DRAFT
Nebraska Information Technology Commission
Nebraska Digital Network Workgroup
Charter
(Date of Last Revision: November 30, 2001)

A. Purpose

~~To evaluate the feasibility of a statewide consortium that will coordinate the development of a digital network and related support functions to serve education, communities, and state government.~~
To evaluate the feasibility of the development of a digital network and related support functions to serve education, communities, and state government that could be accomplished through a statewide consortium.

B. Sponsor
Lt. Governor Dave Heineman, NITC Chair

The sponsor has the authority to oversee, monitor and guide the efforts of the workgroup on behalf of the Commission.

C. Chair
Steve Schafer, Chief Information Officer

The chair will organize and conduct meetings of the workgroup. The chair will be responsible for managing the objectives and achieving the schedule and deliverables set forth in this charter. The chair will represent the workgroup at presentations to the NITC, the NITC Councils, and any other organizations.

D. Goals and Principles
The activities of this workgroup will promote the following NITC goals:
1. Support the development of a unified statewide telecommunications infrastructure that is scalable, reliable and efficient;
2. Coordinate the state's investment in telecommunications infrastructure so as to:
    - Develop new ways to aggregate demand, reduce costs, and create support networks;
    - Encourage collaboration within and among communities of interest;
3. Determine a broad strategy and objectives for developing and sustaining information technology development in Nebraska, including long-range funding strategies, so as to:
    - Encourage long-term infrastructure innovation and improvement;
    - Support the rapid deployment of appropriate technology;

The following principles shall guide the efforts of the workgroup:
1. The recommendations of the workgroup shall support efforts to aggregate state spending on telecommunications by agencies and educational institutions, including NETCOM;
2. Existing and proposed networks shall be consistent with any technical standards and guidelines adopted by the NITC, including video standards and migration plan;
3. The recommendations of the workgroup shall conform to the State's statutory policy of acquiring telecommunications services from the private sector;
4. The proposed network should involve a critical mass of state and local public sector demand for advanced telecommunications services that will encourage deployment of such services to private sector households and business firms within the state;
5. The proposed network should promote a minimum level of access to telecommunications services for state and local public sector users at a reasonable price, regardless of geographic location within the state.

E. Objectives
The objectives of the workgroup include the following:
1. Report on the strengths and deficiencies of existing telecommunications networks serving state and local public sector entities;
2. Examine the strengths, weaknesses, opportunities, and risks pertaining to the concept of a statewide digital network;
3. Basic requirements and critical success factors for a statewide digital network;
4. Address security issues related to a statewide digital network;
5. Evaluate different models for implementing a statewide consortium, including participation, governance, and operational authority;
6. Solicit suggestions and comments from affected entities;
7. Report findings and recommendations, including relationship to NETCOM and incremental options for consideration by the NITC;
8. Prepare a business case and estimate of fiscal impact for all recommendations and options;
9. Report on different funding models and strategies and the corresponding levels of service;
10. If needed to attain the goals listed above in an efficient manner, develop a set of statutory changes for consideration by the NITC for recommendation to the Governor and Legislature.

F. Membership of the Workgroup [See Appendix 1 for Membership Directory]
The Workgroup membership shall be composed of the following positions and affiliations:

Education: Two members each from K-12 and Higher Education, as determined by the NITC Education Council;
Communities: One member each from telehealth, public libraries, and local government, as determined by the NITC Community Council;
State Government: The Chief Information Officer;
Technical Panel: One member each from Nebraska Educational Telecommunications, University of Nebraska Computing Services Network, DAS Division of Communications, and DAS Information Management Services, as determined by the NITC Technical Panel.

G. Operational Support

The Office of the CIO shall provide staff support for the workgroup and may acquire additional support as necessary to expedite this project. Members of the workgroup will be eligible for travel reimbursement pursuant to state statute.
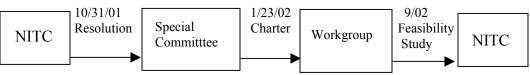

H. Definitions

For purposes of this charter, the Open System Interconnections (OSI) 7-layer model shall be used. See Appendix 2 for elaboration and definitions of the seven layers.

