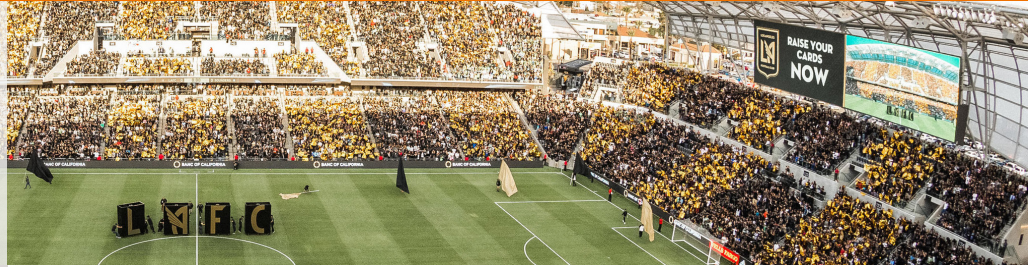


## CASE STUDY



### OVERVIEW

There are only a small number of soccer-specific stadiums in the U.S. One of the newest is the Banc of California Stadium, home of the Los Angeles Football Club (LAFC). Just one of the stadium's many distinctions is its technology infrastructure, which has captured the attention of major corporations in entertainment, broadcasting and sports. The centerpiece achievement is the Ruckus Wi-Fi network, the foundation for delivering the greatest mobile experience to LAFC fans.

### CHALLENGES

- Deliver a great user experience for mobile-oriented soccer fans
- Rapidly add new applications without upgrading or overhauling the Wi-Fi network
- Minimize day-to-day management demands on small IT staff

### SOLUTION

- 500 indoor and outdoor access points
- 3 Ruckus ZoneDirector Controllers

### BENEFITS

- Ruckus Wi-Fi has performed flawlessly for high capacity crowds
- With thousands of users active on the network during games, capacity utilization is still only at 15%
- Without upgrading the network, IT plans to add virtual reality and augmented reality
- "Set and forget" reliability of the network lets IT focus on other tasks

## STADIUM TECHNOLOGY IMPRESSES SOCCER AND TECHNOLOGY FANS

The opening game for the Los Angeles Football Club (LAFC) included paratroopers landing on the field, a falcon circling above the crowd, and "the best Wi-Fi experience of any stadium in the U.S.," says Christian Lau, VP of Information Technology for the LAFC.

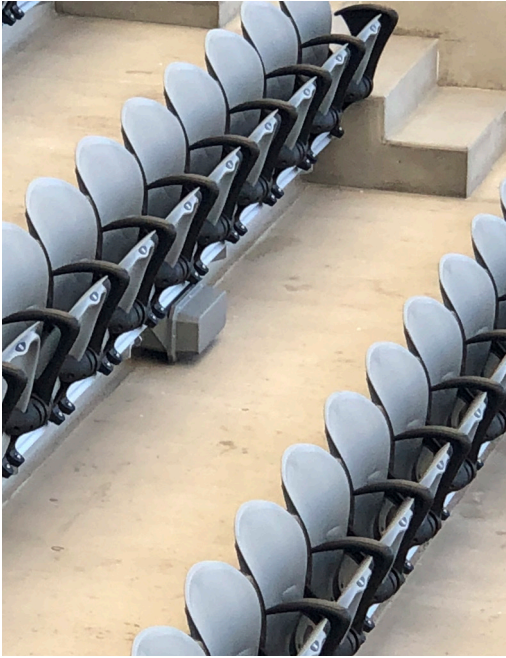
[Mobile Sports Report](#) covered the game, reporting that, "The Ruckus-based Wi-Fi and its 500 access points functioned beautifully."

In the U.S., the majority of soccer games are played in multi-purpose stadiums. There are only a small number of soccer-specific stadiums. (That means, in part, that the playing fields are specifically designed to the recommendations of the Fédération Internationale de Football Association.) The Banc of California Stadium, home of Major League Soccer's LAFC, is one of the newest soccer-specific stadiums. It opened its gates in 2018.

Because soccer is a beloved international sport, fans come from around the world to attend games. But the stadium itself is also attracting fans for its use of technology. "Our infrastructure is so advanced that we've had executives from major theme parks and entertainment broadcasters ask for tours, because they're interested in doing what we've done here," says Lau.

During the planning and construction phases, IBM was the project manager for the technology infrastructure. One of the vendor choices that impressed Lau, who joined the LAFC as construction of the stadium began but after the decision on some network infrastructure was made, was the selection of Ruckus for the Wi-Fi network. "Frankly, I thought the default would be Cisco. But they certainly made the right choice with Ruckus. Ruckus Wi-Fi performs flawlessly in this environment. I know that other stadiums have ongoing problems with other Wi-Fi vendors; they can't handle the interference, high-density usage and other challenges. In our stadium, we had every intention of pushing Wi-Fi to its limits. We had to start with the right foundation, and that was Ruckus."

