

Columbus Crew's New Stadium, Lower.com Field, Counts on Vertiv™ Infrastructure to Maximize Fan Entertainment



A Vertiv Case Study



Background

Those who follow professional soccer in the United States recognize the Columbus Crew as the defending champions of the 2020 Major League Soccer (MLS) Cup. However, many fans who live far from the Columbus, Ohio, area may not realize that the Crew now plays in the country's most modern and fan-friendly professional sports stadium. The new stadium, Lower.com Field, opened to the public for the first time in July of 2021.

According to Brandon Covert, Vice President of Information Technology at the Haslam Sports Group (HSG) — the organization that owns a controlling interest in the Columbus Crew and the Cleveland Browns NFL team — the new stadium was designed and developed with the fan experience as a priority.

"We decided to get in-depth with bridging the gap between fans and technology and built a stadium which is totally focused on fan comfort, convenience, and entertainment," Covert said.

Before building the stadium, Covert and his colleagues at HSG conducted focus groups comprised of current Crew fans, non-Crew soccer fans, sports fans in general who had never attended a Crew match, and even people who had never been sports fans.

"We asked, 'What do you want in a stadium?'" and that feedback drove many of the amenities and fan-friendly features that you'll see in the stadium today," Covert said.

First of its kind hassle-free entry

Lower.com Field seats 20,000 fans, including those within 30 suites and 1,900 special access seats. For Covert and team, areas of focus in driving the high-quality fan experience included rapid and hassle-free entry into the stadium and easy access to food, beverages, concessions, and merchandise. That means no more waiting in long lines and enhanced access to stadium amenities.



"The Crew has become a Columbus fixture, and Vertiv is proud to support the new stadium and an experience the entire community can celebrate and enjoy."

- Gary Neiderpruem, Vertiv Chief Strategy and Development Officer

Challenge: With limited on-site staff, maintain the uptime of interconnected stadium systems during sports and other entertainment events.

Solution:

- Vertiv™ [Liebert® GXT5](#) and Vertiv™ [Liebert® PST5](#) uninterruptible power supply (UPS)
- Vertiv™ [Liebert® DS](#) and [Liebert® DSE](#) thermal management systems
- [Vertiv™ DCE](#) rack system and [Vertiv™ VR](#) racks
- Vertiv™ [Geist™ rack power distribution units](#) (rPDUs)
- [Vertiv™ Environet™ Alert](#) monitoring software
- Vertiv™ [Avocent® HMX](#) high performance KVM

Results:

- Superior fan comfort, convenience, and entertainment before, during, and after matches
- No stadium downtime related to Vertiv infrastructure
- Showcase data center for clients and partners
- Peace of mind for operations staff and club management

“Our entry gates feature one of the most advanced ingress procedures in live sports,” Covert said. “We have a total self-service ticket scanning environment and a simple walkthrough security detection system, both of which are leading technologies in large public venues.”

For example, when a fan walks up to the stadium, they can choose to enter in one of two ways. First, they can use a barcode on their mobile phone to quickly pass through an unmanned turnstile. Alternatively, they can use the stadium’s facial recognition application. In this case, the fan does not need to take out their cell phone. They simply walk up to a tablet device, get recognized, and walk through in a matter of seconds.

Options for convenient food and beverage concession

The HSG team also prioritized the point-of-sale (POS) experience for supporters when architecting the new stadium.

“When creating a first-class fan experience, it was important for us to provide a quick and convenient concession experience, allowing fans to enjoy the food and beverage offerings and allowing them to quickly return to their seats to enjoy the action. In addition to traditional POS stands and portables, we wanted a self-service option,” Covert said. “We have mobile ordering and pick-up. Instead of waiting in line, you can order your food from anywhere in the stadium and pick it up at multiple convenient locations.”

Challenge

Limited staff must ensure availability during events

When fans interact with the stadium’s ticketless entry kiosks, POS units, digital menu boards, and pickup and fulfillment boards, the information technology (IT) infrastructure behind the scenes needs to work together seamlessly to create an exceptional fan experience. Digital continuity is paramount when events are in progress.