[Insert explanation of NETCOM-NDN relationship here]

I. Proposed Schedule and Deliverables

Due Date   **Deliverables**

January 23, 2002	Present workgroup charter to the NITC
February 2002	Organize membership

Conduct 1st meeting
- Review existing networks
- Identify strengths and weaknesses
- Review models from other states
- Prepare summary report

March 2002   Conduct 2nd meeting
- Identify goals and objectives
- Determine primary functions to be served
- Establish high-level requirements
- Identify stakeholders and potential participants
- Prepare summary report

April 2002   Conduct 3rd meeting
- Identify critical success factors
- Review operational models
- Review governance models
- Review funding options
- Develop business case
- Prepare summary report
- Prepare draft report

May 2002   Conduct 4th meeting
- Review draft report
- Conduct risk assessment
- Develop recommendations
- Prepare draft final report

June 2002   Public review process

July 2002   Conduct 5th meeting
- Review final report

August 2002   Present draft final report to affected NITC Councils and Technical Panel

Sept 2002   Present Final Report to NITC

~~Q4 2002   Develop Technical Architecture and Implementation Plan~~

NITC → [10/31/01 Resolution] → Special Committtee → [1/23/02 Charter] → Workgroup → [9/02 Feasibility Study] → NITC

Appendix 1: Membership Directory

Education	K-12	Alan Wibbels, ESU 10, awibbels@esu10.org, 308-237-5927
	K-12	Ed Rastovsky, Wahoo P.S., erastovski@aol.com, 402-443-3051
	Higher Ed	Kent Hendrickson, UNL, khendrickson1@unl.edu, 402-472-2311
	Higher Ed	Dennis Linster, Wayne St., DeLinst1@wsc.edu, 402-375-7286
Community	Telehealth	
	Public Libraries	
	Local Government	
Government	DAS-CIO	Steve Schafer, CIO, slschafe@notes.state.ne.us, 402-471-4385
Technical Panel	NET	
	UNCSN	
	DAS-DOC	
	DAS-IMS	
Alternates	K-12 alternate	*Shirley Schall, SWDLC, sschall@esu15.org, 308-334-5160
	K-12 alternate	Wayne Fisher, NDE, wfisher@nde.state.ne.us, 402-471-2085
	Higher Ed alternate	Con Dietz, Creighton U., cpdietz@creighton.edu, 402-280-2202
	Higher Ed alternate	Jack Huck, Southeast CC, jhuck@scc.cc.ne.us, 402-471-8519
	Telehealth alternate	
	Library alternate	
	Local Gov alternate	
	CIO alternate	
	NET alternate	
	UNCSN alternate	
	DOC alternate	
	IMS alternate	

Appendix 2: OSI 7-layer model

The ISO (International Standards Organization) has created a layered model, called the OSI (Open Systems Interconnect) model, to describe defined layers in a network operating system. The purpose of the layers was to provide clearly defined functions describing how applications running on network-aware devices may communicate with each other. Each layer has a standard defined input and a standard defined output. Understanding the function of each layer is instrumental in understanding data communication within local, metropolitan or wide area networks.

7) Application Layer
The *Application layer* represents the level at which applications access network services. This layer represents the end-user services that directly support applications such as software for file transfers, database access, and electronic mail. ~~(Examples: MPEG rendering, ftp, pop3 mail, telnet)~~

6) Presentation Layer
The *Presentation layer* translates data from the Application layer into an intermediary format, ready for use by the running application. This layer also manages security issues by providing services such as data encryption, protocol conversions, and compresses data so that fewer bits need to be transferred on the network. ~~(Examples: MPEG decoding)~~

5) Session Layer
The *Session layer* provides for two communicating presentation entities to exchange data with each other. It allows two applications on different computers to establish, use, and end a session. This layer establishes dialog control between the two computers in a session, regulating which side transmits, plus when and how long it transmits. ~~(Examples: SNMP, FTP, TELNET, DNS)~~

4) Transport Layer
The *Transport layer* handles error recognition and recovery and relieves the session layer of the burden of ensuring data reliability and integrity. It also repackages long messages when necessary into small packets for transmission and, at the receiving end, rebuilds packets into the original message. The receiving Transport layer also sends receipt acknowledgments. ~~(Examples: TCP, UDP)~~

3) Network Layer
The *Network layer* provides a means for communicating open systems to establish, maintain and terminate network connections. It addresses messages and translates logical addresses and names into physical addresses. It also determines the route from the source to the destination computer and manages traffic problems, such as switching, routing, and controlling the congestion of data packets. ~~(Examples: IP, ICMP, RARP)~~

2) Data Link Layer
The *Data Link layer* packages raw bits from the Physical layer into frames (logical, structured packets for data) and defines the access strategy for sharing the physical medium. This layer is responsible for transferring frames from one computer to another, without errors. After sending a frame, it waits for an acknowledgment from the receiving computer. ~~(Examples: 802.3 Ethernet, 802.4, 802.5, PPP, SLIP, HDLC)~~

1) Physical Layer
The *Physical layer* defines the physical and electrical characteristics of the network. It transmits bits from one computer to another and regulates the transmission of a stream of bits over a physical medium. This layer defines how the cable is attached to the network adapter and what transmission technique is used to send data over the cable. ~~(Examples: fiber optic cable, coaxial cable, twisted pair, CAT 5)~~