In short, this was Wi-Fi at the top of its game.



“Normally, adding something as bandwidth-intensive as AR would send us back into the stadium evaluating capacity and coverage. But it’s simply not an issue with the Ruckus network. We have several thousand users on the network now doing live streaming and we’re at less than 15% capacity.”

### CHRISTIAN LAU

VP, Information Technology  
Los Angeles Football Club

### RUCKUS WI-FI MUST BE A CROWD PLEASER FOR DEMANDING CROWDS

Soccer stadiums stress intimacy over crowd size. LAFC’s seating capacity is about 22,000, and the seating is among the steepest in the MLS. This means that all seats are within 135 feet of the field. The stadium also has 125,000 square feet of walkways and plazas.

“The demographic of our fans is younger than you might find at football or baseball games,” says Colin Champion, director of network operations for the LAFC. “Soccer fans are constantly connected to social media when they’re at the games. We need to ensure that everyone can connect and stay connected wherever they are in the stadium. And the performance has to be exceptional—whether fans are streaming video, posting photos on social media, or using our stadium app for purchasing merchandise or buying tickets for an upcoming game.”

“At 14 percent, we have the highest percentage of Apple Pay users of any stadium in the U.S.” says Lau. “That’s a reflection of how mobile-oriented our fans are. That’s why we’re committed to a mobile experience that’s the best in the country.”

Ruckus engineers designed and deployed the Wi-Fi. “Even after we opened our doors, a Ruckus engineers continued testing coverage with people in seats,” says Champion. “One of the things they did to fine-tune the network was dial back the signal strength in some areas because it was too strong. That was impressive.”

There are about 500 Ruckus APs throughout the stadium. “It’s a very lean network—the coverage from a single Ruckus AP is better than anything I’ve seen. We don’t have to worry about channel conflicts because of overprovisioning,” says Champion.

Even though at this stage there are no APs in the parking lot (that’s planned for another phase), the coverage from the indoor Ruckus APs is so good that fans can connect within 50–100 feet of the stadium.

The network is managed through a pair of Ruckus SmartZone100’s. “Everything is very intuitive and extremely easy to set up,” says Champion. “Ruckus does a great job of automating a lot of the routine steps, so it takes very little time to do almost anything. “One example is setting up new SSIDs. They started with two SSIDs: one for ticketing and the other for back-of-the house operations. “We can set up new SSIDs in minutes and can even automate when they are available for different events. We have the flexibility to segment by SSIDs or use a role-based access model on a single SSID.”

Champion and his team have their hands full managing the network infrastructure for the new stadium. Except for the Wi-Fi. “It’s a set-and-forget network. We haven’t had any failures, or problems with connections, roaming or throughput. I just keep an eye on the dashboard to check the status and review the usage reports.”

They are currently deploying Ruckus APs in the stadium’s three-story restaurant, called The Fields.



“Even after we opened our doors, a Ruckus engineer would continue testing coverage with people in seats. One of the things they did to fine-tune the network was dial back the signal strength in some area because it was too strong. That was impressive.”

### COLIN CHAMPION

Director Network Operations  
Los Angeles Football Club

### FINE-TUNING WI-FI FOR A CONCERT... WASN'T NECESSARY

Shortly after the stadium opened, Champion was told that they would be hosting their first concert. Like many stadiums, the staging for a concert is set up at one end of the field. Concert organizers can sell tickets on the field as well as in the stands. “We hadn’t designed Wi-Fi for field seating, so we assumed we’d have to add more APs.”

Champion walked the length and breadth of the field with his cell phone, trying to get an idea of the gaps in coverage before he called in Ruckus for a formal survey. “It was amazing—every inch of the field was covered by the APs in the stands,” says Champion. “I was getting 40 MBs of throughput on my phone, no matter where I was on the field. We didn’t have to add a single AP.”

At the actual event, there were 5,000 people on the field. Everyone was able to connect and stay connected.

### SCORING GOALS IS AN EVERYDAY EVENT FOR LAFC

IT is deep into the planning stages of adding virtual reality and augmented reality (AR) applications to the guest experience as early as next season. “We’re spending a lot of time working on the application and some new equipment, but not the Wi-Fi network,” says Lau. “Normally, adding something as bandwidth-intensive as AR would send us back into the stadium evaluating capacity and coverage. But it’s simply not an issue with the Ruckus network. We have several thousand users on the network on average during MLS matches doing live streaming and we’re at less than 15 percent capacity.”

“It’s gratifying to have such an auspicious debut with our network,” says Lau. “But it’s even better to know how well Ruckus future-proofed the network so we have room to play, technologically speaking. When it comes to the guest experience, we’re just getting warmed up. We’re going to continue to push the boundaries of what’s possible to engage our fans. Ruckus is the best teammate for this ambitious journey.”

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350 West Java Dr., Sunnyvale, CA 94089 USA

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