

Fiber-Optic Case Study: Marshfield Clinic

Marshfield Clinic is one of the largest private medical group practices in the country, with more than 40 locations and nearly 800 member physicians serving a sprawling territory that includes central, northern, and western Wisconsin. Creating a telecommunications network for a system that reaches a large rural geographic area and provides enough bandwidth to support advanced imaging and patient data information was more than just a challenge.

CASE STUDY



The challenge

Problems were becoming apparent back in the mid-'90s, when Marshfield Clinic relied on a data network built largely on traditional T-1 lines from local phone companies. Even then, its rising data traffic — including digital patient records and medical imaging files — was putting bandwidth demand far ahead of supply.

“We were stuck with the existing infrastructure of the local phone companies,” said Joe Brickweg, the Clinic’s director of Network Services. “We were running into severe problems trying to get our data to cross those links.” So Marshfield Clinic upgraded those connections to a combination of bonded T-1s or DS-3 connections, but the headaches didn’t end. “I approached a telephone company rep about seven or eight years ago with a stack two inches thick of trouble tickets and said ‘What are you going to do to fix this?’” Brickweg remembered. “And their response was, ‘There is nothing we can do.’”

The solution

The Clinic started looking for telco alternatives. That search came to the attention of Charter Business®, which approached Marshfield Clinic to see if its fiber-optic cable network could fill its telecom prescription. After initial discussions, the two

started work in about 1999 to jointly create a state-of-the-art fiber-optic delivery system connecting Marshfield Clinic’s headquarters with its network of clinic locations.

Charter started out by supplying 5Mbps and 10Mbps fiber-optic Ethernet connections between several of the Clinic’s locations. Even then, Charter quickly distinguished itself from typical phone companies, particularly in its willingness to work through early service issues. “We felt the growing pains. But the beauty of Charter was, they were willing to sit down at the table and listen to us — to hear our story, to hear what was going on and work together with us to put in change management to schedule downtime and to schedule outages,” Brickweg noted.

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JOE BRICKWEG — DIRECTOR OF NETWORK SERVICES

Since then, both the relationship and the network have grown. From the initial 5Mbps and 10Mbps connections, Marshfield Clinic now has upgraded the vast majority of its facilities to a 100Mbps Ethernet connection, with a couple of medical centers running at a full 1Gbps throughput. It also has installed a second fiber link to Marshfield Clinic's six major locations, "but our long-term goal is to support every facility that way," Brickweg said.

How Marshfield Clinic benefits

The Charter fiber-optic network has helped Marshfield Clinic move into the digital age. In particular, it is vital in supporting the Clinic's sophisticated, homegrown electronic medical records system, which allows doctors to securely access patient records, including large medical imaging files from anywhere in the Clinic network and transferring them from central servers to handheld computers or terminals located in patient exam rooms.

"If we didn't have Charter, we couldn't make this work," Brickweg said. "You can't bring images across a network that fast when you have 20 to 30 doctors all seeing patients in one building at the same time — you can't do that on a T-1."

Big bandwidth does cost, and there Charter also has helped Marshfield Clinic, by becoming a qualified provider for discount data services under the Federal Communications Commission's Universal Services Fund program for rural health providers. Overall, Marshfield Clinic saves more than \$500,000 annually in telecom service fees under the program, and a good percentage of that savings comes via the discounted rates from Charter.

Marshfield Clinic also has benefited from Charter's pricing when it comes to fiber-optic connections, particularly in comparison to telephone incumbents. "It costs a fair amount of money, but I would say Charter is significantly cheaper than the local phone company," Brickweg said.

Aside from higher-capacity connections, the biggest plus for Marshfield Clinic is how Charter works to keep a strong customer relationship. "Charter, while it is a big company, still acts like a small company, meaning you can get to the people you need to get things to work," Brickweg said, adding that he even has been able to get on the phone with the technician in the trench repairing a cable cut. "That's the kind of service I like — I like knowing what is going on. And I don't have to call someplace in

New York City and go through 57 queues to get to a person." Part of the service even includes allowing Brickweg to give input when it comes to scheduling network maintenance and repair work.

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JOE BRICKWEG



A growing relationship

That kind of attention to the customer earned Charter Business the loyalty of Marshfield Clinic. Of the nearly dozen new locations serviceable by Charter, all will be connected by Charter's network.

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Lakeview Medical Center in Rice Lake, Wisconsin, is also preparing to affiliate with Marshfield Clinic. Marshfield Clinic already owns a building adjacent to the hospital, and it also provides an electronic medical record system to the facility. Just recently it tapped Charter to add a backup circuit to the licensed 75-bed hospital, staffed by about 60 physicians.

So while lower pricing and the ability to grow with Marshfield Clinic has helped build a strong service foundation, it is the dependable relationship with Charter that makes Brickweg a loyal customer. "I don't think I'm going to move away from Charter [to a competitor] for a long time," Brickweg concluded.