M E E T I N G   A G E N D A

**Technical Panel
of the
Nebraska Information Technology Commission**

Tuesday, February 13, 2007
9:00 a.m.
Varner Hall - Board Room
3835 Holdrege St., Lincoln, Nebraska

AGENDA

Meeting Documents: Click the links in the agenda
or click here for all documents (xx Pages, xxx KB).

1. Roll Call, Meeting Notice & Open Meetings Act Information

2. Public Comment

3. Approval of Minutes* - November 22, 2006

4. Project Reviews - Ongoing Reviews

   - Retirement Systems - Jerry Brown

5. Standards and Guidelines

   - Request for Exemption*
     - Nebraska Statewide Telehealth Network - Exemption from Scheduling Standard for Synchronous Distance Learning and Videoconferencing
   - Set for 30-Day Comment Period*
     - Minimum Server Configuration
     - SMTP Routing Standard
     - DNS Forwarding Standard

6. Statewide Technolgoy Plan - Action Items

7. Learning Management System Standards Work Group Charter*

8. Regular Informational Items and Work Group Updates (as needed)

   - Accessibility of Information Technology Work Group
   - Security Architecture Work Group

9. Other Business

10. Next Meeting Date

11. Adjourn

* Denotes Action Item

(The Technical Panel will attempt to adhere to the sequence of the published agenda, but reserves the right to adjust the order of items if necessary and may elect to take action on any of the items listed.)

NITC and Technical Panel Websites: http://www.nitc.state.ne.us/
Meeting notice posted to the NITC Website: 22 DEC 2006
Meeting notice posted to the Nebraska Public Meeting Calendar: 22 DEC 2006
Agenda posted to the NITC Website: 9 FEB 2007

TECHNICAL PANEL
Nebraska Information Technology Commission
Wednesday, November 22, 2006, 9:00 a.m. - 12:00 p.m.
Varner Hall - Board Room
3835 Holdrege St., Lincoln, Nebraska
PROPOSED MINUTES

MEMBERS PRESENT:
Brenda Decker, Chief Information Officer, State of Nebraska
Christy Horn, University of Nebraska, Compliance Officer
Kirk Langer, Lincoln Public Schools
Walter Weir, University of Nebraska
Mike Winkle, Nebraska Educational Telecommunications Commission

OTHERS PRESENT: Gene Hand, Public Service Commission; Jim Emal,
University of Nebraska; Roger Adams, Qwest; Mike Spinharney, MSI Systems
Integrators; Ben Meinke, Jayne Scofield, Tom Rolfes, and Steve Henderson, Office
of the CIO; Ron Cone, Educational Service Unit 3; Gordon Roethemeyer, Distance
Education Council; and Roger Hahn, Nebraska Information Network

ROLL CALL, MEETING NOTICE & OPEN MEETINGS ACT INFORMATION

Mr. Weir called the meeting to order at 9:05 a.m. A quorum was present to conduct
official business. The meeting notice and meeting agenda were posted to the NITC
website and the Nebraska Public Meeting Calendar website on October 25, 2006.
The agenda was posted to the NITC website on November 20, 2006. The Open
Meetings Act Information was posted to the on the south wall of the meeting room.

PUBLIC COMMENT

There was no public comment.

APPROVAL OF OCTOBER 2006 MINUTES

**Ms. Decker moved to approve the October 20, 2006 minutes as presented. Mr.
Winkle seconded. Roll call vote: Decker-Yes, Langer-Yes, Weir-Yes, and
Winkle-Yes. Results: Yes-4, No-0. Motion carried.**

Ms. Horn arrived at the meeting.

PROJECT PROPOSAL REVIEWS - FY2007-2009 BIENNIAL BUDGET

Health and Human Services Systems
25-01, New Medicaid Management Information System (MMIS)
25-02 Laboratory Information Management System (LIMS)

Jim Ohmberger was present to address questions from the panel members.

It was recommended that staff from the Office of the CIO be involved in the RFP process for both projects.

Mr. Winkle moved to approve the Health and Human Services System projects' technical reviews. Ms. Decker seconded the motion. Roll call vote: Horn-Yes, Decker-Yes, Winkle-Yes, Weir-Yes, and Langer-Yes. Results: 5-Yes and 0-No. The motion was carried.

PROJECT REVIEW: DL EVENT CLEARINGHOUSE & SCHEDULING SOFTWARE - PURCHASE

LB 1208 stipulates that all Distance Education Council (DEC) purchases over $10,000 must be approved by the NITC Technical Panel. The Office of the CIO had released RFP 1683Z1 which resulted in a successful bid and contractor of Qwest Interprise, Inc. using Renovo Software. Renovo Software prefers that each state network set up its own server hosting and management. Gordon Roethemeyer, Executive Director of the Distance Education Council, is proposing that the Technical Panel approve the DEC purchase of the software and also the server hosting solution presented by the Office of the CIO. Mr. Langer serves on the DEC Advisory Committee and stated that the group had no issue with the CIO hosting providing that the service and cost were satisfactory. Mr. Winkle stated that although NET could possibly host the software, that they had no interest. Mr. Cone commented that the Educational Service Units looked at scalability and monitoring requirements and thought the Office of the CIO to be the logical choice, with their server team, security, and disaster recovery.

The Technical Panel is aware that there are other public entities (Military, Dept of Roads, Dept of Corrections, Homeland Security, etc...) that may be interested in the clearinghouse and scheduling software solution, once established. In order to meet the timeline for implementation of LB 1208 and the DEC, Jayne Scofield and Ben Mientka of CIO Network Services recommends to use existing virtual server configurations, and then work with Renovo Software on expansion, as needed, over the life of the project. The Panel stated that video distance learning and videoconferencing should have a global scheduler available for its operation.

Mr. Weir thanked all the entities involved for their efforts. Mr. Rolfes reported that the scheduling software costs may come in considerably under budget, depending upon the hardware and software solutions chosen by the distance learning sites. However, one type of codec solution that could be chosen at each site would triple the upfront scheduling software costs and ongoing maintenance.

Ms. Decker moved that the Technical Panel approve the [Distance Education Council's DL Event Clearinghouse & Scheduling Software Purchase](), and to approve the hardware recommendation offered by the CIO-Network Services Division. Ms. Horn seconded. Roll call vote: Winkle-Yes, Weir-Yes, Langer-Yes, Horn-Yes, and Decker-Yes. Results: Yes-5, No-0. Motion carried.

Mr. Winkle moved that the Technical Panel strongly recommend to the Distance Education Council that the Office of the CIO serve as the host server solution. Ms. Horn seconded. Roll call vote: Horn-Yes, Decker-Abstain,

Weir-Yes, Winkle-Yes, and Langer-Yes. Results: Yes-4, Abstained-1, and No-0. Motion carried.

STANDARDS AND GUIDELINES - NEBRASKA STATEWIDE TELEHEALTH NETWORK – EXEMPTION FROM SCHEDULING STANDARD FOR SYNCHRONOUS DISTANCE LEARNING & VIDEOCONFERENCING

This agenda item was tabled until the next meeting.

STANDARDS AND GUIDELINES - - REMOTE ACCESS STANDARD

Steve Hartman, Security Officer, Office of the CIO

No comments were received during the 30-day public comment period.

Mr. Winkle moved to recommend the Remote Access Standard to the NITC for final review and approval. Ms. Decker seconded. Roll call vote: Horn-Yes, Decker-Yes, Winkle-Yes, Weir-Yes, and Langer-Yes. Results: Yes-5, No-0. Motion carried.

STANDARDS AND GUIDELINES - EMERGENCY INFORMATION PAGE

No comments were received during the 30-day public comment period.

