



**The
NEBRASKA
INFORMATION
NETWORK**

*Access to
Information
Technologies
Means
Opportunities
for People &
Business*

Principal Mission

NIN's principal mission is to assist members in providing world class communications services for Nebraska's Business, Government, Education, Health Care and Consumer Markets.

Primary Goal/Focus

Work with the Citizens of Nebraska, State and Local Agencies, Local Governmental Entities, Regional and Local Economic Development Organizations, Trade Associations, Public Service Organizations, etc. to promote the use of Nebraska's state of the art telecommunications infrastructure to provide all citizens of Nebraska:

- Enhanced economic development opportunities.
- Improved access to government.
- Greater educational opportunities.
- Improved and easier access to healthcare.

Membership in NIN

Nebraska Information Network's membership is made up of most of Nebraska's 37 local telephone carriers. Membership is open to all local incumbent telephone companies in Nebraska who serve significant numbers of rural customers through the operation of telephone exchanges (switches) in rural communities.

Words From . . . NIN's President

Kevin McGregor, President of NIN's Board of Directors states, "NIN is committed to providing statewide video, data and other information services. Much of the hardware and facilities are in place in Nebraska and the job ahead is to deploy the services on an equitable basis so that all citizens can take advantage of the tremendous opportunities of the future. We view our organization as one which can help ensure that Nebraskans from any part of the state don't become information have-nots."

. . . Governor Heineman

"The State of Nebraska is fortunate in that the local telephone companies understand the importance of providing the latest in telecommunications technologies. It takes up-to-date technologies to assure access to the Information Super Highway. It is this access that our local telephone companies are providing that will benefit all of our communities in terms of economic development and improvement in quality of life. I look forward to continuing our work with the Nebraska Information Network and its local telephone company members and the additional services that this will provide to all Nebraskans."

Latest Technology—In Place

The telephone industry in Nebraska has a long-standing reputation for using the latest in telecommunications technology.

☉ All of the telephone customers (100%) in Nebraska are served by digital switching offices. The 100% milestone was achieved in 1997 ... the level of 90% was achieved way back in 1990.

☉ The industry is approaching having 20,000 miles of fiber optic cable in service to serve Nebraska customers. Fiber is not only used between communities but also in the communities and to serve rural customers.

NEBRASKA PRIVATE COMMUNICATIONS FIBER



Fiber shown does not include thousands of miles of fiber placed for local connections to farms and ranches. Also does not include fiber owned by long distance companies such as AT&T, Sprint, Level Three, Pinpoint Network Services, etc.

Fiber Optic Cable in Nebraska

☉ All of the trunks/circuits/connections between towns in Nebraska are provided on digital facilities. All host exchange switches in communities in the state of Nebraska are connected by fiber facilities. A vast majority of the remote exchange switch communities are connected to their host switch with fiber facilities.

☉ For additional reliability of service local telephone companies are continuing fiber deployment to establish a second route to each community and in many cases using SONET Ring Technology that provides a self-healing alternate route. MPLS technology is being deployed which provides great flexibility for rerouting connections for continuity of service.

☉ Nebraska's local telephone companies are actively deploying fiber in the farm and ranch areas of their exchanges to connect rural hubs from which broadband capabilities are being provided to all farm and ranch customers. Currently there are 141 communities where every farm and ranch customer has the availability of broadband using other technologies in addition to satellite. Telephone companies are continuing with placing fiber in the farm and ranch areas. In all of these communities the "In-Town" customers have the availability of accessing broadband services. [More on this in the Broadband Deployment discussion]

Broadband Service

Broadband capacity has been available between all of the Nebraska Community Telephone Exchanges for decades. Initially, in about 1968 the broadband digital connectivity was provided on copper cable pairs. Today the vast majority of Nebraska Community Telephone Exchanges are connected with broadband capacity using fiber optic cable. The remaining have broadband capacity to other communities using copper cable pairs with digital transport.

DS-1 (Same as T-1) service at 1.544 Mbps is available to customers in all 476 telephone exchange communities in Nebraska. Multiple DS-1 circuits are in fact available and can be multiplexed to function as a single circuit at bandwidth speeds of 3.0 Mbps, 4.5 Mbps, 6.0 Mbps, etc.

