the development process.
<b>2</b>	Geodetic and Survey Control Inventory and Assessment		
2.1	Establish an ad hoc committee involving stakeholders from government, private industry and the survey community	Completed	
2.2	Develop a current inventory and assessment report of geodetic and survey control	In Progress	Recommendations are already being implemented. Survey and geodetic control recommendations have been identified and included into recent NITC standards for elevation, imagery, street centerline, and address points.
<b>3</b>	Nebraska Statewide Elevation Program		
3.1	Establish an Elevation Working Group	Completed	
3.2	Identify standard elevation product(s) and develop a set of standards	Completed	Developed and adopted on October 28, 2014
3.3	Develop a business plan	Completed	Developed and approved on March 26, 2015
3.4	Implement the program	In Progress	The Working Group began implementation efforts in 2014 and successfully secured a cost-share contract with the United States Geological Survey (USGS) Digital Elevation Program (3DEP) to begin acquiring LiDAR data in western Nebraska. This project covers approximately 4,500 square miles using \$1.3 million among several stakeholders including a 50% match from the USGS. Additional flight acquisition project areas are currently being planned by the USDA NRCS that could also begin the same time. These projects are planned for

			acquisition in March 2016.
<b>4</b>	Nebraska Statewide Imagery Program		
4.1	Establish an Imagery Working Group	Completed	
4.2	Identify standard imagery product(s) and develop a set of standards	Completed	Developed and adopted on October 28, 2014
4.3	Develop a business plan	In Progress	Current costs for data acquisition and services have been sought through a Request for Information (RFI) process. These results have been summarized in February 2016.
4.4	Implement the program	Not Started	
<b>5</b>	Street Centerline-Address Database		
5.1	Establish a Street Centerline and Address Working Group	Completed	
5.2	Identify standard street centerline and address product(s) and develop a set of standards	Completed	Developed and adopted on March 27, 2015
5.3	Develop a business plan	In Progress	Additional criteria is being defined include data stewardship, data processing and workflows, costs, and plans with current E-911 and future NG9-1-1 coordination efforts.
5.4	Implement the program	Not Started	
<b>6</b>	Statewide Land Record Information System		
6.1	Establish a Land Records Working Group	Completed	
6.2	Update the current NITC 3-202 Land Record and Information Mapping Standards	In Progress	Original standards adopted on January 27, 2006 and amended on March 1, 2011.
6.3	Develop a Nebraska Statewide Parcel Geodatabase Development and Maintenance Plan	Completed	Developed and approved on May 27, 2015
6.4	Implement the program	Not Started	The Nebraska Statewide Parcel Geodatabase workflow, data schema/model, and appropriate map services have been developed. Data gathering from counties began in June 2015. All counties that have digitized parcel data has been collected except for one county. An online parcel web viewer was developed in July and is currently providing state agencies access to this data as it gets assembled into the geodatabase.
<b>7</b>	NebraskaMAP - A Geospatial Data Sharing and Web Services Network		

7.1	Establish a NebraskaMAP Working Group	Completed	
7.2	Develop NebraskaMAP Geospatial Data Sharing and Web Services Network Business Plan	In Progress	Additional criteria are being defined to include metadata, data processing and workflows, costs, and relationship to the State of Nebraska GIS Enterprise System. A geospatial data and content management policy has been approved by the GIS Council.
7.3	Develop and implement NebraskaMAP data clearinghouse enterprise platform	In Progress	The inventory process of evaluating geospatial data for inclusion on NebraskaMAP is one of the initial requirements before implementing the system. There are many geospatial data sets that are not meeting the NITC Metadata standards. The team deemed appropriate to begin education and training on Metadata. A training event was conducted November 18, 2015. This is one of the requirements to be fulfilled before data can be made publicly available through the new clearinghouse. A brand, logo, and color theme for NebraskaMAP has been completed. A data management and cataloging system designed specifically for geospatial data has been assembled and is undergoing initial testing. A data content and management policy has been adopted by the GIS Council. A NebraskaMAP Data Subcommittee has also been created to peer review resources for inclusion into the clearinghouse. Final testing of the new clearinghouse site is underway and expected to be released in April.



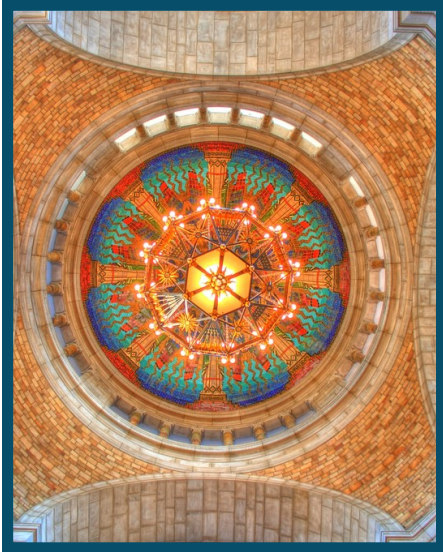
<b>NITC Strategic Initiatives Status Report</b>			
Strategic Initiative, Action Item and Deliverable/Target			
<b>Network Nebraska (Education Council)</b>		<b>Status</b>	<b>Notes</b>
<b>1</b>	<b>Prepare for the future of Network Nebraska</b>		
1.1	Develop strategy to accommodate community affiliate connections	In progress	Task group assigned, 2/17/2016
1.2	Use automated tools to monitor network uptime and web depiction	In progress	Task group assigned, 2/17/2016
1.3	Implement incident management and change control frameworks	In progress	Task group assigned, 2/17/2016
1.4	NNAG & CAP to guide OCIO decisions about network growth/reliability	In progress	Task group assigned, 2/17/2016
1.5	Review and update security services and practices and strategize future services	In progress	Task group assigned, 2/17/2016
<b>2</b>	<b>Serve as the communication hub for new and existing Participants</b>		
2.1	Develop and implement a communications strategy	In progress	Task group assigned, 2/17/2016
2.2	Conduct an annual services survey of all Participants to guide service development	In progress	Task group assigned, 2/17/2016