Ms. Horn moved to recommend the Emergency Information Page guideline to the NITC for final review and approval. Mr. Winkle seconded. Roll call vote: Weir-Yes, Winkle-Yes, Decker-Yes, Horn-Yes, and Langer-Yes. Results: Yes-5, No-0. Motion carried.

REGULAR INFORMATIONAL ITEMS AND WORK GROUP UPDATES (AS NEEDED)

Accessibility of Information Technology Work Group, Christy Horn. Revisions to the charter are being developed.

Security Architecture Work Group, Steve Hartman. For the next Technical Panel meeting, the work group will make recommendations for a Minimum Server Standards and a SMTP Routing Standard.

ELECTION OF TECHNICAL PANEL CHAIR

Ms. Horn nominated Walter Weir to serve as chair for another term. Ms. Decker seconded. Roll call vote: Horn-Yes, Decker-Yes, Winkle-Yes, Weir-Abstained, and Langer-Yes. Results: Yes-4, Abstain-1, and No-0. Motion carried.

OTHER BUSINESS

Mr. Rolfes alerted the panel members that LB 1208 suggests that standards be set for a learning management system. He has been developing a work group charter

to address this issue. The Distance Education Council's Advisory Group strongly recommend that further study be conducted before a decision being made regarding the selection of management structure to oversee a statewide learning management system.   Ms. Decker clarified that the Technical Panel is only responsible for the technical aspects and not the decision for purchases. It was suggested to discuss this at a future meeting.

NEXT MEETING DATE & ADJOURNMENT

The NITC Technical Panel will not meet in December. The next meeting will be held in January. Mr. Becker will get communication out to members as the meeting date approaches.

Mr. Weir moved to adjourn. Ms. Horn seconded. All were in favor. Motion was carried by majority voice vote.

The meeting was adjourned at 10:07 a.m.

Meeting minutes were taken by Lori Lopez Urdiales and review by Rick Becker, Office of the CIO.

February 8, 2007

Walter Weir
Chief Information Officer
University of Nebraska
232 Varner Hall
Lincoln, NE 68583

Dear Mr. Weir:

The Nebraska Statewide Telehealth Network now links over 100 sites-hospitals and public health departments--across the state.   As both the number of sites and the utilization of the network have increased, the need for a scheduling system has become increasingly important.   At this time, the Nebraska Statewide Telehealth Network has limited funds to purchase a statewide scheduling system; however, the Nebraska Public Service Commission has approved funding from the Nebraska Universal Service Fund for a three-year contract, including maintenance.

The Nebraska Statewide Telehealth Network has prioritized its scheduling needs and has researched the scheduling systems offered by a number of vendors. At this time, hardware control is a low priority due to the cost and the low percentage of regularly occurring events. The Nebraska Statewide Telehealth Network has determined that a program provided by Rick Phillips, who developed a scheduling system for the majority of the hospitals in Kentucky, can best meet its needs and budget. The developer has extensive experience in telehealth and has customized the system to meet the unique needs of the Nebraska Statewide Telehealth Network. The system offers an excellent clearinghouse component, as well as event logging, facilities coordination, and people coordination

The Nebraska Statewide Telehealth Network is interested in working with the education community to facilitate scheduling among both education and telehealth entities. The telehealth scheduling system is Web-based and is fully viewable by members of the education community. We are scheduled to demonstrate the system to members of the Technical Panel on February 13th.

Thank you for your consideration of our request for a three-year exemption from the Scheduling Standard for Synchronous Distance Learning and Videoconferencing. We are looking forward to continuing dialogue with the education community on how we might move toward interoperability between the telehealth and education networks.

Sincerely,

Donna K. Hammack
Chair-Nebraska Telehealth Governance Committee

cc: Brenda Decker
     Rick Becker

Nebraska Information Technology Commission

Scheduling Standard for Synchronous Distance Learning and Videoconferencing

Category	**Video Architecture**
Title	**Scheduling Standard for Synchronous Distance Learning and Videoconferencing**
Number	

Applicability	☑**State Government Agencies**
	    ☑All... **Standard**
	    ☐Excluding _____ ....**Not Applicable**
	☑**State Funded Entities -** All entities
	    receiving state funding for matters
	    covered by this document.......................... **Standard**
	☑**Other:** Entities using state-owned or
	    state-leased communication networks
	    for synchronous video……….……………..**Standard**
	
	Definitions:
	Standard - Adherence is required. Certain exceptions and conditions
	    may appear in this document, all other deviations from the
	    standard require prior approval (see Section 3.1).
	Guideline - Adherence is voluntary.

Status	☑Adticipated ☐Draft ☐Other:_____
Dates	Version Date: April 17, 2006 Date Adopted by NITC: May 1, 2006 Other:

1.0 Standard

This document consists of a list of features that ought to be available in any system that is developed for use in scheduling of synchronous events using videoconferencing technology.

It is the intent that any and all such scheduling systems defined by the specifications below be accessible either through the Internet or within a defined intranet as decided upon by the system administrators.

The following sections attempt to describe the various levels and types of scheduling or coordination that might be considered.

1.1   Hardware control component

When attempting to link two or more sites electronically, some system must coordinate the connectivity between/among the sites. This includes controlling the network and endpoint hardware and bandwidth necessary to cause a successful connection.

1.1.1   Standards for hardware control system

A system should be able to control all hardware in a network and be capable of linking into all the other systems listed in this standard to enable the following:

1.1.1.1	Browser-based access
1.1.1.2	Locate devices by IP address (both static and DHCP)
1.1.1.3	Locate devices by MAC address
1.1.1.4	Facilitate far-end control in endpoint devices with the capability
1.1.1.5	Display a call list that is understood by non-techs using plain English site description
1.1.1.6	Have a defined quality of service
1.1.1.7	Hardware and software systems must work such that the scheduling system is available for use at least 99.9% of the time
1.1.1.8	The system should not require reset/reboot more often than once per week
1.1.1.9	Have a minimum of a one-year warranty
1.1.1.10	Annual maintenance fees after the warranty has run out should not exceed 10% of original purchase price
1.1.1.11	Keep automated log data that may be defined by and searched in ways to be defined by the system administrator(s) with multiple possible search definitions
1.1.1.12	Maintain security in ways that can be defined by system administrators including:
1.1.1.12.1	Keeping log information secure
1.1.1.12.2	Limiting access to an event
1.1.1.12.3	Turning encryption on/off in endpoint devices with the capability

	1.1.1.12.4	Identifying security capability to system administrators and event coordinators by site
	1.1.1.12.5	Provide an identity management system that allows for multiple levels of user access as defined by system administrators
1.1.1.13		Facilitate ad hoc events by users with permission from system administrators
1.1.1.14		Facilitate scheduled events by users with permission from system administrators
1.1.1.15		Be capable of controlling all specific equipment used in the network (CODECs, routers, switchers, MCUs, firewall systems, etc.)
1.1.1.16		Facilitate various types of events
	1.1.1.16.1	Broadcast to all
	1.1.1.16.2	Broadcast to some
	1.1.1.16.3	2-way point-to-point
	1.1.1.16.4	2-way multipoint
	1.1.1.16.5	A combination of broadcast and 2-way

1.2   Event logging component

If a system coordinator has a requirement to track information about events some mechanism would have to be in place. This may include knowing the number of people at a site, the minutes an event runs at any given site, or the number of events a specific organization schedules.

