

RackForce GigaCenter™ Attracts Cloud and Colocation Clients with Efficient Design, Ideal Location

Greenest Data Center in North America, Connected by Leviton

Since opening its doors in 2009, The RackForce GigaCenter™ has quickly built a reputation as one of the most advanced data centers in the world. Located in Kelowna, British Columbia, the 30,000 square foot colocation data center benefits from operating in what CIO Magazine called “the best place to build a data center in North America”, largely due to the region’s cheap, reliable source of power in hydroelectricity and safe distance from threats of earthquakes and flooding. By harnessing clean hydroelectric power, the GigaCenter produces 2% of the carbon footprint of conventional coal-powered data centers.

In addition to an ideal location, the GigaCenter boasts a number of unique features, including innovative power and cooling efficiencies, a Tier III equivalent rating for reliable uptime, and up to 2N+1 redundancy for power and cooling infrastructure. The center boasts a Power Energy Efficiency (PUE) rating of 1.3, far more efficient than the average data center PUE of 2.0.

Perhaps the most unique feature of the GigaCenter is the GigaVault™, or modular, enclosed server areas that RackForce CEO Tim Dufour calls “data centers within a data center.” Dufour explains, “The vast majority of data centers are inefficient from the outset, as the conventional model is one big open facility. GigaVaults, on the other hand, are hard-walled suites that use cold-aisle containment: hot air and cold air don’t mix, and cold air sits in the center aisle. Managing cooling is limited to in-row coolers inside the GigaVault, as opposed to the inefficient method of trying to cool an entire facility. Creating these efficiencies are crucial, as many of our clients are requiring a greener model from their data center.”



Servers inside a GigaVault, using cold-aisle containment



Leviton 2RU Opt-X Ultra Rack-Mount Fiber Enclosure and Versi-Duct Cable Management, in the GigaCenter’s main distribution area

Each GigaVault can hold from 12 to 170 contiguous cabinets. The entire data center currently serves more than 1,800 customers, who use from a single cabinet to an entire GigaVault. RackForce also modified the standard 42RU server rack by adding an additional 9RU. The 51RU GigaRack allows more room at the top for rack switching, UPS, or cross connect.

RackForce Innovations Pay Off

Before building the GigaCenter, RackForce began as a hosting company, founded by Dufour and Brian Fry, VP of Sales and Marketing. While providing infrastructure for its hosting business, the company realized it could be more energy efficient, and moved to virtualization. It also built several data centers around Kelowna, where RackForce staff began experimenting with ways to improve power and cooling efficiencies.

Tech giant IBM noticed the efficiencies RackForce was creating, and in 2008 the companies partnered to build the GigaCenter. Renowned data center design firm EYP Mission Critical was hired to create the state-of-the-art facility, with a goal of developing the new facility to be scalable and modular.

GigaCenter Looks to Leviton Network Solutions

RackForce’s dedication to innovation and customization is also apparent in its choice in network infrastructure solutions. When choosing network connectivity, the RackForce team undertook a thorough vendor evaluation process. Enterprise Sales Manager John Speck of manufacturer’s rep JFC Solutions — who helped RackForce select their cabinets and UPS solutions — suggested Leviton for network infrastructure. The Vancouver-based rep firm covers all of Canada, and is considered the most data center focused sales agency in the country. Jay Frezell, President and CEO of JFC, explained why the rep firm decided to sell Leviton.

“We looked at competitors, and Leviton was very appealing. They offer quality products, experienced people, and strong logistics support for moving product fast. We knew Leviton was a leader in the United States and saw the potential to expand that presence in Canada.”

Speck, Frezell, and the RackForce team toured Leviton Network Solutions headquarters in Bothell, Washington, where they were able to see the manufacturing process first-hand. The group was impressed. “Not many companies can offer a tour like that. Seeing the operation and quality of the product added a lot of credibility,” said Gerald Caul, RackForce Vice President of Energy & Infrastructure at RackForce.