<b>NITC Strategic Initiatives Status Report</b>			
Strategic Initiative, Action Item and Deliverable/Target			
<b>Digital Education (Education Council)</b>		<b>Status</b>	<b>Notes</b>
<b>1</b>	<b>Create professional development opportunities for Nebraska educators</b>		
1.1	Establish a multimodal, virtual communities of practice for all levels of educators	In progress	Task group assigned, 2/17/2016
<b>2</b>	<b>Address students' technical challenges in high school to college transition</b>		
2.1	Conduct a research project to identify existing infrastructure and pedagogy efforts	In progress	Task group assigned, 2/17/2016
2.2	Identify opportunities for collaboration to ease student transition to college	In progress	Task group assigned, 2/17/2016
2.3	Identify key challenges for transitioning students and mitigate the challenges	In progress	Task group assigned, 2/17/2016
2.4	Create an effective practices guide for using flexible learning technologies	In progress	Task group assigned, 2/17/2016
2.5	Develop a strategy to encourage vendors to implement data exchange standards	In progress	Task group assigned, 2/17/2016
<b>3</b>	<b>Address the need for equity of access as it relates to digital education</b>		
3.1	Form a joint study group to identify opportunities/actions to ensure equitable access	In progress	Task group assigned, 2/17/2016
3.2	Work with other stakeholders to ensure equitable Internet access for all students	In progress	Task group assigned, 2/17/2016
3.3	Identify and promote accessible products and services to achieve equitable access	In progress	Task group assigned, 2/17/2016

<b>NITC Strategic Initiatives Status Report</b>			
<b>Community IT Development</b>		<b>Status</b>	<b>Notes</b>
<b>1</b>	<b>Support the efforts of communities to address broadband-related development by recognizing outstanding programs and developing a series of best practices and case studies.</b>		
1.1	First Nebraska Community Broadband Awards awarded Oct. 21, 2015.	Completed	First Community Broadband Awards awarded Oct. 21, 2015
1.2	At least 6 best practices/case studies developed by Oct. 2016.	In progress	Community Broadband Award winners (Rural Nebraska Health Care Network Broadband Fiber Project, Interface: The Web School, and Nebraska 4-H Robotics FIRST Lego League) were profiled.
<b>2</b>	<b>Support the Network Nebraska Advisory Group's efforts serve as a communication hub for new and existing Network Nebraska participants.</b>		
2.1	Develop and implement a communications strategy.	In progress	A recent grant from the Institute of Museum and Library Sciences to Internet 2 will support efforts to bring libraries onto Network Nebraska.  Representatives of the Community and Education Councils are scheduled to meet on March 31 to discuss joint action items.
<b>3</b>	<b>Support the Education Council's efforts to expand awareness and address the need for equity of access as it relates to digital education.</b>		
3.1	Work with other stakeholders to find equitable Internet solutions.	In progress	Representatives of the Community and Education Councils are scheduled to meet on March 31 to discuss joint action items.

## NITC Strategic Initiatives Status Report

Strategic Initiative, Action Item and Deliverable/Target			
eHealth		Status	Notes
<b>1</b>	<b>Work with NeHII and UNMC to Support HIE through ONC grant.</b>		
1.1	<del>13</del> 18 Critical Access Hospitals, labs and other facilities implemented.	In progress	16 facilities recruited; 5 in progress.
1.2	<del>10</del> 5 ambulatory clinics and long-term care facilities implemented	Not started	5 facilities recruited
1.3	50 long-term care and other facilities implemented for Direct	In progress	38 facilities recruited; 6 facilities implemented; 39 user accounts set up.
1.4	5 HIE to HIE gateways developed	Not started	6 HIEs recruited. This functionality will be available when NeHII migrates to a new platform.
1.5	40 providers implemented for mobile ADT alerts	Not started	5 providers recruited; Recruitment for ADT alerts via mobile messaging is just starting.
1.6	8 Critical Access Hospitals to send syndromic surveillance data	In progress	6 facilities recruited; 1 in progress.
1.7	5 facilities implemented for population health	Not started	4 health systems confirmed. Scheduling implementation of first two facilities.
1.8	Assistance with workflow analysis and integration provided	In progress	Use cases are being identified.
1.9	6 training modules developed	Not started	
1.10	2 demonstration projects which integrate HIE data developed	Not started	



# **An Enterprise Vision for IT in Nebraska**

**Nebraska's Statewide Technology Plan**

**2015-2016**