1.2.1 Standards for event logging system

A system should be able to automatically store data and permit reports and be capable of linking into the all the other systems listed in this standard to include the following:

1.2.1.1		Browser-based access
1.2.1.2		Store data in an ODBC compliant relational database
1.2.1.3		Provide fields for logging various pieces of information
	1.2.1.3.1	minutes a site is available/not available
	1.2.1.3.2	minutes a site is used
	1.2.1.3.3	number of event attendees
	1.2.1.3.4	type of event as defined by system administrators
	1.2.1.3.5	number of sites per event
1.2.1.4		Permit system administrator defined fields (no fewer than 64)
	1.2.1.4.1	Definable by site, groups of sites, and groups of groups
1.2.1.5		Related GUI entry for call setup as defined by system administrators
	1.2.1.5.1	Physical site location

	1.2.1.5.2	Local contact and facility arrangement info
		1.2.1.5.2.1 Costs, availability, site rules
		1.2.1.5.2.2 ADA options available
	1.2.1.5.3	Searchable criteria for describing or accessing spaces
	1.2.1.5.4	Must have a GUI that is understandable in plain English
1.2.1.6	Facilitate search to know what facilities are in conflict or are often in conflict
	1.2.1.6.1	number of conflicts for a given site over a specific amount of time
1.2.1.7	Accommodate a facility "wait" list / availability queue
	1.2.1.7.1	If a facility is already confirmed for an event, it should log who has requested the same facility then auto notify the requester(s) if the event causing the conflict is cancelled
1.2.1.8	Account for billing charges per event/location and total bill generation after the event

1. 3   Facilities coordination component

If an event will include locations for which more than one person/organization has responsibility, then some mechanism must exist for coordinating use of facilities. There may be technical or administrative limits as to the number or types of sites that can participate in any given event. This could be as simple as users coordinating times over the telephone or through e-mail, but for some applications there may be a greater need for pre-scheduling and coordination among multiple administrators.

1.3.1 Standards for facilities coordination system

A system should enable access to facilities based on defined permissions, resolve conflicts based on pre-determined policies and be capable of linking into all the other systems listed in this standard to include the following:

1.3.1.1	Browser-based access
1.3.1.2	System editable user access
	1.3.1.2.1	Activate a facility such that it is known to the system and to system users
	1.3.1.2.2	Building level admin such that the facilities at a specific location can set policies for that site and permit use by others
	1.3.1.2.3	Regional admin (organization / geo-political) such that a group of facilities can set policies for all related sites and permit use by others

	1.3.1.2.4	Sys admin (configuration) such that technical system setup, operation and maintenance may be conducted
	1.3.1.2.5	Sector admin such that groups of groups of facilities can set policies for all related sites and permit use by others
	1.3.1.2.6	Room request such that any designated site user or administrator may request access to a facility they do not already have rights to schedule
	1.3.1.2.7	Participant access defaults

1.3.1.2.7.1   All denied unless specifically permitted
1.3.1.2.7.2   All permitted unless specifically denied

1.3.1.2.8   User account directory service with definable permissions for each account

1.3.1.3   Types of coordination
1.3.1.3.1   Event posting to inform others of possible access
1.3.1.3.2   Site joining to allow other to access
1.3.1.3.3   Ad hoc to allow immediate activation of unscheduled events
1.3.1.3.4   Pre-planned events that may occur once or cyclically
1.3.1.3.5   Inter network coordination to permit interaction of sites both within and outside a controlled network
1.3.1.3.6   Intra network coordination to permit interaction of sites within a controlled network
1.3.1.3.7   Administrator defined bandwidth prioritization to minimize network bottlenecks
1.3.1.3.8   Administrator defined asset prioritization to minimize system conflicts
1.3.1.3.9   Site-requested bandwidth speed

1.3.1.4   Facilities information to be posted
1.3.1.4.1   Identify technology available by site
1.3.1.4.2   Physical site location
1.3.1.4.3   Local contact and facility arrangement info
1.3.1.4.3.1   Costs, availability, site rules
1.3.1.4.3.2   ADA options available

1.3.1.5   Event information to be posted
1.3.1.5.1   Definable credit type
1.3.1.5.2   Definable student type
1.3.1.5.3   Event/course prerequisites
1.3.1.5.4   Event/course descriptions
1.3.1.5.5   Teacher / event leader / presenter
1.3.1.5.6   Materials needed
1.3.1.5.7   Event coordinator info
1.3.1.5.8   Target audience
1.3.1.5.9   Mapquest-like link

1.4   People coordination component

If a specific location is to be used this implies that operational people may need to be dedicated to cause successful events. Since there will be a variety of site designs and operations, then there will be a variety of the demand of staff time. Likewise each facility will have limits on how many people can attend at any one location. Finally, there may be limitations as to the total number of event participants allowed.

1.4.1   Standards for people coordination system

A system should enable interaction of people based on policies set by system administrators and be capable of linking into all the other systems listed in this standard to include the following:

1.4.1.1	Browser-based access
1.4.1.2	Allow for multiple permission levels
	1.4.1.2.1 View schedules
	1.4.1.2.2 Request systems/facilities
	1.4.1.2.3 Approve systems/facilities use
1.4.1.3	Provide information about instructor/facilitator and their availability
1.4.1.4	Allow for predetermined maximum number of attendees
1.4.1.5	Track and display count of committed attendees
1.4.1.6	Track and display remaining permitted attendees
1.4.1.7	Allow for predetermined maximum number of sites
1.4.1.8	Track and display count of committed sites
1.4.1.9	Track and display remaining permitted sites

1.5   Event clearinghouse component

As system users see a need for pre-scheduled events coordinated among a large number of facilities and administrators, the concept of a virtual location for brokering of events becomes attractive. Such a clearinghouse could serve as a way that event coordinators might let others know the specifics of events they are planning (a certain class with a specific sort of content will be offered on a certain schedule for a certain period of time or a specific event will happen one time on a specific day at a specific time).

Such a clearinghouse could also serve as a way for interested parties to find events that meet their specific needs (a school administrator has a certain number of students who need a specific class that is not offered locally). Availability might also include information about participant or site number limitations (the total seats/sites in the class/event, the number requested/registered so far and the number remaining of the total).

1.5.1 Standards for an event clearing house system

A system should enable online interaction for publishing of event information and be capable of linking into all the other systems listed in this standard to include the following:

1.5.1.1	Browser-based access
1.5.1.2	Posting of one-time single events
1.5.1.3	Posting of sequenced or cyclical events
1.5.1.4	Posting of costs to participate in an event
1.5.1.5	Permit system administrator defined fields (no less than 256)
1.5.1.6	Provide for automated multiple time zone accommodation
1.5.1.7	Posting of multiple standard bell schedules related to formal educational events
1.5.1.8	Permitting or excluding view of encrypted/secured events such that those with permission may see that the events are available and those without permission won't even be able to know that these events are taking place
1.5.1.9	Posting of all, part or none of the information defined in the standards in this document as defined by system administrators
1.5.1.10	Use an ODBC compliant relational database
1.5.1.11	System administrator defined search/reporting capability
1.5.1.12	Posting of facility group affiliation
1.5.1.13	Provide for automated email notification of site requests/confirmations
	1.5.1.13.1 Events offered
	1.5.1.13.2 Events needed
	1.5.1.13.3 Event outages
	1.5.1.13.4 Event conflicts
1.5.1.14	Provide for automated site schedule generation to include
	1.5.1.14.1 Events offered
	1.5.1.14.2 Events needed
	1.5.1.14.3 Event outages
	1.5.1.14.4 Event conflicts
1.5.1.15	Provide for event cancellation "drop dead" date policies for events to include automated email notifications
	1.5.1.15.1 Minimums not met
	1.5.1.15.2 Facilities conflict not resolved
	1.5.1.15.3 Email notification
1.5.1.16	Provide for links to asynchronous event-related material (eLearning)
1.5.1.17	Provide for automated billing
1.5.1.18	Provide for post event evaluations as defined by system administrators

2.0 Purpose and Objectives

The purpose of this standard is to establish and define the needs for scheduling to be addressed when purchasing and maintaining scheduling coordination systems.

