

BELDEN

SENDING ALL THE RIGHT SIGNALS

Valley Fiber

Belden created a high-density fiber management solution to support nearly unlimited numbers of connections to help an ISP deliver high speeds to customers via dedicated fiber lines.



Our End-to-End Expertise
Your End-to-End Solution





Customer



Valley Fiber and its 120+ employees don't hold back on innovation. As a locally owned and operated ISP/technology firm based in Winkler, Manitoba, the company's goal is to meet the ever-growing need for fast, reliable phone, internet and TV services.

Since 2017, Valley Fiber has been bringing its dedicated, next-generation fiber optic infrastructure design to the region. Its data center is equivalent to a Tier 3 facility and registered on the international market; the Active Ethernet network mimics a data center's build and design. The company is one of the only ISPs in the world that provides dedicated fiber to the home. Each customer has a dedicated fiber line so they get guaranteed speeds and don't have to worry about slow uploads/downloads or deal with peak times on the network.



Photo credit:
www.pinnaco.com





Challenge

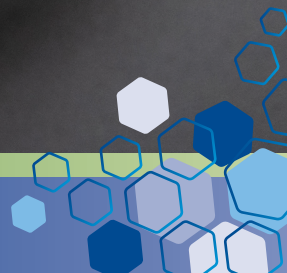
Everything Valley Fiber does is “super high density,” as CEO Hank Wall describes. “The fiber line we use can do 45 Tb/s.” Wall had his own ideas about how to manage this much fiber—but the infrastructure to bring the concept to life didn’t exist.

After some searching, the Valley Fiber team thought they found a manufacturer with an optical distribution frame that would meet high-density fiber requirements—but the partnership didn’t work out as planned.

“There were technology problems we needed to solve, and we were looking for a partner to help us solve them,” says Wall. “We needed to figure something else out and build a relationship with a team that was willing to listen to our ideas and work with us. If we have a problem, we’ll resolve it. If you have a problem, you’ll resolve it.”



*DCX not available in the USA.





Discovery

Valley Fiber's fiber network is designed to be adaptable. It uses transceiver technology that accommodates speeds from 10 Gb/s to 450 Gb/s so the company can scale to meet growing demand. "If there's a need to scale beyond 450 Gb/s, then we can simply add more fiber optic cables in the available ducting," says Wall. "We have nearly limitless scalability."

Because the ISP got its start as a fixed wireless company, Wall had years of experience in climbing towers, splicing and building OSPF networks. "In engineering, everything works perfectly on paper," he says. "But then, when you build it, nothing works like you planned. We wanted to bridge that gap between the physical and design realms so we would get something that worked like we needed it to."

Already having experience with Belden copper and coax solutions, Wall had an open conversation with one of the company's sales directors about their needs and expectations. From there, Belden and Valley Fiber met in person to discuss possible solutions.



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"We have a very transparent and open relationship that allows us to communicate efficiently, bridging country boundaries and time zones, and we couldn't have done it without Belden."





Solution

Valley Fiber and Belden collaborated side by side to develop the DCX System, which was already in the early stages of development. Wall and his team got to work with real samples, spend time thinking about how their installers would use components in the field and make suggestions for improvement.

“Belden was already working on this product that nobody else has,” says Wall. “Right out of the gate, the engineering team jumped in. We expressed what we wanted, and they asked, ‘What do we need to do differently?’ We got to work one on one and in person with the engineering team.”

Valley Fiber offered feedback on all aspects of the system, including basic design elements that are now part of the DCX Optical Distribution Frame—from how trays pull out to the size of the clips. From start to finish, the team worked in partnership to create a solution that supported how Valley Fiber planned to use the product.

The result: A solution to manage high-density data center fiber without compromising on ease of use. The DCX Optical Distribution Frame supports nearly unlimited numbers of fiber connections for unrestricted growth and offers the highest density available in the marketplace: 55% higher than other systems when you compare terminations per square foot (4,608 fiber terminations in three square feet).

