

Helping organizations achieve greater value through the advancement of fiber optic telecommunications

Manager's Message

By **Evan Hass, GM**

It was a GREAT DAY! In early February DCN completed the signing of a multi-year contract with the State of North Dakota. The DCN team is excited about installing and turning up the latest in network technology for the extensive network that serves over 250 sites across the state. Inside this newsletter is a picture of the signing along with a story about the next generation network being put in place.

Part of the '1000 piece puzzle' that must be completed for the State project is the new DCN Point of Presence (POP) in Fargo. My last column talked about the trials of building in bad (rainy) weather and NOW wintertime construction is not the greatest. Even so, the building has progressed to the point of being ready for the installation of equipment with the people space following close behind.

This spring we will finish the fiber path that connects the new POP to the existing east fiber ring. By that time the equipment will all be in place and with the final connection to the fiber the tran-
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New DCN network configured

At a cost that is reaching into the millions of dollars, Dakota Carrier Network has begun a significant upgrade of its existing network infrastructure that will result in capacities nearly 288 times greater than the current network can provide.

"The entire system will essentially become a new network in two stages," observes Don Pedersen, operations manager at the Bismarck Network Operations Center (NOC). "Our redundant SONET rings are based on the Nortel OC-48 configuration and the east ring was approaching capacity, so that is the ring we are converting first in 2006."

Pedersen says the NOC technical staff is installing the new hardware and software, adding Nortel's Common Photonic Layer (CPL) equipment in order to accelerate capacity from 2.5-gigabyte wave lengths to 72 different 10-gigabyte wave lengths and future capacity of 72 different 40-gigabyte wave lengths.

"The amount and speed of data transmission is the only thing affected by the upgrade," notes Pedersen. "It doesn't affect

the reliability of the network one way or another, but it allows us to immediately improve the capacity of the east ring where traffic has been growing the fastest."

Pedersen says the new network upgrades for the western ring will be completed in 2007. In order to fully utilize the increased capacity, Pedersen says DCN is adding a Nortel 6500 hardware system.

He also notes that the State of North Dakota has purchased 10-gigabyte RPR (Resilient Packet Ring) technology to upgrade the bandwidth on the Virtual Private Network of the state's Information Technology Department.

Since its inception in 1997, the DCN fiber optic system has exceeded the industry standard of 99.999 percent continual performance. Part of that assurance is derived from redundant fiber optic rings that help maintain system integrity even in the event of a cut cable. A generator and battery backup at critical locations also assures that no variation will occur in network performance even during a power outage.

Fargo POP taking shape for spring move



Despite a rainy start and frigid winter cold, the new DCN corporate office and Point Of Presence (POP) is rapidly becoming a reality. Equipment installations are being planned and a spring date is being scheduled for the move from the company's current office location.

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sition to the new network will be complete. Just think, with this project DCN will increase the capacity of the backbone network by nearly 300 times the existing network. Just seven years ago the existing network was hailed as a high-capacity network that was a stimulus to the economy of the state and now we need to expand it dramatically to better serve our customers' need for speed.

The new location is situated in one of the fastest growing parts of the Fargo-Moorhead metro area. Customers we have talked to are enthusiastic about having local access to a fiber optic network that connects throughout the region. In addition, the ability to have customer network equipment located in the DCN building right on the core network has created a lot of interest.

When the snow begins to melt and the mud is once again coming to the surface we will be moving into a building that seems to have sprung up from the rains of last fall. Yes, it will really be another GREAT DAY for the folks at DCN.



Mike Ressler, interim CIO for the State of North Dakota, closes the deal with Dakota Carrier Network General Manager Evan Hass on February 3 for a 7-year contract that encompasses several new technologies.

State and DCN sign contract

A momentous milestone in the history of Dakota Carrier Network took place on February 3, 2006 when DCN General Manager Evan Hass met with North Dakota's interim Chief Information Officer (CIO) Mike Ressler to sign a new contract between the two organizations.

DCN first won the state contract in competition against two other bidders in 2000. It began as a three-year contract but was extended by mutual agreement for a total of six years through June 30, 2006. The new contract will begin on July 1, 2006 and remain in effect until June 30, 2013.

"We are very pleased to be able to continue providing continuous service to the state under the terms of this new contract," says Hass. "This will establish a new core network on top of the existing DCN network and increase the state's Virtual Private Network (VPN) bandwidth significantly ... up to 10 gigabytes per second (Gbps) with access through 1-Gbps ports."

The North Dakota VPN carries all the video, voice and data traffic for all state agencies, county governments, higher education, K-12 education, National Guard and soon will serve the State Radio Network used by state law enforcement. The North Dakota Information Technology Department (ITD) has now established its own separate Network Operations Center at the DCN building in Bismarck.

"This core network will ride on a Resilient Packet Ring (RPR), which takes the best features of the existing SONET ring and Internet Protocol (IP) services and creates a high-speed network that is truly state-of-the-art among any existing networks in the nation today," says Hass. "It will provide the ease of Ethernet connectivity with the protection and reliability of the ring construction."

The first contract between DCN and North Dakota was signed by Curt Wolfe, the state's first CIO, who retired recently.