2.1 Background

The State of Nebraska is about to exceed 300 IP-based videoconferencing facilities within the sectors of K-12 education, higher education, informal education, telehealth, and state agencies. In order for any particular entity to be able to connect to any other particular entity (within or outside their subsector), some software system is required to complete the connection, maintain the connection, and to list the directory of participating entities.

The standards expressed herein is a product of a meeting that took place on February 3, 2006, with input from over 20 representatives from the NITC Technical Panel's Statewide Synchronous Video Work Group, coming from institutions all across the State. It is this unselfish dedication to achieving a common good that makes such a software system possible.

When describing scheduling of teleconferencing events there is a variety of descriptive language expressed by those who use the technology. Depending on how "scheduling" is defined, the need may be described on a continuum from "not needed" to "locally coordinated" to "centrally coordinated".

2.2 Objective

The objective of this standard is to enable all existing and future synchronous distance learning and videoconferencing facilities in Nebraska to achieve interoperability and maintain an acceptable quality of service through scheduled and ad hoc event coordination.

3.0 Applicability

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

- If utilizing state-owned or state-leased communications networks:

  o Any synchronous distance learning facility or videoconferencing application which utilizes state-owned or state-leased communications networks must comply with the scheduling standards listed in Sections 1.1 through 1.5; or
  o The entity must provide, or arrange for, coordination on their behalf through some other entity with the stated capability.

- If using state funding:

  o All **new** facilities or applications receiving state funding must comply with the scheduling standards listed in Sections 1.1 through 1.5.
  o All **existing** facilities or applications receiving state funding for ongoing operations must convert to the standards listed in Sections 1.1 through 1.5 as soon as fiscally prudent or upon renewal of any existing scheduling system service contract, whichever comes first.

- These standards **do not apply** to the following entities:

  o University of Nebraska (relating to the university's academic research mission)
  o Any entity which applies for, and receives, an exemption.

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

3.1 Exemption
Exemptions may be granted by the NITC Technical Panel upon request by an agency or other entity.

3.1.1 Exemption Process
Any agency or other entity may request an exemption from this standard by submitting a "Request for Exemption" to the NITC Technical Panel. Requests should state the reason for the exemption. Reasons for an exemption include, but are not limited to: statutory exclusion; federal government requirements; or financial hardship. Requests may be submitted to the Office of the NITC via e-mail or letter (Office of the NITC, 521 S. 14th Street, Suite 301, Lincoln, NE 68508). The NITC Technical Panel will consider the request and grant or deny the exemption. A denial of an exemption by the NITC Technical Panel may be appealed to the NITC.

4.0 Responsibility

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

5.0 Related Documents

5.1 Statewide Synchronous Video Work Group Charter:
http://www.nitc.state.ne.us/tp/workgroups/video/charter.pdf

5.2 Glossary of Technical Terms
http://www.nitc.state.ne.us/itc/citizens/glossary.htm

Nebraska Information

Technology Commission

STANDARDS AND GUIDELINES

Minimum Server Configuration Standard

Category	Security Architecture
Title	**Minimum Server Configuration Standard**
Number	

Applicability	☑ State Government Agencies ☐ **All** .... Not Applicable ☑ **Excluding <u>higher education institutions</u>**.. Standard ☐ State Funded Entities - **All entities receiving state funding for matters covered by this document** .... Not Applicable ☑ Other: **All Public Entities** .... Guideline **Definitions:** **Standard** - Adherence is required. Certain exceptions and conditions may appear in this document, all other deviations from the standard require prior approval (see Section 3.2). **Guideline** - Adherence is voluntary.

Status	☐ **Adopted** ☑ **Draft** ☐ **Other:_____**
Dates	**Date: Draft February 7, 2007** Date Adopted by NITC: Other:

1.0 Standard

The State of Nebraska recognizes the National Institute of Standards and Technology (NIST) as the adopted author of deployment configurations that provide minimum baselines of security for servers on the State of Nebraska network. As such, all state agencies, boards and commissions will comply with NIST standards, guidelines, and checklists as identified in Appendix A.

NIST provides instructions, recommendations, and considerations to assist readers in deploying servers in a secure method. All State of Nebraska System Administrators should examine NIST documents when installing and or configuring servers. The documents are not all inclusive, but rather meant as a means of prompting and guiding Administrators through the installation process.

2.0 Purpose and Objectives

Information technology (IT) is a vital resource to the State of Nebraska; therefore it is critical that services provided by these systems are able to operate effectively.

The purpose of this standard is to establish base configurations and minimum server standards on internal server equipment that is owned and/or operated by the State of Nebraska. Effective implementation of this policy will minimize unauthorized access and other IT security related events to the State of Nebraska's information and technology systems.

3.0 Applicability

3.1 State Government Agencies
All State agencies, boards, and commissions, excluding higher education institutions, which deploy servers on the State of Nebraska network.

3.2 Exemption
Exemptions may be granted by the NITC Technical Panel upon request by an agency.

3.2.1 Exemption Process
Any agency may request an exemption from this standard by submitting a "Request for Exemption" to the NITC Technical Panel. Requests should state the reason for the exemption. Reasons for an exemption include, but are not limited to: statutory exclusion, federal government requirement, or financial hardship. Requests may be submitted to the Office of the NITC via e-mail or letter (Office of the NITC, 501 S 14th Street, Lincoln, NE 68509). The NITC Technical Panel will consider the request and grant or deny the exemption. A denial of an exemption by the Technical Panel may be appealed to the NITC.

4.0 Responsibility

4.1 NITC
The NITC shall adopt minimum technical standards, guidelines, and architectures upon recommendation by the technical panel. (Neb. Rev. Stat. § 86-516(6))

4.2 Agency and Institutional Heads
The highest authority within an agency or institution is responsible for the protection of information resources, including developing and implementing information security programs, consistent with this standard. The authority may delegate this responsibility but delegation does not remove the accountability.

4.3 Agency Information Officer

In most cases, the highest authority within an agency or institution delegates the general responsibility for security of the agency's information technology resources to the agency's highest-ranking information technology professional. This responsibility includes development and promulgation of agency-specific information security policies, including installation, and configurations of all servers present on the state's network.

4.4 Agency System or Network Administrator
In most cases, the authority within an agency or institution responsibility for the day-to-day system, network and/or security administration of the agency's information technology resources. This responsibility includes ensuring due diligence to security best practices is performed when any server is made available on the state's network

5.0 Related Standards and Guidelines

5.1 NITC Security Policies
http://www.nitc.state.ne.us/tp/workgroups/security/security_policies.html
5.2 NITC Security Officer Handbook
http://www.nitc.state.ne.us/standards/security/so_guide.doc

Appendix A

NIST Security Configuration Checklists Repository
http://csrc.nist.gov/checklists/repository/index.html

NIST SP 800-70, The NIST Security Configuration Checklists Program,
http://csrc.nist.gov/checklists/download_sp800-70.html

NIST SP 800-68, Guidance for Securing Microsoft Windows XP Systems for IT Professionals:
A NIST Security Configuration Checklist, http://csrc.nist.gov/itsec/download_WinXP.html

NIST SP 800-44, Guidelines on Securing Public Web Servers,
http://csrc.nist.gov/publications/nistpubs/800-44/sp800-44.pdf

Nebraska Information Technology Commission

SMTP Routing Standard

Category	**Security Architecture**
Title	**SMTP Routing Standard**
Number	

Applicability	☑ State Government Agencies ☐ **All**...Not Applicable ☑ **Excluding <u>higher education</u> <u>institutions</u>**.....................................Standard ☐ State Funded Entities - **All entities receiving state funding for matters covered by this document**...............Not Applicable ☐ Other: **All Public Entities**......................Not Applicable **Definitions:** **Standard** - Adherence is required. Certain exceptions and conditions may appear in this document, all other deviations from the standard require prior approval (see Section 3.2). **Guideline** - Adherence is voluntary.