Covert counts on an ecosystem of partners whose technologies serve as the network backbone to make the interactive fan experience possible.

“As big of a brand as the Crew is, we at the stadium only operate with 150 employees. We’re a small team that has to operate on a big stage, whether it’s a rock concert or Crew match or any other event,” Covert said. “And during these events, operational uptime is of utmost importance.”

Solution

Vertiv critical infrastructure addresses uptime needs

As one of those key partners, Vertiv supports the stadium’s mission-critical systems by deploying racks, UPS, thermal and IT management systems, power distribution equipment, and remote monitoring software. These technologies are installed in the data center, main telecom room, and across distributed wiring closets that are throughout the stadium. Some Vertiv equipment is even installed in a nearby plaza and pub that are external to the stadium. All these solutions protect the uptime of IT networks that support the interactive fan experience.

“Vertiv helps us provide our concession and ticketing partners with the reliable connectivity they need and lets them operate at the highest level of efficiency. For example, if the ticketing system is down for even 10 seconds, that’s critical for an event,” Covert said. “Our expectation is to create a frictionless fan experience and that begins at entry to the building. When you’re bringing 20,000 people into this stadium, every second counts.”

Covert’s IT and network teams have benefitted in multiple ways from their investment in Vertiv infrastructure solutions. Below are some examples of Vertiv products that are installed within the stadium and how they help safeguard uptime:

"You know I go to the Crew games, and you just walk right through. It takes like five seconds. It's the greatest thing in the world."

- Phil Kelly, Meteorologist
WSYX ABC 6

- **Liebert® GXT5 and Liebert® PST5 UPS units** - These units, installed in both the data center and in the distributed IT closets, offer premium power outage protection and continuous power conditioning in a compact and flexible rack design. The systems have remote management capability, making them ideally suited to protect critical infrastructure in both centralized and edge network applications.
- **Liebert® DS and Liebert® DSE thermal management systems** - The direct expansion Liebert DS and the Liebert DSE free-cooling, water-free economization systems provide highly efficient cooling of IT assets. Both include advanced thermal controls for optimizing each unit and harmonizing the operation of multiple units for proper temperature and airflow. The systems easily accommodate changing IT loads and is ideal for upgrading outdated or inefficient cooling systems.
- **Vertiv™ DCE rack systems and Vertiv™ VR racks** - All Vertiv DCE rack, distribution, and server enclosures within the stadium are flexible and field-upgradeable with door, panel, UPS, power distribution, and fan options. They are installed in the data center and telecommunications rooms. The Vertiv VR racks, on the other hand, support a wide variety of equipment, from servers and routers to UPS and switches. They are installed in the distributed IT closets throughout the stadium. Both types of racks provide the protection and cable management needed to ensure availability.
- **Geist™ rPDUs** - Providing reliable power distribution to critical IT equipment within a rack or cabinet, these basic rPDUs are available in a variety of electrical and receptacle configurations and vertical or horizontal orientation. Every unit is 100% tested for functionality and reliability prior to delivery. This helps ensure uptime once they are deployed in the field.
- **Vertiv™ Environet™ Alert monitoring software** - This software provides the IT and network team with greater operations visibility and helps to manage system anomalies proactively in order to maintain high availability. With a remote view into distributed racks, the operations team can more efficiently utilize human resources. Operations staff are no longer required to manually check for equipment status/alarms by walking to all of the individual IT closets. This gives the staff time to focus on other more fan-centric support activities.
- **Avocent® HMX high performance KVM** - Specifically designed to address the broadcast needs of high resolution and low latency, these switches, deployed in the stadium's control room, allow any of the 20 user stations to seamlessly access any broadcast server with a graphic user interface (GUI) — from the graphics machine to replay to all utility computers — which is essential to keeping fans engaged and entertained.

