



## FACT SHEET

### **Background:**

Dakota Carrier Network, created in 1996, is owned by a group of North Dakota based independent telecommunications companies. They serve over 164,000 customers in 250 communities – more than 85 percent of all the exchanges in North Dakota. DCN's partners serve the region, providing local telephone and private line service to over 90 percent of the total area of the state. The DCN companies currently have over 16,000 miles of fiber optic cable in service.

### **Who are the 15 owners of DCN?**

BEK Communications Cooperative	Steele, ND
Consolidated Telcom	Dickinson, ND
Dakota Central Telecommunications Cooperative	Carrington, ND
Dickey Rural Networks	Ellendale, ND
Inter-Community Telephone Company	Nome, ND
Midstate Telephone Company	Stanley, ND
Moore & Liberty Telephone Company	Enderlin, ND
North Dakota Telephone Company	Devils Lake, ND
Northwest Communications Cooperative	Ray, ND
Polar Communications	Park River, ND
Red River Technologies	Abercrombie, ND
Reservation Telephone Cooperative	Parshall, ND
SRT Communications	Minot, ND
United Telephone Mutual Aid Corporation	Langdon, ND
West River Telecommunications Cooperative	Hazen, ND

### **What do we do in “technical terms?”**

Dakota Carrier Network operates a 100 percent fiber optic communications network linking the multistate region. The newly installed Dense Wave Division Multiplexing (DWDM) system is used for the basic network design. The DWDM Network Layer carries a Carrier Ethernet network, multiple OC192 “Synchronous Optical NETWORK (SONET)” rings, and a “Resilient Packet Ring (RPR)” network. The various network technologies position DCN to provide for customers existing and future broadband network needs. DCN's infrastructure can support Ethernet connections (1.5 MB to 10 Gbps) to meet customer demands for higher speed networks.

Customers find it valuable to locate their equipment nearby the DCN network. Co-Location space is available to house their equipment at the Bismarck DCN Data Center. Typical customers install equipment such as servers, routers, or back up data storage devices. The space is in a storm resistant building with monitored security, generator and backup power to ensure network reliability.

## **Products and Services:**

Private High Speed Networks:

- Carrier Ethernet Services
- Point-to-Point T1, DS3, OC3...OC48

High Speed Internet Access (Broadband, ATM or Ethernet access)

Co-location of Customer Equipment (Fargo and Bismarck)

Managed Network Service

- Centralized Firewall and bandwidth management
- DSL, T1, or Ethernet
- DCN support for customer's network router

## **A partial list of DCN customers with locations in Bismarck:**

Blue Cross Blue Shield of ND	BNC National Bank
Butler Machinery	Cross Country Courier
Eide Bailly	Gate City Bank
KLJ Engineering	MedCenter One
North Dakota Healthcare Association	North Dakota National Guard
RDO Equipment	St. Alexius Medical Center
Ulteig Engineers	V.A. Medical and Regional Office Center

## **Definitions:**

**DWDM (Dense Wave Division Multiplexing)** – A technology that puts data from different sources together on an optical fiber, with each signal carried at the same time on its own separate optical wavelength. Over 200 separate wavelengths can be multiplexed into a light stream transmitted on a single optical fiber.

**Co-location Space (Co-Lo)** – Rack space, power, network connections and other services leased to customers for off-site housing of their equipment.

**Ethernet Service** – A very common method of networking computers in a LAN (Local Area Network). While Ethernet was originally developed for use in LAN's it has evolved to serve Metropolitan and Wide Area Networks. It is very popular because of its low cost, easy installation and multiple topology options.

**RPR (Resilient Packet Ring)** – A standard focused on facilitating native Ethernet deployment in a Wide Area Network topology. It improves service reliability, lowers deployment costs and facilitates provisioning while adopting Ethernet for ring topologies. RPR combines the simplicity, granularity and high performance of IP packet transmissions with the network protection and survivability of SONET style optical rings.

**WAN (Wide Area Network)** – A communications network spanning a large geographic area (e.g. between cities).

**POP (Point of Presence)** – The point at which the inter-exchange carrier (e.g. DCN) connects to the local telephone company. The local telephone company extends service from its Central Office to the customer site.