Status	☐ **Adopted** ☑ **Draft** ☐ **Other:_____**
Dates	**Date: Draft February 7, 2007** **Date Adopted by NITC:** **Other:**

1.0 Standard

All inbound and outbound SMTP traffic will be routed through the State of Nebraska's SPAM / Anti-Virus appliance that is managed by the Office of the CIO

2.0 Purpose and Objectives

All inbound and outbound SMTP traffic must be routed through the State of Nebraska's SPAM / Anti-Virus appliance to ensure that email and attachments within emails are properly scanned for viruses, SPAM, and that all content complies with State of Nebraska policies including privacy concerns.

3.0 Applicability

3.1 State Government Agencies
All State agencies, boards, and commissions, excluding higher education institutions, are required to comply with the standard listed in Section 1.0.

3.2 Exemption
Exemptions may be granted by the NITC Technical Panel upon request by an agency.

3.2.1 Exemption Process
Any agency may request an exemption from this standard by submitting a "Request for Exemption" to the NITC Technical Panel. Requests should state the reason for the exemption. Reasons for an exemption include, but are not limited to: statutory exclusion, federal government requirement, or financial hardship. Requests may be submitted to the Office of the NITC via e-mail or letter (Office of the NITC, 501 S 14th Street, Lincoln, NE 68509). The NITC Technical Panel will consider the request and grant or deny the exemption. A denial of an exemption by the Technical Panel may be appealed to the NITC.

4.0 Responsibility

4.1 NITC
The NITC shall be responsible for adopting minimum technical standards, guidelines, and architectures upon recommendation by the technical panel. (Neb. Rev. Stat. § 86-516(6))

4.2 State Agencies
Each state agency will be responsible for ensuring that all SMTP traffic, both inbound and outbound pass through the State of Nebraska's SPAM / Anti-Virus appliance.

5.0 Related Documents

5.1 NITC Network Security Policy (http://www.nitc.state.ne.us/standards/index.html)

6.0 References

6.1 National Institute Standards and Technology (NIST) Special Publication, 800-45, "Guidelines on Electronic Mail Security". (http://csrc.nist.gov/publications/nistpubs/800-45/sp800-45.pdf).

Nebraska Information Technology Commission

DNS Forwarding Standard

Category	**Security Architecture**
Title	**DNS Forwarding Standard**
Number	

Applicability

☑ State Government Agencies
  ☐ **All**..Not Applicable
  ☑ **Excluding <u>higher education</u> <u>institutions</u>**...Standard
☐ State Funded Entities - **All entities receiving state funding for matters covered by this document**...............Not Applicable
☐ Other: **All Public Entities**......................Not Applicable

Definitions:
Standard - Adherence is required. Certain exceptions and conditions may appear in this document, all other deviations from the standard require prior approval (see Section 3.2).
Guideline - Adherence is voluntary.

Status	☐ **Adopted** ☐ **Draft** ☐ **Other:_____**
Dates	**Date: Draft February 7, 2007** **Date Adopted by NITC:** **Other:**

1.0 Standard

All outbound (Internet) DNS traffic must be forwarded through the State of Nebraska's internal DNS servers.

2.0 Purpose and Objectives

All outbound (Internet) DNS traffic must be forwarded through the State of Nebraska's internal DNS servers that are managed by the Office of the CIO.

3.0 Applicability

3.1 State Government Agencies
All State agencies, boards, and commissions are required to comply with the standard listed in Section 1.0.

3.2 Exemption
Exemptions may be granted by the NITC Technical Panel upon request by an agency.

3.2.1 Exemption Process
Any agency may request an exemption from this standard by submitting a "Request for Exemption" to the NITC Technical Panel. Requests should state the reason for the exemption. Reasons for an exemption include, but are not limited to: statutory exclusion, federal government requirement, or financial hardship. Requests may be submitted to the Office of the NITC via e-mail or letter (Office of the NITC, 501 S 14th Street, Lincoln, NE 68509). The NITC Technical Panel will consider the request and grant or deny the exemption. A denial of an exemption by the Technical Panel may be appealed to the NITC.

4.0 Responsibility

4.1 NITC
The NITC shall be responsible for adopting minimum technical standards, guidelines, and architectures upon recommendation by the technical panel. (Neb. Rev. Stat. § 86-516(6))

4.2 Office of the CIO
The Office of the CIO will be responsible for installing, maintaining and managing the External DNS servers for the State of Nebraska. All other DNS inquiries will be dropped at the State's firewall.

4.3 State Agencies
Each state agency will be responsible for ensuring that all outbound (Internet) DNS traffic is routed through the State of Nebraska's internal DNS servers. Agency servers will not be allowed to perform 'Internet' lookup's for an address. This will prevent a user from performing a direct DNS lookup and being returned a 164.119.x.x address instead of the authorized 10.x.x.x address.

5.0 Related Documents

5.1 NITC Network Security Policy (http://www.nitc.state.ne.us/standards/index.html)

Network Nebraska

Objective

The primary objective of this initiative is to develop a broadband, scalable telecommunications infrastructure that optimizes the quality of service to every public entity in the State of Nebraska. Network Nebraska aggregates disparate networks into a multipurpose core backbone extending from Norfolk, Omaha, Lincoln, Grand Island, Kearney, and North Platte to the Panhandle.   The State of Nebraska, Division of Communications, the University of Nebraska, Nebraska Educational Telecommunications Commission, Department of Education, Public Service Commission, and the Nebraska Information Technology Commission have formed the Collaborative Aggregation Partnership (CAP) to guide and implement Network Nebraska. The next phase of this initiative is to formalize business relationships and agreements and to enhance rural bandwidth through local aggregation.

Through aggregation of demand, adoption of common standards, and collaboration with network services and applications, Network Nebraska participants can achieve many benefits.

Description

The major components of this initiative include:

- Development of a scalable, reliable, and secure telecommunications infrastructure that enables any type of eligible entity (i.e., local and state government, K-12 and higher education, health care institutions) to purchase the amount of service that the entities need, when they need it, on an annual basis;

- Establishment of a catalog of value-added applications that enables eligible entities to pick and choose services that are pertinent to them (e.g., Internet1, Internet2, and videoconferencing);

- Implementation of a network operations center that offers a helpdesk, network diagnostics, and engineering assistance in order to ensure acceptable qualities of service;

- Establishment of a billing or accounting center to accept service orders, extend service agreements, provide consolidated billing, and to maintain customer accounts.

Benefits

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

- Lower network costs;

- Greater efficiency for participating entities;

- Interoperability of systems providing video courses and conferencing;

Network Nebraska

- Increased collaboration among all K-20 educational entities;

- New educational opportunities;

- Competitiveness with surrounding states; and

- Better use of public investments.