“It was awesome to see the teams come together to solve these high-density fiber problems,” says Wall. “We got to see it through from prototype to a finalized product that’s now perfect.”



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Results

Valley Fiber has
deployed the
DCX System in
32 locations with
plans for 140+
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next four years.

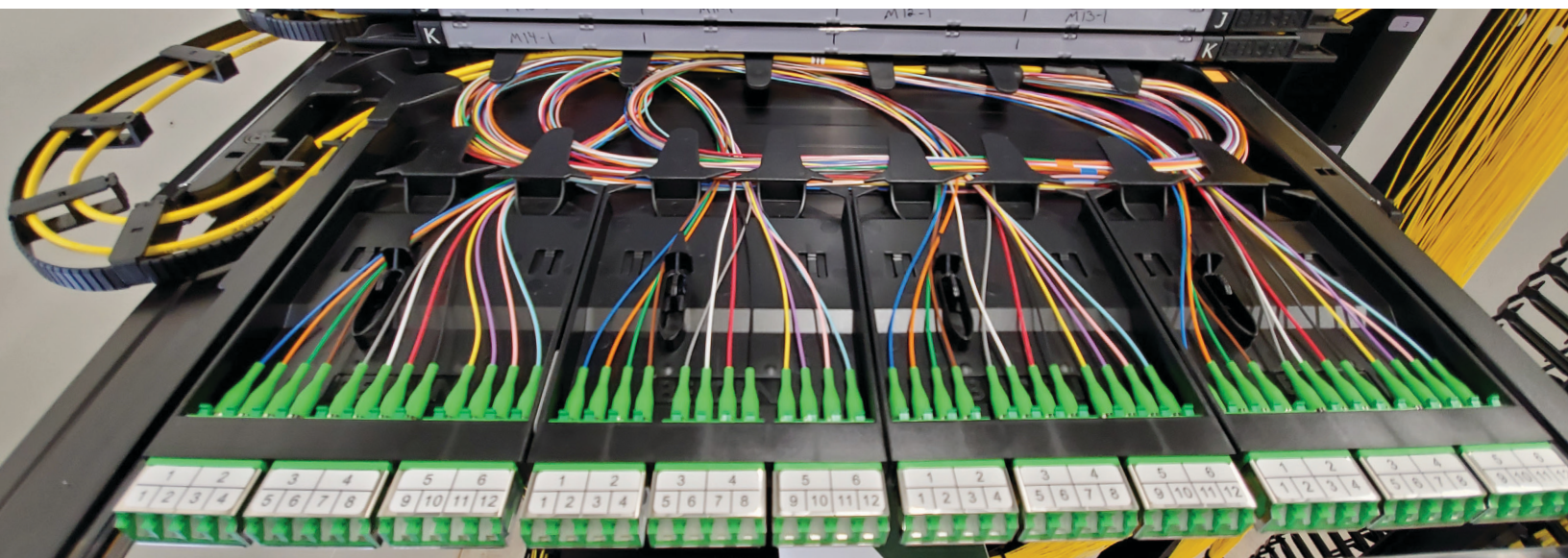
With the DCX System, Wall says deployment and maintenance time is at least 400% faster than using the optical distribution frame the team previously considered.

“As compared to other vendors, as far as what we experienced, DCX was significantly more efficient to deploy. It’s cheaper, very easy to scale, solves our problem much more efficiently and is easy to work around. It takes up less room as well.” To maximize square footage, Valley Fiber opted to remove the doors on the optical distribution frames, creating even more space savings.

Valley Fiber has now deployed the DCX System in 32 locations with plans for 140+ more rollouts in the next four years. The company is also deploying the system to support housing communities of up to 4,000 homes.

“Belden took a chance on an idea. It’s easy to sit back and moan about the way things are,” says Wall, “but this is an example of people getting involved in solving real problems—and it happened in our own backyard. We have a very transparent and open relationship that allows us to communicate efficiently, bridging country boundaries and time zones, and we couldn’t have done it without Belden.”

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