DS-3 Service at 45 Mbps (and multiples of 45 Mbps) is available in all telephone exchanges that are connected by fiber optic cable vast majority of communities.

Frame Relay (Packet Switching) bandwidth is available at speeds from 56 Kbps to practically any multiple of 1.544 Mbps with direct connections at 66 community telephone exchanges. Customers in the remaining telephone exchanges can access the frame relay network with (airline) circuit mileage costs to the nearest of the 66 direct connect locations.

ATM (Asynchronous Transfer Mode) switching and transport of voice, data and video on the same connection has been deployed in numerous community telephone exchanges across Nebraska. Typically broadband capacity can be accessed at bandwidths starting at 2 Mbps followed by increasing increments of 1 Mbps to about any capacity desired.

Ethernet routers are being placed across Nebraska to provide broadband services priced in increments of 10 Mbps. The distance learning networks are being converted to use Ethernet transport.

DSL (Digital Subscriber Line) local distribution loop broadband access technology is another way to achieve local access at the previously listed broadband speeds. DSL service is being provided by all Incumbent Local Exchange Carriers in Nebraska. In the rural farm and ranch areas, remote line groups connected to the main telephone switch by fiber, are being placed within approximately two miles of each rural customer with DSL equipment located in each remote. The upper bandwidth speeds of the various telephone companies' DSL services range from 512 Kbps to 5 Mbps with different speeds available in each direction. Slower bandwidth speeds are also available.

Wireless technology in the unlicensed spectrum has been deployed by several telephone companies for the purpose of delivering broadband access to the Internet. Some licensed spectrum wireless technology is also being deployed for broadband access to the Internet and other telecommunications applications.

All providers provide at least 256 Kbps download and 256 Kbps upload bandwidth speed.

The Challenge is . . .

As the Executive Director of NIN, it is my challenge to coordinate the offering of high technology telecommunications services statewide so that all customers that can derive benefits from each of the services will have access to the appropriate services. This requires coordination among the many local telephone companies on choice of technology, identification of aggregated customer needs, dissemination of information to customers and being the interface between multiple customers and multiple local telephone company providers. Also, the State of Nebraska Division of Communications provides a significant element in the development of newer technology communications services through the coordination of services for the many State and local governmental and educational entities.

Identification and aggregation of customer needs, along with the explanation of the opportunities and benefits to customers that may create the customer needs, are significant roles for NIN.

Opportunities for NIN to Serve the Citizens of Nebraska

NIN and its telephone company members appreciate the opportunity to work with the following entities in Nebraska on the jointly beneficial goal of economic development and social development through the use of telecommunications technologies. Please contact NIN if your organization was inadvertently left off this list:

Nebraska Information Technology Commission (NITC)
NITC Community Council
NITC Education Council
NITC Government Council
NITC Technical Panel
Nebraska Distance Learning Association (NDLA)
Nebraska Department of Education (NDE)
Nebraska Rural Development Commission (RDC)
Nebraska Department of Economic Development (DED)
Nebraska Economic Development Association (NEDA)
State of Nebraska Division of Communications (DOC)
State Library Commission Director and Staff
Nebraska Educational Telecommunications (NETV)
Educational Service Unit (ESUs) Administrators and
Technology Support Personnel
Community College Administrators, Technology Support and
Instructional Support Personnel
Nebraska State College Administrators, Technology Support
and Instructional Support Personnel
University of Nebraska System Administrators, Technology
Support and Instructional Support Personnel
Consortium for Entrepreneurship Education
Association of State Colleges
Association of Community Colleges
Nebraska Association of School Administrators

University of Nebraska Extension Service
County Extension Educators
School Districts (Kindergarten through High School)
Superintendents and Principals
Nebraska Public Service Commission
USDA Rural Utility Services
Regional Economic Development Directors
Community Economic Development Directors
City Administrators
Community Technology Committees
Nebraska Office of Rural Health
Nebraska Division of Health and Human Services
The 211 Coalition
Hospital / HealthCare Entity Administrators and Technology
Support Personnel
Nebraska Association of Hospitals and Health Systems
Nebraska Telecommunications Association (NTA)

Working Together We Accomplish . . .