Action Plan

Current Action Items

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

> **Action:** The CAP will identify and work with communities that express an interest in aggregating their public sector transport.
>
> **Lead:** Network Nebraska (CAP)
>
> **Participating Entities:** Specific communities, NITC Community Council, Nebraska League of Municipalities, Nebraska Association of County Officials, public libraries, NITC Education Council
>
> **Timeframe:** February 2006-December 2006
>
> **Funding:** No funding required for this action item.
>
> **Status:** New

> **Action:** The CAP will write and release a brief that explains the technical feasibility of sharing public sector transport over high bandwidth, IP-based circuits in order to incentivize Tier II aggregation.
>
> **Lead:** Network Nebraska (CAP)
>
> **Participating Entities:** NITC Education Council, NITC Community Council, ESU-NOC, Nebraska League of Municipalities, Nebraska Association of County Officials, public libraries
>
> **Timeframe:** February 2006-December 2006
>
> **Funding:** No funding required for this action item.
>
> **Status:** New

Network Nebraska

2. The Chief Information Officer will arrange for all eligible network partici-pants to have the opportunity to access Network Nebraska at the earliest available opportunity.

> **Action:** The Chief Information Officer will establish criteria for "access to" Network Nebraska in order to satisfy the requirements of LB 1208.
>
> **Lead:** Chief Information Officer
>
> **Participating Entities:** Network Nebraska (CAP)
>
> **Timeframe:** February 2006
>
> **Funding:** No funding required for this action item.
>
> **Status:** New
>
>
> **Action:** The Chief Information Officer will determine the specifications of any regional aggregation centers that must be established in order to serve the statewide data traffic of K-12 and postsecondary education institutions.
>
> **Lead:** Chief Information Officer
>
> **Participating Entities:** Network Nebraska (CAP)
>
> **Timeframe:** February 2006-April 2006
>
> **Funding:** No funding required for this action item.
>
> **Status:** New

3. Offer Internet I services to eligible network participants.

> **Action:** The CAP will accept new orders for Internet service and continue to aggregate purchasing demand to secure a more economical price for statewide Internet service.
>
> **Lead:** Network Nebraska (CAP)
>
> **Participating Entities:** NITC Education Council, NITC Community Council
>
> **Timeframe:** February 2006-December 2006
>
> **Funding:** No funding required for this action item.
>
> **Status:** Continuation

Network Nebraska

4.   Meet with the Technical Subcommittee of the Nebraska Statewide Tele-health Network to discuss issues related to network administration, scheduling and management.

> **Action:** The Collaborative Aggregation Partnership will conduct ongoing discussions with the Technical Committee of the Nebraska Statewide Tele-health Network.

> **Lead**: Network Nebraska (CAP)

> **Participating Entities:** Nebraska Telehealth Network Technical Subcommittee, NITC Technical Panel

> **Timeframe:** February 2006-December 2006

> **Funding:** No funding required for this action item.

> **Status:** Continuation

5. Implement a cost and funding model to allow shared use of the statewide backbone for data transport.

> **Action:** Develop an equitable cost and funding model that takes into account the number of participating entities, student populations, and the cost for transport and ongoing aggregation services.

> **Lead:** Network Nebraska (CAP)

> **Participating Entities:** Network customers

> **Timeframe:** March 2006-June 2006

> **Funding:** Funding determined by LB 1208

> **Status:** New

Network Nebraska

6. Convene a work group to use high bandwidth flexible use circuits as community aggregation points and create a statewide, high bandwidth digital content delivery system using satellite, terrestrial and wireless technology.

      Lead: Office of the NITC

      Participating Entities: Technical Panel, Community Council, Education Council, State Government Council

      Timeframe: March 2006-June 2006

      Funding: No funding is required for this collaborative action item.

      Status: New

Future Action Items

1. Develop a three-phase (2007-09) upgrade plan for statewide backbone transport that includes the demand created by the upgrade of K-12 districts and colleges converting to IP networking.

2. Investigate the feasibility of offering advanced network services to Network Nebraska customers.

Completed Action Items (2004-2005)

1. Created a Service Level Agreement for use by CAP and the eligible network participants.

2. Created a Network Nebraska Level 1 Helpdesk at 888-NET-NEBR (888-638-6327).

3. Created a Network Nebraska Web site (www.networknebraska.net).

Network Nebraska

Wayne's last mile aggregation provides better services at lower costs

By Dennis Linster, Wayne State College

In November 2002, Wayne City Administrator Lowell Johnson and Wayne State College CIO Dennis Linster presented a proposal to the NITC Technical Panel for approval of a plan to aggregate all of the tax-supported IP-based telecommunication services in Wayne, Nebraska and centrally distribute those services to the tax-supported entities. The initial plan included hosting the telecommunications services for Wayne city offices and NorthStar Regional Services at Wayne State College through a wireless connection. The NITC Technical Panel endorsed the plan as feasible and a promising example of Tier II aggregations among municipalities. The project was named the "Last Mile Project" by their technical team.

Wayne State College had several characteristics that made it a logical service consolidator. The President of the college lent support for this undertaking. The college had a network operating center that was open 24 x 7 and a very high-quality staff to ensure the success of the project. And, the City of Wayne was eager to make this project happen. The technical team chose a wireless transport solution to facilitate a connection between campus and the main city office building. Wireless technology was also used to connect the seven remaining city buildings to the main city office. The city and college technical staffs worked in partnership to make these connections functional.

In February 2003 the connection was completed, and it has been working flawlessly since. After more than two years of rain, sleet, snow, high winds, fog, virus outbreaks, and even power outages, the wireless connection performed very reliably. In 2004, NorthStar Regional Services and Wayne Public Schools were also connected by wireless. NorthStar Regional Services provides community-based services to people with developmental disabilities.

Wireless antenna and tower arrays connect Wayne municipal public entities with the Wayne State College campus. Photos courtesy of Wayne State College

"This is nothing short of a win-win scenario in which the taxpayers are the real winners. Better services, lower costs."

—Dennis Linster

Network Nebraska

As a Tier II aggregation site, Wayne State College has been able to aggregate public entities' municipal Internet demand with their own and then contract with Network Nebraska for Internet service. The combination has not only improved the quality of service for the involved partners but also lowered costs.

Linster comments about the 'Last Mile Project', "It is evident that the collaboration of support is something that was seriously needed in our community, and likely is needed in other communities as well. Along with the collaboration of support, we have aggregated the services and expanded the opportunities of all partners technically. This is nothing short of a win-win scenario in which the taxpayers are the real winners. Better services, lower costs."

Project 42 joins Network Nebraska, gains bandwidth and reduces costs

By Alan Wibbels, ESU 10

Project 42—a consortium formed by ESUs 10, 11, 15, and 16—serves 163 school districts in 33 counties and covers approximately 32,000 square miles. Over 10,000 faculty and staff have e-mail accounts provided by the consortium and 50,000 students currently use the network to access the Internet and web-based services available both at the ESUs and around the world.

Prior to joining *Network Nebraska*, Project 42's Internet access costs were approximately $500 per megabit of bandwidth per month ($10,000 per month for 20 megabit) before the e-rate discount. By moving to the state network, the

Then Lt. Governor Dave Heineman, UNL Assistant Vice Chancellor Kent Hendrickson, UNK Chancellor Doug Kristensen, and ESU 10 Systems Engineer Ron Cone "turned on" access to Internet 2 by Nebraska schools. July 2004 photo courtesy of ESU 10

Network Nebraska

cost per megabit has dropped to $150 per megabit per month and Project 42 has been able to expand the bandwidth to 30 megabit. As a result, Project 42 is able to deliver greater bandwidth and experience a savings of $5,500 per month!