Fifth Annual Dakota Carrier Classic scheduled

For those who can't get golf from their minds, even in the winter (like the GM), here's a word or two of encouragement ... DCN's annual customer appreciation golf outing is set for Tuesday, July 18, 2006 at Hawktree Golf Club north of Bismarck. Mark it on your calendars and watch for your invitation. (Details to follow as warm weather arrives.)



Managed network services in Beta test

One of the new services being offered by Dakota Carrier Network is proving its value for Farm Credit Services of Grand Forks, ND, and 12 remote sites.

Seth Arndorfer, DCN's product development manager, says the 'Managed Network Services' being provided to FCS have been trialed through two different types of Beta tests.

"The results have been outstanding," Arndorfer says. "The throughput speeds have been better than expected and the clients are very pleased."

Services provided include a network-based firewall, 24/7 security services for virus control and intrusion detection (with the latest patches applied in 'real time').

Arndorfer says they began the work in June, 2005 and went operational in October with two different tests: production 'basic' and production 'enhanced,' including the network-based firewall and application bandwidth management (Quality of Service).

"This was the perfect customer to test with because they have a variety of different sized locations, with staffing from three to 50 people," says Arndorfer, "and their applications are similar to many of our other clients. We're becoming their managers of Internet traffic in many cases."



Don Stieha (left), MIS Manager, and Bill Sullivan, Network Manager, show off some of the new mobile phones and other equipment that enables General Equipment to save significant money on communications while also helping to enhance mobile access to the company's network and software.

CASE STUDY:

General Equipment & Supplies

Headquarters: Fargo, ND

Senior Manager: Don Schilling, President

Other locations: Bismarck, Shakopee, Minot, with personnel in Williston, Denver, Hibbing, Sioux Falls, Boise, Grand Forks

Number of employees: 115+

Years connected to DCN: General Equipment began working with Dakota Carrier Network in December, 2004

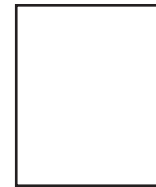
DCN services purchased: T1 based ATM network plus TI Internet service

DCN applications: General Equipment is transporting voice and data over their DCN network. With VOIP they no longer pay for long distance telephone service between their offices. The company uses Cisco telephones coupled with mobile, wireless phones. A new IBM 'Blade Center' supports home-based access to e-mail and to centralized software applications.

"Even though this was a significant investment, we are saving money with the ATM network and it's easier to transfer calls. We increased our bandwidth 10-fold to each office location and we can define Quality of Service to prioritize traffic on the circuits. This was one of the easiest installs we've ever done. The guys at the Dakota Carrier NOC are practical and helpful. They helped us with the Local Exchange Companies and handled all the 'last mile connections.' They truly are a one-stop shop and they help us monitor the system for potential problems before they occur."

Don Stieha, MIS Manager
Bill Sullivan, Network Administrator

112 Roberts Street
Fargo, ND 58103
800.814.3333
www.dakotacarrier.com



(If you would like to be removed from our mailing list, please e-mail Nancy Bjorndahl at nbjorn@dakotacarrier.com)

Gaining the DCN advantage & value

Dakota Carrier Network is pleased to welcome the following new customers who are now enjoying the most contemporary network options in the country with their DCN service agreements:

NEW CUSTOMERS
Path North Dakota, Inc.

RENEWING CUSTOMERS
American Crystal Sugar Co.
Medcenter One
Onvoy
WennSoft, Inc.

Swenson joins DCN



Jim Swenson has joined the NOC team as a network technician, beginning in November, 2005.

The native of Cannon Falls, MN spent five years with the ND Information Technology Department before joining DCN.

Tim Paulson helps clients plan

For those young men who didn't heed Horace Greeley's advice to 'Go West Young Man,' there is always the option of going east, which is exactly what Tim Paulson did in 2002 when he arrived in Bismarck from his home state of Montana.

Paulson, a native of Wolf Point, and a graduate of May Technical College in Billings, migrated east to serve the ND Information Technology Department prior to joining Dakota Carrier Network in June, 2004 as a network technician.

Paulson also served on a tank crew with the U.S. Army before pursuing his technical career, which now has him working alongside the other DCN personnel at the Network Operations Center (NOC) in Bismarck.

"I consult with DCN customers on managed solutions to their IT requirements," says Paulson, who is married with four children. "Working with DCN's product development manager and marketing personnel, we do an inventory of the customer's existing equipment and software and help them determine the best way to make their system more scalable. That way they can deal with immediate and future growth requirements, or scalability issues if they are consolidating some operations."



Tim Paulson, Network Technician

Part of Paulson's job is to configure, maintain and support the Bio Terrorism Wide Area Network (BTWAN) that connects major healthcare facilities in the state for videoconferencing in the event of emergencies. He is also very involved with helping private clients maximize their Internet traffic capacity.

"By interfacing with the sales representatives and other NOC personnel, we can determine the validity of the system options and then select hardware and software for clients from a menu of choices," he explains. "We're often used as an outsourced IT management department, which saves the client a lot of expense as well as dealing with employee issues, because IT people can often be difficult to retain in a competitive marketplace."