By working together a lot has been accomplished. With some developmental work and coordination by NIN, the telephone industry has accomplished a great deal with use of the extensive state-of-the-art telecommunications infrastructure that is in place, **and being expanded**, across all of Nebraska.

When the Nebraska Information Network organization was formed in 1994, the telephone industry already had broadband capabilities to all communities in Nebraska. Essentially NIN's work has been to increase the awareness of this broadband capability and to coordinate the deployment of technologies to provide more options for the local delivery of broadband access. The increased awareness drives market place development which is needed for the revenue to support the investment in the technology for additional options for local access.

- **Distance Learning** –Through the leadership of the kindergarten through twelfth grade School District Administrators, Community College Administrators and State College Administrators, **258** of the state's **267** non-metropolitan area high schools are connected to interactive distance learning networks. (The remaining nine had decided to not participate.) NIN has enjoyed working with these educational administrators supporting the "lets do it" attitude of the Nebraska Telephone Industry. The telephone industry distance learning networks, which cover approximately eighty percent of the State of Nebraska, provide top quality full motion interactive video, Internet access, streaming video, video on demand and other telecommunications services.

- **Telemedicine** –Working with the many Nebraska champions of rural health, the telephone industry is a key player in the expansion of telemedicine capabilities in Nebraska. When NIN was originally formed there were already several leading edge efforts underway that provided telemedicine services to

various areas of the state. Recent further deployment of telemedicine capabilities has the State of Nebraska in a leading position with the near completion of a statewide Telehealth Network. The statewide network will be connecting 98 hospitals, 17 Public Health Agencies, the University of Nebraska College of Medicine's Bioterrorism Laboratory and 4 rural area laboratories, the State Health and Human Services Agency and other sites.

- **Broadband Internet Access** – Highspeed or broadband access to the Internet, other than satellite access, is available to 99.8 % of Nebraska's population that live inside the city limits of any of the 532 Incorporated Communities in Nebraska. Broadband access to the Internet is available to 95.6 % of the entire population in Nebraska. In addition there is satellite broadband access to 100% of the population in Nebraska. Broadband Internet is available to 80.9% of all citizens who live outside of the any of the communities city limits. Six incorporated communities with a total population of all six being 320 very important people do not have broadband access in addition to the availability using satellite service. Sixty of the 66 unincorporated communities in Nebraska have broadband access to the Internet without the use of satellite service. In addition to the 37 telephone companies providing local broadband access there are another 48 private non-telephone companies providing local broadband access.

NIN Membership

ATC Communications (Ampahoe)
BW Telecom
• Benkelman Telephone Co.
• Hartman Telephone Exchanges
• Winnetu Telephone Co.
Cambridge Telephone Co.
Clarks Telephone Co.*
Consolidated Companies
Curtis Telephone Co.
Diller Telephone Co/Diode Comm*
Frontier/Citizens Communications
Greenwood Telephone Membership Corp
Great Plains Communications
Hamilton Telecommunications
Hartington Telecommunications Inc.
Hemingford Telephone Co-op.
Hershey Cooperative Telephone Co.

HunTel, Inc.
• Arlington Telephone Co.
• Blair Telephone Co.
• Dalton Telephone Co.
• Eastern Nebraska Tele. Co.
• Elsie Communications
• Rock County Telephone Co.
K & M Telephone Co.
Mainstay Communications (Henderson)*
Nebraska Central Tele. Co.
Northeast Nebraska Tele. Co.
Pierce Telephone Co.
Plainview Telephone Co.
Southeastern Nebr. Tele. Co.
Stanton Telecom, Inc.
Three River Telco
WesTel Systems (Hooper)

Members of the Board of Directors

President— Kevin McGregor
Nebraska Central Telephone Company
Vice President— Chuck Fast
Consolidated Companies
Secretary & Treasurer— Bill Dendinger
Hartington Telecommunications Co., Inc.
Member— Mike Seler
Frontier Communications
Member— S. Michael Jensen
Great Plains Communications
Member— Rex Woolley
Hershey Cooperative Telephone Co.
Member— Tom Van Slyke
HunTel, Inc.
Member— Larry Woods
K&M Telephone Company

Executive Director . . .

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NIN welcomes your input . . .

If you as an individual residential or business customer or representing an organization or governmental entity have an issue for NIN to address, we would appreciate a contact from you.

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