Project 42 anticipates continued reduction in costs as more customers join *Network Nebraska*. Obviously the cost for transport across the state will not be free. However, as more customers share the cost of the transport and the state uses its aggregated purchasing power to buy greater amounts of Internet access, all participants should realize reduced costs per megabit of bandwidth.

In addition to basic Internet services, *Network Nebraska* provides K-12 schools with the opportunity to participate in Internet 2 services and activities as outlined on the Internet 2 (I2) initiative web site (http://k20.internet2.edu/about/goals.html). Project 42 has used the high-speed I2 access to download large data files and to create interactive connections with students across the United States. Examples of interactive projects include:

- Sixth graders from Bertrand connected with a senior high class in Texas for a lesson on cotton and its many uses.

- Second grade students from Pleasanton connected with second graders in two communities in Texas and New York to share information about their hometowns and cultural differences.

- Several schools in Project 42 interacted with Mr. Cox, a World War II veteran in Texas, who had survived the sinking of the USS Indianapolis by the Japanese in the South Pacific. Students had the opportunity to hear the story first hand and to interact with him.

- A number of connections have been established with the Lewis and Clark Expedition project for the purpose of training teachers how to use Internet2.

By moving to the state network, Project 42's cost per megabit has dropped to $150 per megabit per month.

Statewide Synchronous Video Network

Edgerton Explorit Center connects to NASA

Numerous schools have taken part in similar NASA programs, live discussions with Nebraska native Astronaut Clayton Anderson, and also the Edgerton Explorit Center's own unique programming.

In December of 2003, the Edgerton Explorit Center (EEC) in Aurora launched its Distance Learning Program by connecting students at the EEC with educators from NASA's Johnson Space Center. Since this time, numerous schools have taken part in similar NASA programs, live discussions with Nebraska native Astronaut Clayton Anderson and also the EEC's own unique programming, which includes "Seeing Through the Eyes of Discovery", "Virtual Dissection" and "Supercold Chemistry". Programs are specifically designed to meet the needs of educators and the Nebraska Department of Education Science Standards.

Members of the first Edgerton Elite Science Camp videoconference with NASA astronaut and Nebraska native Clayton Anderson from the Edgerton Explorit Center's distance learning room. Photo courtesy of Edgerton Explorit Center

The EEC Distance Learning Room has the capabilities to connect with almost every school in the state via a direct scheduled connection, through the internet by dialing an IP address or via a transferred satellite connection. School groups, summer camps, scout excursions, business meetings, and educational planning sessions have been conducted with groups from across the state and beyond. The classroom is equipped with a digital microscope camera, document camera, electronic white board, retractable ceiling video screens, and work desks/chairs with microphones.

In January of 2005, the EEC added experiences that were truly interactive. Students who log onto the EEC website during a distance learning event are able to control demonstration equipment from their classroom. This follows directly from Doc Edgerton's philosophy that we all learn best by getting our hands on things.

Statewide Synchronous Video Network

Objective

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

Description

The major components of this initiative include:

- A single, interconnected synchronous video network with various levels of authorization and traffic prioritization;

- An event clearinghouse and scheduling system that would allow registration for interactive video events;

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

Benefits

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

The enterprise benefits of an interconnected video system include:

- Greater sharing of educational courses, events, and training across sub-network boundaries, irrespective of geography;

The Statewide Synchronous Video Network would use compatible audio and video standards to enable any classroom or facility to connect with any other classroom or facility or to connect with multiple sites.

Statewide Synchronous Video Network

- More efficient use of available resources—more classrooms and sites are available within less distance of the user at more convenient times;

- One-to-many videoconferencing capabilities for news alerts, bioterrorism alerts, or other emergency uses;

- Collaborative development across various service agencies (i.e., medical services to schools, and adult and continuing education opportunities).

Action Plan

Current Action Items

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

> **Action:** The Chief Information Officer will determine the list of biddable hardware and software items related to distance education for purposes of enhancing distance education according to LB 1208.
>
> **Lead:** Chief Information Officer
>
> **Participating Entities:** NITC Technical Panel, DAS-DOC, ESU-NOC
>
> **Timeframe:** March 2006-April 2006
>
> **Funding:** No funding required for this action item
>
> **Status:** New

> **Action:** The Chief Information Officer will bid for equipment (hardware and software) related to distance education, which meets at least minimum standards as set by the Nebraska Information Technology Commission for all eligible network participants who want to participate in statewide leasing and/or purchasing contracts.
>
> **Lead:** Chief Information Officer
>
> **Participating Entities:** DAS-DOC, DAS Purchasing
>
> **Timeframe:** March 2006-May 2006
>
> **Funding:** Determined by the Legislature through LB 1208
>
> **Status:** New

Statewide Synchronous Video Network

Action: The Chief Information Officer will designate a fiscal entity or entities to oversee ordering, delivery and installation of distance learning equipment.

Lead: Chief Information Officer

Participating Entities: To be named.

Timeframe: March 2006-August 2006

Funding: Determined by the Legislature through LB 1208

Status: Continuation

2. Development or purchase of a scheduling system or enterprise resource management program that allows potential users to know the location and availability of resources, and/or set up or reserve ad hoc or regularly scheduled events with other entities.

Action: Research scheduling systems and enterprise resource management programs.

Lead: NITC Technical Panel's Statewide Synchronous Video Work Group

Participating Entities: NET, NDE, NITC staff

Timeframe: February 2006

Funding: No funding required for this task.

Status: Continuation

Action: The Nebraska Information Technology Commission shall establish standards or bid specifications related to synchronous video scheduling software or scheduling services.

Lead: NITC Technical Panel

Participating Entities: NITC Technical Panel's Statewide Synchronous Video Work Group

Timeframe: February 2006-April 2006

Funding: No funding required for this task.

Status: New

Statewide Synchronous Video Network

Action: Purchase or develop a scheduling system and/or enterprise re-source management program.

Lead: Distance Education Council for K-12; each agency for their respective purchases.

Participating Entities: Network Nebraska (CAP)

Timeframe: Summer, 2006

Funding: To be determined by LB 1208.

Status: Continuation

3. Implement a network bandwidth management system or network operations center that assures pre-determined qualities of service, depending upon the type of data traffic.

Action: Implement a network operations center that assures particular qualities of service.

Lead: Network Nebraska (CAP)

Participating Entities: Network Nebraska customers

Timeframe: April 2006 –July 2006

Funding: To be determined.

Status: Continuation

4. Develop an event clearinghouse that allows promotion, marketing, and registration for interactive video events.

Action: Develop a web-based clearinghouse that allows originators to post events and users to register for or view the date, time and frequency of individual events.

Lead: ESU Distance Education Council

Participating Entities: NITC Technical Panel's Statewide Synchronous Video Network Work Group, NITC Education Council

Timeframe: April – July, 2006

Funding: To be determined by LB 1208.

Status: Continuation

Statewide Synchronous Video Network

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

> **Action:** Research models from other States' education networks.

> **Lead:** Network Nebraska (CAP)

> **Participating Entities:** NITC Technical Panel's Statewide Synchronous Video Work Group

> **Timeframe:** Ongoing

> **Funding:** No funding required for this task.

> **Status:** Continuation

6. Examine policy implications of the use of shared network assets.

> **Action:** Convene a workgroup to examine policy implications of the use of shared network assets.

> **Lead:** Office of the NITC

> **Participating Entities:** NITC Technical Panel, State Government Council, Education Council, Community Council

> **Timeframe:** Ongoing

> **Funding:** No funding is required for this collaborative action item

> **Status:** New

Future Action Items

1. Develop a three-phase (2007-09) equipment and transport upgrade plan for synchronous video distance learning that affects a majority of the network users.