High Performance KVM Used by BeckTV Gives Crew Fans the Experience They Expect From a High-Tech Stadium

The broadcast infrastructure at Lower.com Field, which includes Vertiv™ Avocent® HMX high performance KVM switches, keeps the action lit and the replays rolling.

"Obviously, it's not a fan-facing system, but it controls the biggest fan-facing system, which includes the LEDs and the video board," said Brock Raum, system engineer for BeckTV, a systems integrator that designs and builds control rooms, television studios, and other large broadcast facilities across the United States.

Nearly all BeckTV projects require a large-scale [KVM solution](#) which allows users to control multiple devices from one keyboard, video monitor and mouse set. And the control room of the new Crew stadium was no exception, having approximately 50 servers and clients. In fact, the only screens in the control room that aren't driven by high performance KVM are the video monitors that are controlled by multi-viewers.

"We are always looking for partners that provide great value. When considering the performance to price ratio for the Avocent HMX high performance KVM, along with the existing Vertiv-Crew relationship, it just made sense to rely on a Vertiv KVM on this project," Raum added.

According to Raum, the feature set of the Avocent HMX high performance KVM is "really, really good" and offers the type of functionality you often only get with more expensive systems.

"Some other KVM providers make you buy the integrated switch and matrix, whereas if you buy the manager with the Avocent HMX high performance KVM series, you can provide your own switch that passes the multi-cast traffic," Raum said. "It also stacks right along with other switches in your build. If you fill up that switch, which we almost did, you can just trunk it or stack it and flow it to another switch on which you have open ports. It's nice to have that option of expandability.

"If the matrix is integrated into the physical product, sometimes you're limited on expansion to that frame or you have to buy another chassis frame that is going to be far more expensive than a standard network switch, Raum said. "Additionally, for this project, every single machine and user station had to be dual-head and the Avocent HMX high performance KVM made it really easy to assign transmitters and receivers together as dual-head in support of a broadcast world that is moving more and more to dual-screen setups," Raum explained.

According to Raum, the control room in this stadium is one of, if not the best, in the MLS. And the teams building it made smart decisions — saving when needed and spending where needed, which can be difficult to determine at the beginning of a project.

"The [Avocent HMX high performance KVM](#) fit perfectly into that strategy," Raum concluded.

Results

Ease of use and peace of mind for stadium staff

"The relationship we have with Vertiv is quite special," Covert said. "The Vertiv global headquarters is located right here in Columbus, and together, we have built a showcase data center in the stadium where both Vertiv and Crew customers can come and visit. One of our conference rooms is actually called 'the Vertiv room.' We have built a relationship of trust, and we recognize the reliability of their power, cooling, IT management, and monitoring technologies. It definitely helps me and my staff to sleep better knowing that our risk of outages or failures is now greatly diminished thanks to the reliability of the Vertiv solutions," Covert said.

"Our team consists of a very small group of people that manage three stadiums and two pro teams. Therefore, we have to come up with technology solutions that are simple from a management perspective. Vertiv offers us that with the suite of solutions they have installed," he added.

Technology that helps elevate the fan experience

"Looking forward, we will continue to be obsessed with enriching the entertainment experience of Crew fans and extending the value of their investment in us. We expect to be cutting edge even 5 and 10 years down the road when our stadium will no longer be the newest in America," Covert said. "Over these coming years, we plan on working with Vertiv to help maintain a level of availability that our fans have come to expect."



"The Crew is committed to providing a best-in-class experience for our supporters. We are proud to partner with Vertiv to design, build, and service the infrastructure needed to deliver on this promise. Vertiv's equipment is critical to the operation of our video boards, digital signage, and point-of-sale systems. It is even essential in our broadcast control room. Simply put, Vertiv solutions elevate the entire match-day experience at our new stadium and for our fans watching around the world."

- Tim Bezbachenko,
Crew President & General Manager

Visit columbuscrew.com/stadium to learn more about the Crew's high-tech soccer venue or to listen to a [radio broadcast](#), and visit [Vertiv online](#) for more on our solutions for the [broadcast and entertainment industry](#).

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