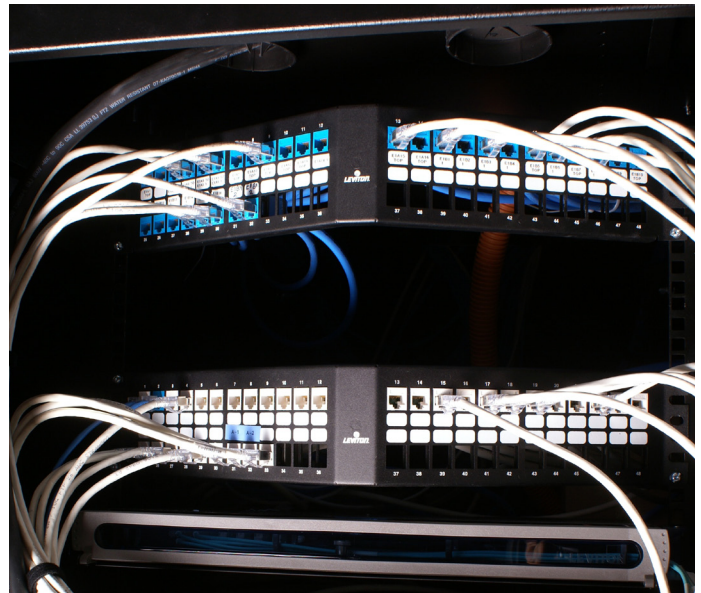
RackForce chose Leviton for all fiber and copper connectivity and cable management to support the GigaCenter’s 10 Gbps end-to-end network capacity. It was important that the GigaCenter make 10Gbps ubiquitous throughout, according to Caul, as “10G is no longer the future, it’s the present.” Leviton solutions connect fiber cable from the main distribution area (MDA) to middle-of-row cabinets, and then connect the fiber or copper cable that route to adjacent customer equipment

RackForce installed Leviton’s pre-terminated duplex LC-LC fiber trunk cables, Opt-X Ultra® Rack-Mount Fiber Enclosures, and Vertigo® Zero-U Fiber Enclosures, which use no rack space. They also added Leviton’s Fiber Raceway System and unique fiber storage rings customized specifically for the GigaCenter. For copper connectivity, the data center uses extreme® CAT 6A QuickPort® flat and angled Patch Panels, Patch Cords, and Connectors.

RackForce relied on Leviton to fulfill unique needs for non-standard equipment and make-to-order products. For example, Leviton was able to design trunks based on RackForce’s specific needs, as opposed to predetermined configurations. Trunks were customized by staggering, pairing, and length. At the same time, because Leviton products are custom-configurable, there is minimal on-site waste and excess raw materials, an important feature that supports GigaCenter’s green efforts.



Network operations center (NOC) technicians monitor GigaCenter network performance, power, cooling, and security



Top of GigaRack. Includes Leviton CAT 6A angled patch panels, CAT 6A patch cords, and 1RU Opt-X Ultra Rack-Mount Fiber Enclosure

Beyond make-to-order solutions, Leviton created special products to meet the needs of the GigaCenter, such as a redesigned Vertigo Zero-U enclosure for colocation cabinets.

The enclosure, used for both fiber and copper, was rebuilt with a new rear door placement that takes into account space for extra cable bend radius. JFC worked with a local distributor, Ecol Electric, to stock the specialized Vertigo enclosure.

Design Support

Rackforce also looked to Leviton’s data center team to help with design of the GigaCenter’s network infrastructure. Dennis Manes, RCDD, Fiber and Data Center Senior Applications Engineer for Leviton, came in at the planning stage to assist with the design and layout of cable pathways.

“Dennis listened to our vision and goals for the data center, and was able to articulate how his design could meet that vision,” said Caul. “The ability for Leviton to work directly with Rackforce on problem solving and design assistance was critical. And we’ve really benefitted from its direct, on-site support.”

An expanding, dynamic data center

The GigaCenter continues to grow, and plans to add 90,000 square feet to its existing 30,000 square feet over the next few years. RackForce has expanded its cloud services due to increasing demand, and it foresees opening a central Canada GigaCenter in the near future.

As customer needs change and the GigaCenter grows, RackForce continues to rely on Leviton and JFC Solutions for ongoing assistance with infrastructure changes and additions, delivering the services customers require.