Completed Action Items

1. Identified a single audio and video standard for low-bandwidth distance learning and videoconferencing.

Security and Business Resumption
2007

Objective

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

Description

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

- Insure continuity of government operations (Article III, Section 29 of the Nebraska Constitution; Nebraska Revised Statutes Sections 28-901 and 84-1201);

- Protect safety and integrity of public records (Nebraska Revised Sections 28-911, 29-2391, and 84-1201);

- Prevent unauthorized access to public records (Nebraska Revised Statutes Sections 29-319, 81-1117.02, and 84-712.02);

- Insure proper use of communications facilities (Nebraska Revised Statutes Section 81-1117.02); and

- Protect privacy of citizens (Nebraska Revised Statutes Section 84, Article 7).

Major activities include:

- Developing an overall security strategy, including policies, security awareness, and security infrastructure improvements;

- Network security standards and guidelines;

- Education and training;

- Authentication (directory services project);

- Disaster recovery for information technology systems (as part of a broader business continuity planning);

- Compliance with federal privacy and security mandates;

- Security assessments.

Benefits

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

Action Plan

Current Action Items

Security

1. Conduct annual independent security audits. Multiple federal programs require periodic computer security audits, including HIPAA, HAVA, and Bioterrorism grants from the Center for Disease Control. Computer security audits are a widely accepted best practice across the public and private sector.

Lead: State Security Officer

Participating Entities: State Government Council, Security Work Group

Timeframe: Investigate opportunities for aggregating efforts of several state agencies that face federal requirements for security audits – Ongoing.

Funding: To be determined.

Status: Ongoing

2. Implement security incident response team.

Lead: State Security Officer and State Patrol

Participating Entities: State Government Council, Security Work Group

Timeframe: December 2007

Funding: No funding required for this task.

Status: New

3. Enhance Network Security and Network Management.

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

Lead: Office of the CIO - Network Support

Participating Entities: State Government Council

Timeframe: June 2007

Funding: No funding required for this task.

Status: Continuation

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

Lead: Office of the CIO - Wide Area Network

Participating Entities: State Government Council

Timeframe: December 2007

Funding: No funding required for this task.

Status: Continuation

Business Resumption

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

Lead: Office of the CIO and University of Nebraska

Participating Entities: State Government Council

Timeframe: Ongoing

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

Status: Continuation. Several hardware components have been co-located at current alternate sites. Data recovery time has been significantly reduced. Planning for a shared alternate site providing greater geographic separation has begun. Efforts to identify additional opportunities for collaboration continue.

5. Promote disaster planning for information technology systems, including developing elements of a common planning document and develop an approach for implementation of ICS (Incident Command System).

Lead: Steve Henderson / Dave Berkland

Participating Entities: State Government Council

Timeframe: Ongoing

Funding: No funding required.

Status: Continuation. Director-level meetings, chaired by Lieutenant Governor Sheehy, to discuss restoration of services began in November 2005. Critical business functions for agencies have been identified and prioritized. IT components supporting the critical business functions have been identified. ICS implementation is being more closely coordinated with the Nebraska Emergency Management Agency. Work to explore the possibilities of integrating continuity of operations plans with disaster recovery plans continues.

6. Encourage testing and updating of disaster plans.

Lead: Steve Henderson / Dave Berkland

Participating Entities: State Government Council

Timeframe: Ongoing

Funding: No funding required.

Status: Continuation. The Continuity of Operations Planning/Disaster Recovery Planning Shared Services Group continues to develop and act on ways to better coordinate disaster recovery planning and to provide for more consistent disaster

recovery plans. An NITC standard ("Agency Disaster Recovery Plan - Standard Contents Recommended Practices") has been put in place. Work has been completed to better understand disaster recovery plan assumptions and dependencies.

Future Action Items

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

Completed Action Items (2005-2006)

1. Network Security and Network Management: Configured all public IP addresses (164.119) behind the state's firewall complex.

2. Network Security and Network Management: Implemented an intrusion detection and prevention system on the state's Internet connection as part of a layered defense.

3**.** Disaster Planning: Conducted an "executive overview" briefing to state agencies explaining the progress and current and future activities in the development of disaster recovery plans.

4. Security incident reporting process developed.

Learning Management System Standards Work Group
Charter

Purpose	Make recommendations to the Technical Panel and Distance Education Council on technical issues pertaining to the deployment and ongoing operations of the state's learning management system software and assist in developing standards and guidelines for approval by the Nebraska Information Technology Commission.
Sponsor	Kirk Langer, Lincoln Public Schools
Scope/ Boundaries	This work group will define the technical requirements and specifications and recommend standards and/or best practices related to the deployment of learning management systems across the State of Nebraska. Learning management systems involve two major components; <u>learning content management and storage</u> and <u>course management software and hardware</u>. **Learning content management and storage** includes, but may not be limited to, the following elements: A) Taxonomy system for storage, retrieval, and searching of learning content artifacts; B) Appropriate meta-tagging or metadata to profile each learning content artifact; C) Cataloguing and file type system for storage of learning content artifacts; D) Interoperability of the learning content management system with various course management systems; E) Determining a life cycle schedule for learning content artifacts; F) Assuring a reliable and scalable system for content storage which may include disaster recovery and business continuity principles; G) Graphical rating system of content artifacts with peer evaluation and review; H) Policies on academic freedom and copyright. **Course management software and hardware** includes, but may not be limited to, the following elements: A) Platform-neutral, browser-friendly, and database-driven; B) Interoperability with other technologies (e.g. podcasting, streaming, etc) C) Modular architecture; D) Identity management of students, instructors, administrators; E) Shibboleth compliance to establish trust relationships with other systems; F) Server reliability to be supported by UPS, security, data back-ups; G) Load balancing; H) Server deployment co-located with adequate technical support; I) Expandability and adaptability to support client modifications (e.g. building

	blocks, plug-ins); J) Unique instances of software; K) Data importing and exporting; L) Aggregated licensing strategies.
Goals and Outcomes	A) Conduct working sessions to determine the needs, issues, and potential participants of learning management system interoperability within and outside the state; B) Encourage participants to improve educational opportunities in the state via the more effective use of learning management systems software; C) Determine the support structures and augmentation needed to maximize the learning management system experience; D) Identify or develop a "collaboration sponsor" for learning management systems in the state that will be the focal point to coordinate all of the activities associated with enhancement of services and interrelationships that will be critical for continued success; E) Recommend standards and/or guidelines for provision of ongoing support services; F) Recommend standards and/or guidelines to help ensure future interoperability and consistency between learning management systems across the State; G) Recommend standards and/or guidelines to help guide the State in making cost-effective investments in learning management systems.
Authority	This work group will: Formulate and present recommendations to the Technical Panel regarding the implementation of a learning management system or systems serving K-12 education, with applicability to other education entities to be determined. "79-1334 §(9) (The Distance Education Council shall): Administer learning management systems that are **in compliance with any applicable standards of the commission** either through the staff of the council or by delegation to an appropriate educational entity with the funding for such systems provided by participating educational entities…"
Membership	Membership may include representatives from the following entities: • K-12 (School districts, ESUs, myeLearning.org) • Higher Education (State Colleges, Community Colleges, University of Nebraska, Independent Colleges and Universities) • Other entities (UNL Independent Study High School, Class.com) • NITC Councils and other members as determined by the sponsor
Reporting	The sponsor of the work group will report to the Technical Panel as needed.
Timeframe	This work group will function until this charter is repealed.

To be considered for approval by the Technical Panel on February 13, 2007.